MATURE EXPERIENCED ENGINEERS PATHWAY TO CHARTERED STATUS (MEEP)

GUIDELINES

To be eligible for the
Mature Experience Engineers Pathway to Chartered Status
you MUST:

- **Be a member of Engineers Australia** (unless you are applying for assessment for RPEQ with no intention of joining Engineers Australia – refer to form F3217) - which confirms that Stage 1 academic competency standards have been met;

- **Have 15 + years of engineering experience that includes 5 years employment in position(s) of major responsibility** in the design or execution of important engineering work; and

- Be able to **produce a record of 150 hours of Continuing Professional Development (CPD)** during the past three year period - in accordance with Engineers Australia CPD Guidelines.

Applicants that do not meet the entry requirements for the mature experienced engineers pathway are required to apply for Chartered Status as per the process outlined in the *Chartered Status Handbook.*

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Method of Application

Step 1. Requesting Approval to Use This Pathway

Eligible mature experienced engineers must submit a **written request** to the National Assessor to obtain approval to submit an application for Chartered Status through the Mature Experienced Engineers Pathway. This request can be submitted by either email or mail and must include the following:

- The applicant's membership number;
- A current CV of not less than 3 pages providing satisfactory evidence of the eligibility of the applicant to undertake this pathway; and
- Evidence of not less than 150 hours of appropriate CPD in the last 3 years (refer to the Engineers Australia CPD requirements at www.engineersaustralia.org.au/cpd).

Step 2. Submission of Application

Upon receiving written approval from the National Assessor, the applicant shall prepare and submit a Statement of Experience instead of the full Engineering Practice Report normally required. The Statement of Experience (usually consisting of around 3 or 4 shorter reports) is to be a minimum of 2500, but not more than 5,000 words in length and shall clearly describe:

- the applicant's personal contribution and responsibilities;
- the problems the applicant faced;
- the solutions the applicant found;
- the engineering judgments the applicant made; and
- the impact the applicant's solutions and judgments generated.

Refer to Appendix C of the Chartered Status Handbook which sets out the Stage 2 Competency Units, Elements and Defining Activities. The Handbook is available from the website www.engineersaustralia.org.au/charteredstatus.

The Statement of Experience needs to be aligned with the competencies claimed and the applicant's achievements must demonstrate the Engineers Australia Stage 2 Competencies (all Elements of the **three Compulsory Units** and the required number of Elements of **two Elective Units**). Competencies must be claimed by annotating the Statement of Experience with Elements of competency as published in the Chartered Status Handbook and as per the attached example.

Required documents to support your application are:

- **Statement of Experience** – To be verified by a senior experienced engineer (preferably a Chartered Engineer from at least the same occupational category as the applicant seeking Chartered Status).

Verifiers must attest that they are familiar with the work the applicant has written about and the contributions they have made.
In some instances this may not be possible and a properly witnessed Statutory Declaration is required in lieu of the attestation. The Statutory Declaration form can be found in Appendix G of the Chartered Status Handbook.

- **Verified current CV with statement signed by the verifier** – CV must not be less than 3 pages and is to be verified by a senior Engineer (preferably a Chartered Engineer from at least the same occupational category as the applicant seeking Chartered Status). The verifier's signature must be accompanied by their printed name, address, email address, phone number and status or if verified by a member of Engineers Australia, their membership number, printed name and signature. The following statement is to be signed by the verifier:
  "I verify that this is a true statement of the career history of (candidate's name) during the period (date) to (date)."

  Please note: A Statutory Declaration will not be accepted for all of the applicant's experience in either the Statement of Experience or CV. If early experience is not able to be verified then more recent experience must be verified.

- **CPD Records** – Evidence of not less than 150 hours of appropriate CPD activity over the last three years. For details of the Engineers Australia CPD requirements, refer to the website www.engineersaustralia.org.au/cpd.

- **Photo ID** – A certified copy of your passport bio-data page or Australian driver's licence (where this is not available a certified copy of your Birth Certificate or Official identity Document may be acceptable in lieu).

- **Completed Chartered Status Application Form** together with assessment fee and registration fee as applicable – The application form can be found in Appendix G of the Chartered Status Handbook.

Step 3. Professional Interview

If the Assessor is satisfied that the applicant meets the entry requirements above, and has provided evidence of competency that meets the Engineers Australia Stage 2 Competency Standards, the applicant may proceed to a Professional Interview. This is a mandatory stage in the process. It is designed to ensure that the applicant's experience and responsibility has equipped the applicant to demonstrate the expected competency and commitment to ethical practice required for Chartered Status (CPEng, CEngT or CEngO).

STATEMENT OF EXPERIENCE
[NAME SURNAME]
MEMBERSHIP No. XXXXXX
August 2010

Career Episode Title: Professional Career Development Date of Career Episode: Mar 1992 to Present	Competency Element Claimed
Background: This Career Episode Report (CER) overviews my development as a professional engineer and the continuing professional development I have undertaken during my career. This CER addresses competency elements not readily claimed in other CERs.	
I have accrued over 18 years experience as a professional engineer. I have extensive experience in the offshore and onshore oil & gas industry with particularly strong experience in large offshore facilities. I have represented my employer to its clients mainly in Australia but also overseas in Asia and the Middle-East. I have also held roles which required me to be located in the client offices representing my employer both as a Mechanical Engineer and as an Engineering Services Coordinator/Manager. Both client and employer supervisors have acknowledged me for my engineering professionalism and integrity.	C1.1 Presents and Develops a Professional Image
I have pursued a number of personal development and training courses during my career both of a technical nature, supporting my Mechanical Engineering degree, as well as management and leadership development. More recently, as a senior engineer and manager, I have taken on the voluntary role as mentor to a number of graduate engineers and young project engineers. A list of these development and training courses is included in my CV and my Continuing Professional Development (CPD) record provided.	C1.2 Pursues Continuing Professional Development
Signature of Candidate:	
Candidate's Verifier/s Details: Name: Phone/email: Position: Relationship to Candidate: Engineering Qualifications (or Engineers Australia Membership Number): I verify that the above narrative is a true account of the candidates own work Signature:	

Career Episode Title: Engineering Manager – Offshore Project A Date of Career Episode: Feb 2008 to Nov 2009	Competency Element Claimed
Background: Offshore Project A consists of a new offshore gas platform - Platform 2, bridge linked to the existing Platform 1. The main purpose of the new Platform 2 is to provide boost compression for the depleting gas fields feeding Platform 1. Platform 2 also includes new process equipment and living quarter's facilities to replace the aged facilities on Platform 1. This is a major offshore facility for processing and compressing over 1.6 billion standard cubic feet of gas per day. The dry weight of the top-side deck is approximately 24,000 tonnes and will be installed by float-over. The CAPEX cost for the project is approximately AU$5 billion, including the modifications to the existing Platform 1. My employer is contracted by the Operating Company X to provide Detailed Engineering and Procurement services for the new Platform 2. **Episodes:** I was assigned the role of Topsides Engineering Manager (and Deputy Project Manager) for the detail design phase of the new Platform 2. My responsibilities included discipline coordination, client engineering interface, progress reporting, change management, engineering deliverables and 3D model management, engineering quality and the overall engineering budget and schedule.	
During the detail design phase of the project the Risk Register was reviewed on a monthly basis to capture the risk mitigation status of existing risk items and also to identify any new risk items in the project. The project was constrained by available resources in Perth and this represented a significant schedule risk. The use of HVE (High Value Engineering) centers to execute portions of the detail design was one of the mitigations to this risk. As Engineering Manager I had to develop and manage the work-share plan and ensure competency of personnel was assessed before they would be permitted to work on the project.	C1.5 Identifies Constraints on Potential Engineering Solutions
As part of detail design development, one of the key tools used to communicate the design of the Platform 2 was the computer generated 3D model. Formal review meetings were held with the relevant stakeholders including representatives from construction, operations, safety and ergonomics. I managed the formal reviews which were held at 30%, 60% and 80% design development stages. Criteria were set for each review in order to ensure the right level of detail was achieved. Actions were recorded from the reviews and then addressed in subsequent reviews to ensure they were suitably resolved.	C2.4 Reviews the Design to Achieve Acceptance

During detail design and following the 60% design development stage, a strict management of change process was introduced. I updated the existing Design Change Notice (DCN) Procedure and modified the DCN form to distinguish design development changes from Client requested changes. The DCN form was also updated to communicate changes that impacted fabrication yard work. I also organized and chaired a weekly Change Committee Meeting with key stakeholders to discuss proposed changes prior to approval or rejection of any proposed changes.	E7.1 Participates in Planning the Introduction of Technical Change
Two major changes introduced to the detail design by the Client included installation of a permanent back-up diesel generator and a potable water maker package on the Platform 2. This was a significant change for the detailed design that was already well matured. As Engineering Manager I needed to communicate the change to the design team and plan the work to; assess the impact of the change on schedule and budget, agree the change with the stakeholders and implement the change into the design.	E7.3 Manages emerging Technical Challenges and Opportunities
Detail design drawings were prepared and maintained by the Lead Engineers working under my supervision. I updated the document distribution so the documents were sent to the Construction Team for review to ensure they were complete and concise. I updated the change control process to ensure changes were reviewed and approved by management and stakeholders. Documents were updated to ensure they remained current prior to being implemented.	C2.5 Prepares and Maintains Documentation during the Design Process
Information such as tag numbers and design data for equipment and piping was managed through a database known as [name withheld]. It was my responsibility to ensure the design team provided up to date information to the database administrators in order to monitor the maturity of the design data and supply it in a format required by the Client.	
The Engineering Execution Plan was developed to show the validation process for the discipline design deliverables including single discipline check, squad check, peer review, client review and final approval of design deliverables. I provided the quality audit basis for our Quality Assurance (QA) Manager who conducted the audits. Any corrective actions were recorded and followed up to close-out.	C2.6 Validates Design
The topsides weight of the Platform 2 was approaching the upper limits for transport conditions. Possible weight reduction solutions were identified and included permanent removal of surplus items as well as temporary removal of items for transport that would then be re-instated when the topside was installed on the substructure. One of my proposed solutions to reduce weight was to simplify the stair towers which provided access to the pedestal cranes for the topsides and convert them to ladders with landings. Although the final design weight did not require this proposed change to be implemented it was agreed that this simpler design was a feasible approach to reducing weight.	E7.2 Develops Technically Creative and Flexible Approaches and Solutions

Signature of Candidate:	
Candidate's Verifier/s Details: Name: Phone/email: Position: Relationship to Candidate: Engineering Qualifications (or Engineers Australia Membership Number): I verify that the above narrative is a true account of the candidates own work Signature:	

Career Episode Title: Area Project Manager – Offshore Project B Date of Career Episode: June 2007 to Feb 2008	Competency Element Claimed
Background: The proposed Offshore Project B consists of an offshore gas processing facility and an LNG production, storage and offloading facility. The facility is located at [location withheld]. This is a major offshore facility for processing approximately 2 billion standard cubic feet of gas per day and converting the gas to LNG at a rate of approximately 15 million tonnes per annum. The CAPEX cost for the project is approximately AU$20 billion. My employer is contracted by the Operating Company Y to provide Concept Select Engineering services for the Offshore Project B. **Episodes:** I was assigned the role of Area Project Manager / Engineering Manager for Concept Select phase for the Offshore Project B facilities. My scope included coordinating the class 2 (+/- 30%) cost estimate and associated deliverables for the Preliminary Design Package including the preliminary BOD (Basis of Design) for the FEED phase. My responsibilities included discipline coordination, client interface, reporting and managing scope, deliverables, budget and schedule.	
I developed the scope of work for Concept Select phase in conjunction with the Project Manager. I prepared the Project Execution Plan which included the scope of work and the listing of activities and documents to be prepared for the Project.	E1B.2 Scopes the Project
During the recruitment stage of the project I participated in a number of interviews for the Lead Engineer positions. In particular I interviewed the Lead Instrument Engineer following review of his CV and references. I checked his qualifications with the Organisation's Chief Instrument Engineer before signing the Offer of Employment. Formal performance reviews were held every 12 months, however, regular feedback was provided to the lead engineers on a regular basis.	E1B.3 Manages People
As part of the Concept Select phase of the project one of the tasks was to develop the list of Codes and Standards associated with the design of the facility. I coordinated the engineering team and developed the list of Codes and Standards on a discipline basis including Process, Instruments, Electrical Mechanical, Piping, Structural, and Health & Safety. The relevant standards, including legislation and statutory requirements (e.g PSLA) were identified and reviewed for their application to the Project. These codes and standards and their application were documented in a Codes and Standards Review Report which I compiled using the relevant information supplied from the various discipline Lead Engineers. As part of the selection and review of standards any proposed modifications to the Basis of Design based on lessons learned and latest technology used in similar projects was identified, negotiated with the Client. An example of technology selection was the use of Printed Circuit heat Exchangers (PCHEs) which provide space and weight savings in offshore applications. Other examples changes and innovation in design included use of Glass Reinforced Epoxy (GRE) piping which also provide weight savings, is corrosion resistant and suitable for seawater systems offshore.	C2.1 Interprets and Scopes Design Requirements C3.6 Manages Information C2.2 Prepares Concept Proposal and Seeks Advice on Latest Technology C3.3 Facilitates and Capitalises on Change and Innovation

The Quality Plan was developed in conjunction with the Quality Manager and included the schedule and scope of the Quality Audits. The corrective actions were then addressed and closed out in the required timeframe. A risk workshop with the relevant stakeholders was facilitated by me to identify the key risks associated with the project including technical risks and commercial risks. One of the key risks was the capability of fabrication yards to construct the large concrete gravity base structures. Other significant risks were environmental impact of building a mega facility near an ecologically sensitive area.	E1B.5 Manages Quality Safety, Environment and Risk
Regular meetings were held with the Lead Engineers to monitor the progress of the design including the man-hour productivity and schedule productivity. The expended man-hours were monitored against the planned man-hours to calculated schedule productivity. The earned man-hours were monitored against the expended man-hours to calculated man-hour productivity. The cost of the project was directly related to the engineering man-hours and the preparation of engineering deliverables. A gate system was used to track progress, e.g. a deliverable ready for internal review is 50% complete whilst a deliverable for Client Review is 80% complete. This was used to calculate "earned" man-hours.	E1B.7 Manages Time and Progress E1B.6 Manages Cost and Procurement
As part of the close-out of the Project, all the engineering deliverables were archived for traceability and the necessary close-out reports completed. The final Concept Engineering Design was compiled into a Design Package. I created an index structured on engineering documentation type that enabled documents to be found easily in the Design Package. I coordinated a hard copy of the Design Package to be created and I also created an electronic version of that was burnt onto a single CD where the documents were hyperlinked from the index. The Client was very pleased with the finalization of the Project and in particular the format of the Design Package.	E1B.8 Finalises the Project
Signature of Candidate:	
Candidate's Verifier/s Details: Name: Phone/email: Position: Relationship to Candidate: Engineering Qualifications (or Engineers Australia Membership Number): I verify that the above narrative is a true account of the candidates own work Signature:	

Career Episode Title: Contract Manager – Engineering Services Date of Career Episode: Feb 2004 to Nov 2006	Competency Element Claimed
Background: The Offshore Project C facilities consist of three primary components: Central Production and Processing (CPP) complex, an unmanned Wellhead Platform (WHP) and a Floating Storage & Offloading facility (FSO) located in [location withheld]. The Central Production and Processing complex - comprises two separate platforms linked to each other by a bridge. The platforms are the Drilling, Production and Processing (DPP) platform and the Compression, Utilities and Quarters (CUQ) platform. **Episodes:** I held the role of Engineering Services Coordinator for my employer's engineering services contract with Operating Company Z for their Offshore Project C facilities. I was responsible for a team of approximately 30 engineers, designers and project services personnel. Activities included development and input into the Client management of change processes and planning activities as well as coordination of Engineering Change Notifications (ECNs), Site Queries (SQs) and interfacing with the Operations and Maintenance Services Contractor. Other activities included development and management of my employer's processes and procedures for project controls, planning, resources, engineering, document control, quality, procurement, and interfacing activities.	
As part of the role I was required to integrate input from specialist sub-contracts into the design for proposed modifications to the existing Offshore Project C facilities. Some specific examples of this integration included dimensional surveys, and computational fluid dynamics (CFD) modeling. Dimensional survey information was used to allow the design to be completed to a level of detail such that onshore fabrication could be maximized and offshore installation was minimized. This provided saving to overall project costs. CFD modeling was used to identify possible solutions to vent hazardous gas cloud issues on the FSO facility. During low wind conditions the vent stack design was found to be of unsuitable to enable safe dispersion of hazardous vent gases. A solution was developed where the heavier gases could be vented safely over the side of the FSO.	C1.3 Integrates Engineering with other Professional Input C1.4 Develops Engineering Solutions
The nature of the engineering services contract required the execution of a portfolio of minor to medium sized brown-field projects in parallel. As part of my role I worked with the planner to prioritise design tasks to align them with the Clients offshore activities and available resources. I specifically developed the workflow process on behalf of the Client showing the sequence of activities from the Engineering Change Notifications (ECNs), Design, Procurement, Implementation and As Building. Design activities were implemented in accordance with the Contract Execution Plan (which I also developed) and included the design documentation management process along with the necessary design reviews and approval process.	C2.3 Implements Planning and Design Process C3.4 Plans and manages work priorities and resources

I utilized my work time effectively by maintaining project and personal schedules, meeting calendars and priorities action item list that I update daily in my diary. For this contract I identified the Client priorities and reviewed my engineering team production to prioritise my work. At the same time I would remain flexible enough in case I needed to "drop everything" to complete an urgent task or make a change.	C3.1 Manages Self
As the Engineering Services Coordinator my role required effective communication with the Client and my engineering team. I developed processes to ensure effective design product delivery. Specifically I developed the Management of Engineering Change Workflow which integrated the Client Systems with the Engineering Systems. I also developed the Interface Workflow for Changes which progressed the engineering design into procurement, fabrication and installation and finally any returned mark-ups for "as-building" of key engineering documentation	C3.2 Works Effectively with People
The Engineering Service Contract included working closely with the Client (including their Engineering and Operations teams) and the Implementation Contractor. Regular meetings were held with these key stakeholders to ensure requirements were suitably addressed and priorities agreed. The success of our contract was dependant on a healthy working relationship with the Client and the Implementation Contractor. This success of this relationship was proven when the contract was granted a further extension.	C3.5 Maintains customer focus and relationships
Signature of Candidate:	
Candidate's Verifier/s Details: Name: Phone/email: Position: Relationship to Candidate: Engineering Qualifications (or Engineers Australia Membership Number): I verify that the above narrative is a true account of the candidates own work Signature:	