



POSITION DUTY STATEMENT

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| NAME | MCR I |
| CLASSIFICATION Engineering Geologist | POSITION NUMBER 538-102-3756-009 |
| WORKING TITLE Carbon Sequestration Seismologist | DIVISION/UNIT California Geological Survey/Regional Geologic and Landslide Mapping Program |
| EFFECTIVE DATE | LOCATION Sacramento |
| BARGAINING UNIT R09 | CONFLICT OF INTEREST CATEGORY 3, 7 |

DEPARTMENT STATEMENT: All employees are responsible for contributing to an inclusive, safe, and secure work environment that values diverse cultures, perspectives, and experiences, and is free from discrimination. You are expected to work cooperatively with team members and others to enable the Department to provide the highest level of service possible. Your efforts to maintain regular attendance and treat others fairly, honestly, and with respect are critical to the success of the Department’s mission and vision.

GENERAL STATEMENT: Under the direction of the Senior Engineering Geologist (Supervisor) and leader of the Geologic Carbon Sequestration Group (GCSG), the Engineering Geologist is responsible for preparing detailed evaluations and review of geologic and seismic hazards. Prepares seismic monitoring plans and specialized review comments on geologic and seismic hazard reports prepared for projects throughout California, including carbon sequestration, and essential and critical facilities. The work may also include highly technical 3D geologic framework modeling products, including publicly accessible 2D and 3D visualization and data delivery products related to geologic layers and their physical properties, faults, natural and induced seismicity, and surface change detection. Additionally, the incumbent will document work products and processes related to the technical work deliverables. Duties include, but are not limited to:

A. SPECIFIC ACTIVITIES: ESSENTIAL / MARGINAL FUNCTIONS

- **ESSENTIAL FUNCTIONS**

- **30% Seismic Hazards Evaluation**

- Responsible for suitability framework planning and development to support implementation of SB905 statutory mandates, focusing on the assessment and mitigation of potential induced seismicity from geologic carbon sequestration activities. Acts as the seismology lead to implement statutory requirements, including the development of geologic reservoir suitability analysis framework, and interagency coordination with respect to carbon sequestration projects. Plans, directs, and coordinates detailed investigation of geologic and seismic hazards. Uses numeric and statistical models to calculate the potential amount and impact of geologic and seismic hazards including earthquake ground shaking and fault rupture. Prepares maps of potential geologic and seismic hazards, using geographic information system (GIS). Writes

reports summarizing earthquake shaking potential, fault rupture or the potential damage from those hazards. Stays current with technological advances in engineering geology, seismology, and geographic information systems. Works with professional peers in CGS, other governmental agencies, academia, and private industry to maintain a state-of-the-art seismic hazard analysis program and assist in technology transfer. Participates in outreach efforts to local government, news media, professional organizations, and the general public. Assists public agencies assessing potential damage to life-safety, utility, transportation, and private property damage potential from earthquakes.

- **30% Technical Evaluation and Review**

Performs review and evaluation of geologic carbon sequestration suitability technical needs. Leads development of a standard of care for seismological aspects of suitability analysis for geologic reservoirs and carbon sequestration projects. Performs technical review of data, maps, models, and geologic and seismic hazard reports that were prepared by others using probabilistic earthquake ground motion models, and detailed earthquake ground motion analysis. Uses knowledge of potential seismic shaking to determine if the investigations adequately document the site conditions and earthquake shaking to be used in design of carbon sequestration and associated projects. Corresponds with State permitting agencies, and with consultants as needed, to communicate the results of reviews and adequacy of reports.

- **10% Interagency Coordination and Communication**

Acts as a liason with external partners including lead agency and stakeholder agencies with respect to unified permitting, protocol, and guideline development. Presents the results of original studies and evaluations completed by the CGS Geologic Carbon Sequestration Group. Provides technical advice to the lead agency, public, industry, and other governmental agencies.

- **10% Seismic Monitoring Collaboration**

Collaborates with the U.S. Geological Survey's Earthquake Hazards Program, the U.C. Berkeley Seismic Lab and other seismic monitoring partners to develop and build out weak motion monitoring stations and instruments throughout California. Works with project proponents and operators to develop real-time data transfer on induced seismic activity.

- **10% Seismic Monitoring Evaluation and Communication**

Evaluates natural and induced seismicity and develops and online database with input from other seismic monitoring agencies, to provide real-time communication on potentially induced seismic activity throughout the state. Provides event-based induced seismicity information to the State Geologist to inform permitting agencies, stakeholders, and the public. Prepares reports and presentations to communicate induced seismic activity, seismic risk, and statewide seismology topics.

- **MARGINAL FUNCTIONS**

- **5% Technical Presentation**

- Provides technical presentations of work products at scientific and engineering professional meetings, contributes written technical articles to peer-reviewed journals, and provides technical peer-review of work products for co-workers.

- **5% Administrative**

- Performs administrative duties including, but not limited to: adheres to Department policies, rules and procedures; submits administrative requests including leave, overtime (if applicable), travel, and training in a timely and appropriate manner; accurately reports time in the Daily Log system; and submits timesheets by the due date.

B. **SUPERVISION RECEIVED**

Works under the supervision of the Senior Engineering Geologist (Supervisor) within the Regional Geologic and Landslide Mapping Program of CGS.

C. **SUPERVISION EXERCISED**

NONE

D. **ADMINISTRATIVE RESPONSIBILITIES FOR SUPERVISORS AND MANAGERS**

NONE

E. **PERSONAL CONTACTS**

The Engineering Geologist routinely interacts with other CGS and DOC staff, federal, state and local agencies, and may include extensive public and professional contact. Contacts may be made via personal interaction, written correspondence, telephone, and/or email.

F. **ACTIONS AND CONSEQUENCES**

If these functions are not adequately performed, consequences may include, but are not limited to:

- CGS will not meet its legislative mandates to identify geological hazards and resources, potentially exposing the citizens of California to threats to life, health, and economic damages.
- CGS will not meet its contractual obligations to assure timely and accurate completion of work under interagency agreements and grants.
- Potential loss of contract funding significantly impacting program budget.
- Negative impacts to CGS's relationships with our state and federal partners.

G. **WORKING CONDITIONS/PHYSICAL REQUIREMENTS**

- This position works primarily in an office environment, sitting at a desk during core office hours using a desktop computer, keyboard, mouse, monitor and printers under artificial lighting for prolonged periods of time.
- Perform repetitive hand motion, simple grasping, fine manipulation, pushing and pulling with right and left hands.
- Use of multi-line telephone console or a cordless telephone.
- Moving about the office and standing or sitting during in-person meetings.
- Field work in mountainous, forested and desert terrains; in road cuts, mines, or other excavations;

around drilling and excavation equipment; in trench excavations or large diameter borings; on foot, in off road vehicles, or in fixed-wing or rotary wing aircraft.

- Travel via private or public transportation (i.e., automobile, airplane, etc.) inside California may be required.
 - Occasional operation of state-owned vehicle to drive long hours to meetings.
 - Occasional working extended hours to meet project deadlines and to attend meetings, on-site reviews, or training inside California.
 - Occasional walking on minimally irregular surfaces at field-sites may be required.
- Post-earthquake, fire, or landslide emergency response may result in relocating to local or regional incident command centers in remote locations on short notice for long durations.

H. **TELEWORK**

Telework may be available for this position in accordance with the Department of Conservation’s Telework Policy and procedures.

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| I have read and understand the duties listed above and I can perform these duties with or without reasonable accommodation (if you believe reasonable accommodation is necessary, discuss your concerns with your supervisor). | | |
| Employee Signature | Employee Printed Name | Date |
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| I have discussed the duties of this position with and have provided a copy of this duty statement to the employee named above. | | |
| Supervisor Signature | Supervisor Printed Name | Date |
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