Professional Licensure and Certification of Geologists:

Career Development for Students and Early Career Professionals

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American Institute of Professional Geologists
Stantec

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A bit of background

• Licensing started after there were high-profile building failures in the early 20th century
• Engineering and architecture were the first professions to be regulated
• The “Big 5” Professions: Architects, Engineers, Geologists, Landscape Architects, and Surveyors
• Arizona was a leader:
  • 1921: Engineers, architects, land surveyors and assayers
  • 1956: Geologists
• Certification through AIPG: 1963
• Other licensing and certification options
  • Society for Mining, Metallurgy & Exploration (SME)
  • Australasian Institute of Mining and Metallurgy
  • Australian Institute of Geoscientists
  • Institute of Materials, Minerals and Mining
  • Institute of Geologists of Ireland
  • European Federation of Geologists
  • Mining and Metallurgical Society of America
  • Southern African Institute of Mining and Metallurgy
  • South African Council for Natural Scientific Professions
  • Comisión Calificadora de Competencias en Recursos y Reservas Mineras (Chilean Mining Commission)
• Most provinces in Canada
Understanding the difference between licensure and certification

- **Licensure**
  - Permission from government
  - Required for practice in many US states

- **Certification**
  - Voluntary demonstration of meeting an established standard
  - Primarily through AIPG

**Note:** Licensing and certification programs can be for specific subdisciplines.

For example, CA has
- Professional Geologist
- Professional Geophysicist
- Certified Engineering Geologist
- Certified Hydrogeologist
Licensure and certification programs

Differences and commonalities

• **Licensure**
  • Administered under the state’s statutes and rules
  • No federal program
  • Purpose is primarily to protect the health, safety and welfare of the public
  • Establishes standards for minimum competency (education, experience and examination)
  • Works in conjunction with ASBOG

• **Certification**
  • Granted by a professional organization
  • Establishes standards for minimum competency (education, experience and peer review)
  • Recognition internationally
  • Organization may have additional goals such as advocacy for the profession of geology and can lobby government

**Common Goals**

• Demonstrate minimum competency
• Promote ethical behavior
• Ensure resiliency of infrastructure
• Promote a sustainable economy
• Promote responsible use of natural resources
• Promote environmental protection
What should you plan on needing for your career?

- Geologists working in the US – one or more licenses
- Geologists working internationally – certification
- Professional organization membership

<table>
<thead>
<tr>
<th>Who does what</th>
<th>Government Agencies</th>
<th>Professional Organizations</th>
<th>Universities and Colleges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write the ASBOG exam questions</td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Proctor the ASBOG exams</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serve as members of licensing boards</td>
<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>Provide classes for CEUs</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Provide student career days</td>
<td>✓</td>
<td>✓</td>
<td></td>
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<tr>
<td>Lobby for geologic interests</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>License geologists</td>
<td>✓</td>
<td></td>
<td></td>
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<tr>
<td>Certify geologists</td>
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<td></td>
<td>✓</td>
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<tr>
<td>Provide professional development classes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Provide field trips</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</table>
States with Licensure

- Most states are requiring a state-specific professional license
- Licensing programs typically under a state board
- Most states require verification of education and experience, plus successful exams under ASBOG
What is ASBOG?

• National Association of State Boards of Geology
• Non-profit organization comprised of state boards that have licensure
• Formed in 1990
• Prepares standardized written examinations to evaluate competency
• Exams are subject to statistical evaluation and a verification process
• Exams are based on tasks performed by licensed geologists (Task Analysis)

Website: asbog.org
How do professional organizations interact with licensing boards and ASBOG?

- Professional organization activities may include:
  - Advocacy for the profession
  - Support of the licensing boards
  - Support of the exam development
  - Continuing education programs
  - Technical and professional development
  - Engagement with the public about geosciences
  - Publications and technical information sharing
  - Outreach to industry, academic, governmental and non-governmental entities
  - Participation in ASBOG and on licensing boards

*Strong connections between the professional organizations, educational institutions and government agencies*
The Geologist in Training (GIT)

- Fundamentals of Geology exam
- Exam is prepared by ASBOG Subject Matter Experts
- Exam is given by computer-based testing facilities contracted by ASBOG (Prometric LLC)
- GIT is the certificate that shows successful exam (you passed!)
- You can qualify to apply to take GIT before graduation in most states
- GIT is not a license to practice
- Very good resume addition
Fundamentals of Geology Exam

- ASBOG website (www.asbog.org)
- 4-hour exam, computer-based
- Review groups – online or in person
Candidate Handbook

• **Please read and review this handbook!!!**

• Only the following items are allowed in the testing room:
  • The IDs used during the admission process
  • Non-QWERTY-calculator (without the cover)
  • Key to your test center locker
  • Eyeglasses (without the case)
  • Light sweater or jacket

*Exam tip: Practice with the calculator that you will be using for the exam*
Certification Programs for Geologists

• Certification through AIPG since 1963
• Other licensing and certification options:
  • Society for Mining, Metallurgy & Exploration (SME)
  • Australasian Institute of Mining and Metallurgy
  • Australian Institute of Geoscientists
  • Institute of Materials, Minerals and Mining
  • Institute of Geologists of Ireland
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• Most provinces in Canada
Licensing Board Members

- Appointed by state governor and/or legislature
- May be partisan appointees
- Do not write rules (rules are written by government departments or agencies)
- Review applications and determine whether applicants meet licensing requirements
- Hear and act on complaints
- May work with ASBOG as SMEs
- Level of effort depends on the individual state
  - Number of applicants
  - Number of complaints
  - Multi-disciplinary versus geologist-only board
  - Number of required meetings
  - State requirements (such as training required for a state employee)
What is AIPG and What is the AIPG Certification of a Professional Geologist?

- American Institute of Professional Geologists
- Provides certification of professional geologists that is recognized within the United States and internationally
- Advocate for the profession of geology
- Promotes high standards of ethical conduct
- Established before almost all state licensing programs
AIPG Membership Categories

- Student (free membership to any student in earth sciences)
- Early Career Professional (reduced cost membership during first 5 years after degree; first year free)
- Professional (degree in geology with no experience requirement)
- Certified Professional Geologist
AIPG Certification

• AIPG has the “Certified Professional Geologist” certification

• AIPG certification provides:
  • Documentation of a qualified, experienced and ethical professional
  • CPG is recognized as evidence of a “Qualified Person”
    • Australian Joint Ore Reserves Committee (JORC)
    • Canadian National Instrument 43-101
    • US Securities and Exchange Commission 5K-1300
  • CPG has reciprocal recognition in some states and in some other countries
    • Alaska
    • American Association of Petroleum Geologists
    • European Federation of Geologists
    • Geological Society of London “Chartered” Geologist
    • Institute of Geologists of Ireland
AIPG CPG Requirements: Education

- Bachelor-level degree in geology/earth science (36 semester or 54 quarter hours of classes pertaining to geology or earth sciences)
  - Transcript from all schools attended as supporting documentation
AIPG CPG Requirements: Experience

- Minimum 8 years or 96 months of professional experience
  - Need to show that experience is of “professional” level, with increasing responsibility and not technician work
  - Additional education beyond the bachelor's degree is considered as experience (1 year for a master’s degree and 3 years for a PhD)
  - Verification from employers to be submitted as supporting documents
- The applicant is responsible for filling out that portion of the form pertinent to the work being verified by the verifier and transmitting the form to the verifier who will review the information provided, verify its accuracy, and submit the completed form to AIPG

**Tips on the supporting information:**
- A complete record of experience, including non-geological, must be given on the application form leaving no unexplained gaps.
- At least 3 years of the experience must be “in responsible charge of the work”
- Verification of at least that geological experience necessary to qualify (for example, 8 years for CPG applicant) must be submitted on the forms provided, preferably the most recent
- For applicants with long work histories, exceptions can be made in the case of companies no longer in business or supervisors not able to provide verification
- Verification may be provided by a supervisor, coworker who is not subservient to the applicant, or a client or regulator who is familiar with the applicant’s work. Family members or close relatives may not serve as verifiers
GEOLOGICAL EXPERIENCE VERIFICATION

(applicant's name) has filed an application with the American Institute of Professional Geologists for Certification as a Certified Professional Geologist. This Certification depends, among other considerations, on the verification of the extent, diversity, and quality of his/her practical training and geological experience as described on the reverse side of this form. Please assist us by supplying the information requested below, based upon your own personal, first-hand knowledge of the applicant. Attach additional sheets if needed. Thank you.

Verification of experience from (month and year) To

Applicant's employer during this period:

--- SEE APPLICANT'S COMPLETE STATEMENT ON REVERSE SIDE OF FORM ---

To be completed by person verifying geologic experience:

<table>
<thead>
<tr>
<th>Name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Current employer</td>
<td></td>
</tr>
<tr>
<td>Current job and/or professional title</td>
<td></td>
</tr>
<tr>
<td>Complete Business address</td>
<td></td>
</tr>
<tr>
<td>Email/Office phone number</td>
<td></td>
</tr>
<tr>
<td>Nature of current business</td>
<td></td>
</tr>
</tbody>
</table>

1. Profession and specialty (if any) ________________ Years Experience ________________

2. What was your business or professional relationship to the applicant during the time described?

________________________________________________________________________

3. The portion of employment or experience we wish you to verify is described by the applicant on the reverse side of this form. Please state your opinion regarding the accuracy of the description, including duration, extent, and complexity of work, particularly the geological work and whether the work was in a position of responsibility, and indicate your evaluation of the applicant's performance.

________________________________________________________________________

4. If there is any portion of the described experience with which you are insufficiently familiar, please identify the portion and explain:

________________________________________________________________________

5. Additional Comments?

________________________________________________________________________

6. List your Professional Certification(s), License(s), or Registration(s), if any.

________________________________________________________________________

Signature Date

Return completed form to: American Institute of Professional Geologists

1333 West 120th Ave., Suite 211, Westminster, CO 80234-2710
AIPG CPG Requirements: Sponsorship

- Sponsorship by **three** professional geologists
- Options include
  - 2 current CPGs + 1 professional geologist
  - 6 sponsors for candidates who have no ability to work with a CPG, such as foreign applicants
- Record of high ethical standards and compliance with AIPG’s Code of Ethics
### SPONSOR’S STATEMENT

Any non-AIPG Sponsor must be a professional geologist. For the purposes of this application, a professional geologist sponsor is defined as one who has a baccalaureate degree or higher with 36 semester hours (or equivalent) in geological sciences and 6 years of post-degree experience in the practice of geology as a vocation. Applicant information received by AIPG will be considered confidential. Application materials will be divulged only to those directly involved in review of that particular application.

To the Sponsor:

<table>
<thead>
<tr>
<th>Sponsor’s name</th>
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</thead>
<tbody>
<tr>
<td>Sponsor’s current employer</td>
<td></td>
</tr>
<tr>
<td>Sponsor’s current job and/or professional title</td>
<td></td>
</tr>
<tr>
<td>Sponsor’s complete business address</td>
<td></td>
</tr>
<tr>
<td>Sponsor’s Email/office phone number</td>
<td></td>
</tr>
<tr>
<td>Nature of current business</td>
<td></td>
</tr>
</tbody>
</table>

1. How long have you known the applicant? ________________________________
2. Past Relationships: _________________________________________________
3. Present Relationship: _______________________________________________
4. Do you have knowledge of the professional and ethical reputation of the applicant in his/her professional and business community?  [ ] Yes  [ ] No
5. What is his/her reputation? __________________________________________
6. Do you personally agree with that reputation?  [ ] Yes  [ ] No (please explain)

7. Have you had business or other professional dealings with the applicant?  [ ] Yes  [ ] No
   Remarks: ____________________________________________________________
8. If your answer to 7 is No, would you willingly have future dealings?  [ ] Yes  [ ] No
   Remarks: ____________________________________________________________
Supplemental Information for CPG Applications

• Legal Record and Licensing
  • Pertains to geological work, not traffic violations
  • Licensing pertains to professional licensing
  • Include both temporary work permits and “permanent” licenses
  • Must indicate if a work permit was a temporary one as these are recorded separately in many states and can lead to a misunderstanding when verified
CPG Application: Notarization of Data and Compliance with AIPG Code of Ethics

- Application to be notarized
- Contact AIPG member services if notary services cannot be obtained (for example, foreign applicants)
- Agree to comply with Code of Ethics

Tips:
- Contact AIPG member services with any question, however minor or seemingly insignificant
- It is easier for AIPG to assist during the documentation preparation than during the review process
Tips on the Application Process

- Application completed in English on forms provided by AIPG
  - AIPG can work with applicants with supporting documents in some foreign languages

- Students and ECPs can take advantage of free membership opportunity

- Student and Associate members are non-voting members of the national organization (although students have voting rights in student chapters)

<table>
<thead>
<tr>
<th>Membership Category</th>
<th>Annual Fee + Section Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>$0 (+ no section fee)</td>
</tr>
<tr>
<td>Early Career Professional</td>
<td>$0 (first year), then $70</td>
</tr>
<tr>
<td>Professional</td>
<td>$140</td>
</tr>
<tr>
<td>Certified Professional Geologist</td>
<td>$185</td>
</tr>
<tr>
<td>Emeritus (retired CPG or Professional)</td>
<td>$60</td>
</tr>
<tr>
<td>Associate (non-geologists)</td>
<td>$75 (+ no section fee)</td>
</tr>
</tbody>
</table>

Note: All voting members are associated with a Section and pay the Section fee (typically $35/annually. There is no fee for the International Section).
Review of What Students Should Know

• Awareness of licensing and certification
• Membership as student and early career professional in AIPG and other professional organizations
• Availability of career workshops, field trips, technical talks and networking as a student member in professional organizations
• ASBOG “Fundamentals of Geology” test prior to graduation
  • Required at Mississippi State University and University of West Georgia
• Interview advantage – let potential employers know that you are committed to professional responsibility and career-oriented
Opportunities for Professors and Practicing Geologists

- Knowledge of specific requirements for licensing in your state, including coursework topics and number of hours
- Obtain PG license
- Participate as a member of the state licensing board
- Participate as a subject matter expert for ASBOG test preparation
- Participate as an ASBOG board member
- Join AIPG (professional membership or Certified Professional Geologist)
- Participate in AIPG local and national activities (including boards)
- Invite AIPG to talk to your department, give a presentation to students, form a student chapter, etc.
Summary of Your Professional Geologist To-do Checklist

☑ Take advantage of free AIPG student membership
☑ Take the Fundamentals of Geology exam early
☑ Become a member of technical organizations to match your interests
☑ Be involved in AIPG as an Early Career Professional
☑ Obtain Continuing Education Units
☑ Obtain professional state license
☑ Advance to AIPG CPG status

The sky’s the limit!
Thank you for your attention.

Dawn H. Garcia, PG, CPG
American Institute of Professional Geologists
2023 President

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AIPG contact information:

www.aipg.org
email us at aipg@aipg.org