

Professional engineering registration is administered by the States. Registration of professional engineers, who have established qualifications and competence, is designed to protect the public health, safety, and welfare. The engineer in responsible charge of planning, design, and other engineering services is required, by law, to have obtained professional registration as a condition precedent to performing, or offering to perform, these services publicly.

Standards of performance are established by the profession itself. The nature and scope of services are established through negotiation between the engineer and the client, and are set forth in the terms of the professional services agreement. These services may include any or all of the following:

- Long-range or master planning.
- Investigations and technical reports.
- Expert witness services.
- Patent preparation assistance.
- Assistance with financing applications and sale of debt securities.
- Engineering and economic feasibility.
- Valuation of property.
- Municipal, urban, or land planning.
- Rate studies, ratemaking.
- Industrial process analysis.
- Time and motion studies.
- Materials testing, evaluation.
- Operations management.
- Market research.
- Project planning and design.
- Contract management.
- Engineering design details.
- Specifying processes, material, equipment.
- Assistance with permits, codes, right-of-way.
- Location studies.
- Soil analysis, foundation design.
- Surveying, mapping, photogrammetry.
- Drainage, water control.
- Materials testing and analysis.

Ethics demand that the professional engineer agree to undertake only those assignments which he is qualified by virtue of training and experience. To each phase of the assignment the engineer is obligated to bring complete and impartial review and analysis of all factors and considerations, employing all available and pertinent information. His recommendations, based on impartial consideration of relative costs, safety, performance, appearance and other results, are then presented to the client.

Standards of performance permit only a complete evaluation of each assignment in the light of all available information, followed by recommendations which will serve the needs of the client, considering safety, economy, and the desired end result.

2. SIZE AND STRUCTURE OF INDUSTRY

Consulting services in a wide range of engineering fields are offered by a number of firms and individuals distributed throughout the