

APPENDIX A

Suggested Guidelines for Evaluating Progressive Engineering Experience

The following is a partial list of work experiences that may be useful in guiding, mentoring, and verifying acceptable experience of engineer interns and/or intern applicants. There are no correct answers to the following questions. The profile of each applicant will provide the board a basis for more specific questions.

Practical Application of Theory

1. **Analysis:** Of operating conditions; performance assessment; feasibility studies; constructability; value engineering; safety; environmental issues; economic issues; risk assessment; reliability; other *[list]*:

2. **Design:** Construction plan or specification preparation; product specifications; component selection; maintenance and social implications of final product; other *[list]*:

3. **Testing:** Developing or specifying testing procedures; verifying functional specifications; implementing quality control and assurance; maintenance and replacement evaluation; other *[list]*:

4. **Implementation:** Of engineering principles in design, construction, or research; performance of engineering cost studies; process flow and time studies; implementation of quality control and assurance; safety issues; and environmental issues; other *[list]*:

5. **Systems Application:** Evaluation of components of a larger system; evaluation of the reliability of system parts; design and evaluation of equipment control systems while considering ergonomics, utility, manufacturing tolerances, and operating and maintenance concerns; the engineering required to establish programs and procedures for the maintenance and management of buildings, bridges, and other types of structures where failure or improper operation would endanger the health, safety, or welfare of the public; other *[list]*:

6. **Time in the Engineering Process:** Difficulties of workflow; scheduling; equipment life; corrosion rates and replacement scheduling; other *[list]*:

7. **Knowledge and Understanding:** Codes, standards, regulations and laws that govern applicable activities; other *[list]*:

Management

Management in engineering works includes supervising staff, managing engineering projects, and managing and administering technology as it is applied in the field or in construction. It may involve:

- 1. **Planning:** Developing concepts, evaluating alternative methods _____
- 2. **Scheduling:** Preparing task breakdowns and schedules _____
- 3. **Budgeting and Contracting:** Cost estimating and control, contract development _____
- 4. **Supervising:** Organizing human resources, motivating teams, directing and coordinating project resources _____
- 5. **Project Control:** Complete or partial project control _____
- 6. **Risk Assessment:** Assessment of risk associated with the progression of the project _____

Communication Skills

- 1. **Accumulates project knowledge** through interpersonal communication with supervisors, clients, subordinates, or team interaction _____
- 2. **Transmits project knowledge** in verbal or written methods to clients, supervisors, subordinates, general public, or team members. Examples would be via meetings, written reports, public hearings and reporting of findings and suggestions, other written correspondence and/or verbal briefings. _____

Social Implications

- 1. **Promotes and safeguards** the health, safety, and welfare of the public as demonstrated in daily work activities _____
- 2. **Demonstrates an awareness** of the consequences the work performed may incur and a desire to mitigate or eliminate any potential negative impact _____
- 3. **Follows a code of ethics** that promotes a high degree of integrity in the practice of professional engineering _____