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August 12, 2025

Renée L. Robin, J.D.
Director, Permitting & Planning
Engie North America LLC
1360 Post Oak Blvd Ste 400
Houston, Texas 77056

Post Scoping Set 2 Data Requests for Compass Energy Storage Project (24-OPT-02)

Dear Renée L. Robin, J.D.,

Pursuant to Public Resources Code section 25545.4(d) and California Code of Regulations, title 20, section 1878(a), the California Energy Commission staff is asking for the information specified in the enclosed data requests, which is necessary for a complete staff analysis of biological resources, geologic hazards, and water resources for the Compass Energy Storage Project under the California Environmental Quality Act (CEQA). These biological resources data requests are in response to the comment letter from California Department of Fish and Wildlife (CDFW) on the Notice of Preparation of a Draft Environmental Impact Report for the Compass Energy Storage Project, SCH No. 2025050184; Orange County, CA (TN 263799).

The geologic hazards and water resources data requests are based on CEC staff analysis and in response to comments received during the Informational and Environmental Scoping Meeting (TN 264429) and written comments from the Orange County Transportation Authority, Notice of Preparation of a Draft Environmental Impact Report – Compass Energy Storage Project – Docket Number 24-OPT-02 (TN 263660). These geological hazards requests are in addition to the historic geotechnical studies identified at the informational meeting, requested by staff, and filed by the applicant into the project docket on July 2, 2025.

Pursuant to Public Resources Code section 25545.4, responses to the data requests shall be submitted within 30 days. If you are unable to provide the information requested or believe that additional time will be needed to provide a response, please send written notice to me within 10 days of receipt of this letter.

If you have any questions, please email the CEQA project manager, at renee.longman@energy.ca.gov.

Sincerely,

A handwritten signature in dark ink, consisting of a stylized 'D' followed by a horizontal line.

Drew Bohan
Executive Director

Enclosure:

Supplemental NOP Data Requests Set 2

Supplemental NOP Data Requests Set 2 - All Topics

BIOLOGICAL RESOURCES

CEC staff reviewed the comment letter on the Notice of Preparation of a Draft Environmental Impact Report for the Compass Energy Storage Project provided by the California Department of Fish and Wildlife (CDFW) (CDFW 2025a). The CDFW comment letter indicates that up-to-date visual surveys should be conducted for southwestern pond turtles (*Actinemys pallida*), a California Species of Special Concern and a candidate for listing under the federal Endangered Species Act.

During a site visit conducted on May 21, 2024 with the applicant, the applicant's biologists, CDFW, and CEC staff, turtles were observed within the creek adjacent to the site. While the turtles appeared to be pond turtle, CEC and CDFW staff seeks to confirm if these are the southwestern pond turtles or a non-native species. Although work is not proposed to be conducted in the creek itself, this species is routinely found in upland areas for aestivation and nesting and therefore could be impacted during construction of the project.

SDR BIO-3. CEC staff requests that the applicant complete visual surveys following the Western Pond Turtle Visual Survey Protocol for the Southcoast Ecoregion (USGS 2006) to confirm presence/absence of southwestern pond turtles. The surveys should be conducted as soon as possible to ensure this species is accurately addressed in the Staff Assessment. Please provide a survey report that meets the standards of the visual survey guidance.

GEOLOGIC HAZARDS and WATER RESOURCES

CEC staff has identified potentially significant geologic hazards associated with liquefaction, landslides, and soil erosion. Staff has also identified potential geologic hazards associated with expansive soils and compressible soils. Oral comments submitted during the Informational and Environmental Scoping Meeting, and written comments from the Orange County Transportation Authority confirmed these concerns. Two studies that the applicant performed of Oso Creek, which were docketed on June 27, 2025, and a site visit that CEC staff conducted on July 16, 2025 (CEC 2025s) also confirmed these concerns. In the supplementary data requests below, CEC staff requests additional information related to mitigation of geologic hazards.

Section 4.4: Geologic Hazards and Resources of the project application stated that potential direct and indirect impacts associated with geologic hazards would be mitigated to less than significant (Dudek 2024h). Specifically, the application (Dudek 2024h) stated that project construction and operation would mitigate geologic hazards through grading, construction, and design recommendations in the applicant's geotechnical investigation, LGC Geotechnical, Inc. (2024). CEC staff reviewed the Geotechnical Evaluation Report prepared by LGC Geotechnical, Inc. for the project site

(2024) which is included in application Appendix 4.4, Dudek (2024aa, 2024bb, and 2024cc).

CEC staff reviewed Geosyntec Consultants, Inc.'s geomorphologic analysis of Oso Creek (2021) and Chang Consultants sedimentary transport analysis of Oso Creek (2024) completed for the proposed project. Note, both studies are compiled in Dudek (2025i) and referenced by LGC Geotechnical, Inc. (2024) (Dudek 2024aa).

In addition, CEC staff reviewed the following prior geotechnical investigations that were either conducted at the site by the applicant for the proposed project or for earlier projects. Terracon Consultants, Inc. (2021) completed a geotechnical investigation for the applicant. Terracon Consultants, Inc. (2021) is compiled in Dudek (2025i).

Leighton and Associates, Inc. (2009) completed a geotechnical investigation for an earlier project at the same site. Leighton and Associates, Inc. (2009) included results from subsurface investigations conducted by Lowney and Associates in 2001 for an earlier project. Leighton and Associates, Inc. (2009) is compiled in Dudek (2025m, 2025n, 2025o, 2025p, 2025q, 2025r, 2025s, 2025t, and 2025u).

NMG Geotechnical (2001) completed a geotechnical investigation for an earlier project and is compiled in Dudek (2025l).

According to the CGS Earthquake Zones of Required Investigation online mapping application, the project is in a liquefaction zone (CDOC 2024). LGC Geotechnical, Inc.'s geotechnical investigation (2024) sampled and evaluated subsurface soils and sediments for liquefaction potential. The study observed shallow groundwater, about 5 feet below the ground surface. The investigation concluded that alluvial soils at the project site are cohesive and not considered susceptible to liquefaction. The investigation also concluded that relatively thin sandy layers up to 50 feet below the ground surface are susceptible to liquefaction. The investigation calculated there is potential for 1-inch of total seismic settlement and 0.5 inches of differential seismic settlement at the project site. The investigation does not appear to state if the landslide deposits that underlie the project site are cohesive or susceptible to liquefaction.

SDR GEO-1. CEC staff requests the applicant provide more information on the conclusion that 1-inch of total seismic settlement and 0.5 inches of differential seismic settlement are anticipated. For example, CEC staff requests the applicant provide an expanded discussion of the liquefaction analysis, including the assumptions, methods, results, and conclusions.

CEC staff notes that Appendix D: Liquefaction in LGC Geotechnical, Inc. (2024) contains results from 19 cone penetration tests at the project site. LGC Geotechnical, Inc.'s (2024) recommended mitigation for liquefaction hazards includes removing at least 5 feet of sediment below grade and beyond the

foundation footprint, replacing that sediment with appropriate compacted fill, and constructing the project on a mat foundation.

SDR GEO-2. CEC staff requests the applicant further explain how the proposed mitigation would mitigate the potential direct and indirect impacts from liquefaction hazards to less than significant.

According to the CGS Earthquake Zones of Required Investigation online mapping application, slopes adjacent to the project's western boundary are landslide zones (CDOC 2024). LGC Geotechnical, Inc. (2024) observed that the landslide complex that originates upslope of the project extends under the project site. LGC Geotechnical Inc. (2024) conducted a slope stability analysis and concluded the landslides to the west of the project site are stable. LGC Geotechnical, Inc.'s (2024) recommended mitigation for landslide hazards, including not cutting into the landslide complex, a setback from the landslide complex, and a program and guidelines for maintaining long-term slope stability (Dudek 2024aa). The investigation does not appear to evaluate if the landslide deposits that underlie the project site are stable.

SDR GEO-3. CEC staff requests the applicant provide more information on the conclusion that the landslide complex is stable. For example, CEC staff requests the applicant provide an expanded discussion of LGC Geotechnical, Inc.'s 2024 slope stability analysis, including the assumptions, methods, results, and conclusions. CEC staff notes that Appendix E: Slope Stability Analysis in LGC Geotechnical, Inc. (2024) contains computational results for slope stability analyses on four geologic cross-sections. Also, CEC staff requests the applicant evaluate if the landslide deposits that underlie the project site are stable.

SDR GEO-4. CEC staff requests the applicant expand their explanation of how they propose to mitigate the potential direct and indirect impacts from landslide hazards to less than significant.

CEC staff reviewed Geosyntec Consultants, Inc.'s (2021) geomorphic investigation of Oso Creek (2021) and Chang Consultants' sediment transport analysis of Oso Creek (2024). Both studies identify westward soil erosion on Oso Creek through vertical scour, lateral erosion, and bank collapse as a threat to the project site. (Dudek 2025i)

Geosyntec Consultants, Inc. (2021) calculated that, between 2014 and 2021, Oso Creek eroded laterally into its western bank, toward the proposed project site, at an average rate of 3 feet per year. Lateral erosion is episodic and varies longitudinally along the stream channel. At over 50 percent of measurement locations within Geosyntec Consultants, Inc.'s 2021s study reach, the maximum annual lateral migration rate was less than or equal to 10 feet per year. At less than 5 percent of measurement locations, the maximum annual migration rate was 80 feet per year.

Geosyntec Consultants, Inc. (2021) and Chang Consultants (2024) concluded that lateral erosion varies longitudinally along the stream channel. Chang Consultants concluded that most erosion occurs during high streamflow events, such as 5-year, 10-year, 25-year, and 100-year floods. (Dudek 2025i)

Geosyntec Consultants, Inc. (2021) proposed a retaining wall solution to protect the project site from soil erosion. Chang Consultants (2024) proposed setbacks to protect the project site from soil erosion (Dudek 2025i). LGS Geotechnical (2024) also proposed setbacks to protect the project site from soil erosion (Dudek 2024aa).

Application Section 4.4: Geologic Hazards and Resources stated that adherence to the recommendations provided in LGC Geotechnical (2024) would reduce potential impacts related to geologic hazards to less than significant during construction and operation. (Dudek 2024h, 2024aa)

Based on the results from Geosyntec Consultants, Inc. (2021) and Chang Consultants (2024) (Dudek 2025i), CEC staff concludes that Oso Creek would erode laterally into the project site during the life of the project. CEC staff concludes that setbacks are insufficient mitigation because setbacks would not alter the ongoing lateral erosion. As described in **SDR GEO-5**, **SDR GEO-6**, and **SDR WATER-1** (below), CEC staff are also concerned the level spreader would load stormwater onto the setback area and into Oso Creek's western streambank, which would likely destabilize the Oso Creek's western streambank and exacerbate soil erosion.

LGC Geotechnical, Inc. (2024) does not recommend infiltrating stormwater runoff into the subsurface because that activity would likely decrease slope stability and exacerbate soil erosion. (Dudek 2024aa)

SDR GEO-5. CEC staff requests the applicant explain how they propose to mitigate soil erosion's direct and indirect impacts on the proposed project.

A feature labeled "Swale-1" and described as a small erosional feature in the updated aquatic resources delineation, was identified in the southeast portion of the project site (Dudek 2024yyy). This feature is also defined as a small linear topographical depression shown on the geotechnical map (Sheet 1 of 4) included in the geotechnical report prepared by LCG Geotechnical Inc., (2024) and is subparallel with the top of the Oso Creek's western embankment (Dudek 2024cc).

During a site visit on July 16, 2025, CEC staff observed that the Swale-1 structure was irregular in both in surface expression and depth (approximately 1 to 2.5 feet). There was no evidence of sedimentation or running water (CEC 2025s). Since the linear feature runs roughly parallel to Oso Creek's western embankment, is irregular, and shows no evidence of running water, CEC staff are concerned this might indicate a developing stream embankment slump that has occurred at several nearby upstream locations. If this is a developing slump, there are implications that

the level spreader proposed to disperse stormwater would further exacerbate the stability of the Oso Creek's western embankment.

SDR GEO-6. CEC staff requests the applicant evaluate the Swale-1 feature and the possible impacts from stormwater from the proposed level spreader structure.

Based on closer scrutiny of the project design drawings (Dudek 2024pp) and the stormwater management plan (Dudek 2024ddd), as well as the various geotechnical reports (Dudek 2024aa, 2024bb, 2024cc, 2025i, 2025l, 2025m, 2025n, 2025o, 2025p, 2025q, 2025r, 2025s, 2025t, and 2025u), it appears that the proposed solution to disperse offsite stormwater runoff could exacerbate the condition of slumping along the Oso Creek's western streambank.

As shown on the design drawings and described in the stormwater management plan, offsite stormwater runoff from two of the modeled drainage areas east of the project facility (West [17.01 acres] and South 27.70 acres]) would be captured by a drainage ditch along the west side of the facility and be diverted to a level spreader along the southeast corner of the project facility. The level spreader would discharge stormwater onto the bench above the west bank of Oso Creek (Dudek 2024pp, 2024ddd).

Modeling associated with the stormwater management plan indicates that outflow from the level spreader would have a volume of approximately 10.6 acre-feet (AF) flowing at a rate of 98.6 cubic feet per second (CFS) during a 25-year rain event, and a volume of 14.3 AF flowing at a rate of 134 CFS during a 100-year rain event (Dudek 2024ddd). The introduction of stormwater discharge in an area where slump block head scarps would be expected to form, could aggravate the condition of slumping along the west streambank of Oso Creek as described in various geotechnical reports (Dudek 2024aa, 2025i, 2025l, 2025m, 2025n, 2025o, 2025p, 2025q, 2025r, 2025s, 2025t, and 2025u)

SDR WATER-1. CEC staff requests that the applicant explain how the level spreader could be modified to mitigate stormwater discharge that could impact Oso Creek streambank slumping, or develop an alternative to disperse offsite stormwater runoff.

REFERENCES

CDFW 2025a – California Department of Fish and Wildlife (TN 263799). CDFW's Comments for the Notice of Preparation of a Draft Environmental Impact Report for the Compass Energy Storage Project. Docketed June 3, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

CEC 2025s – California Energy Commission (TN 265490). Staff Site Visit Report.
Docketed August 8, 2025. Accessed online at
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024h – Dudek (TN 255535-8). Section 4-4_Geological Hazards And Resources.
Docketed April 5, 2024. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024aa – Dudek (TN 255561-6). Appendix 4-4A_Geotechnical Evaluation Report
Part 1. Docketed April 8, 2024. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024bb – Dudek (TN 255561-7). Appendix 4-4A_Geotechnical Evaluation Report
Part 2. Docketed April 8, 2024. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024cc – Dudek (TN 255561-8). Appendix 4-4A_Geotechnical Evaluation Report
Part 3. Docketed April 8, 2024. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024pp – Dudek (TN 255577-3). Appendix 2A_Project Design Layout And
Elevations. Docketed April 8, 2024. Available online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024ddd – Dudek (TN 255584). Appendix 4-15A_Stormwater Management Plan
Part 1. Docketed April 8, 2024. Available online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2024yyy – Dudek (TN 259938). Data Request Response 3_Attachment
1_Updated Aquatic Resources Delineation Report. Docketed November 6, 2024.
Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2025i – Dudek (TN 264480). Geotechnical Evaluation Report (TN #255561-6)
References Part 3. Docketed June 27, 2025. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2025l – Dudek (TN 264492). Geotechnical Evaluation Report (TN #255561-6)
References Part 1. Docketed June 27, 2025. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2025m – Dudek (TN 264550). Geotechnical Evaluation Report (TN #255561-6)
References Part 2_1 of 9. Docketed July 2, 2025. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

Dudek 2025n – Dudek (TN 264551). Geotechnical Evaluation Report (TN #255561-6)
References Part 2_6 of 9. Docketed July 2, 2025. Accessed online at:
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>

- Dudek 2025o – Dudek (TN 264552). Geotechnical Evaluation Report (TN #255561-6) References Part 2_5 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>
- Dudek 2025p – Dudek (TN 264553). Geotechnical Evaluation Report (TN #255561-6) References Part 2_4 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>
- Dudek 2025q – Dudek (TN 264554). Geotechnical Evaluation Report (TN #255561-6) References Part 2_3 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>
- Dudek 2025r – Dudek (TN 264555). Geotechnical Evaluation Report (TN #255561-6) References Part 2_2 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>
- Dudek 2025s – Dudek (TN 264556). Geotechnical Evaluation Report (TN #255561-6) References Part 2_9 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>
- Dudek 2025t – Dudek (TN 264557). Geotechnical Evaluation Report (TN #255561-6) References Part 2_8 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>
- Dudek 2025u – Dudek (TN 264558). Geotechnical Evaluation Report (TN #255561-6) References Part 2_7 of 9. Docketed July 2, 2025. Accessed online at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=24-OPT-02>