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**VIA E-MAIL (PMURPHEY@WATERBOARDS.CA.GOV)**  
**& FEDERAL EXPRESS**

Mr. Paul Murphey  
STATE WATER RESOURCES CONTROL BOARD  
1001 I Street, Second Floor  
Sacramento, CA 95814

**RE: COMMENTS ON THE DRAFT EIR FOR THE EAGLE CREST ENERGY  
COMPANY EAGLE MOUNTAIN PUMPED STORAGE PROJECT (STATE  
CLEARING HOUSE NO: 2009011010)**

Dear Mr. Murphey:

By this letter Kaiser Eagle Mountain, LLC and Mine Reclamation, LLC (collectively "**Kaiser**") are submitting comments regarding the draft environmental impact report ("**DEIR**") for Eagle Crest Energy Company's ("**ECEC**") proposed Eagle Mountain Pumped Storage Project to be located at Eagle Mountain, California (the "**Project**").

Kaiser retained Geosyntec Consultants, Inc. to assist it in the review of certain aspects of the DEIR and the Project. Geosyntec's letter dated October 5, 2010, is attached hereto (**Attachment #1**) and the comments made therein are incorporated into and made a part of this letter by this reference (the "**Geosyntec Comment Letter**").

In making a determination with regard to an application for a water quality certification pursuant to Section 401(a)(1) of the Federal Clean Water Act (33 USC § 1341 et seq.) (herein after referred to as the "401 water quality certification") the State Water Resources Control Board ("**State Water Board**") must either: (1) deny certification; or (2) issue an appropriately conditioned 401 water quality certification. A 401 water quality certification is to be denied if compliance with water quality standards is not yet determined or if the application suffers from a procedural inadequacy. The DEIR, as currently written, does not provide sufficient information to make a reasonable evaluation and determination of the environmental impacts of the Project, including water quality impacts. Accordingly, among other reasons, as a result of the inability to determine compliance with water quality standards, certification of the EIR for the Project, and the Project's 401 water quality certification application should be denied.

**1. ECEC DOES NOT OWN OR CONTROL THE HEART OF ITS PROPOSED PROJECT AND ECEC HAS NOT CONDUCTED NECESSARY STUDIES AT THE EAGLE MOUNTAIN MINE SITE**

Kaiser owns and controls much of the real property on which ECEC is proposing to construct and operate the Project. The DEIR acknowledges such fact in stating: "The Project lies almost entirely within the Eagle Mountain Mine... ." (DEIR,



p. 3.0-2.<sup>1)</sup> Kaiser also owns and controls permits for the construction of the Eagle Mountain Landfill and Recycling Center (the "Landfill")<sup>2)</sup>. The Landfill is designed to serve seven southern California counties and it could ultimately receive, if maximum capacity is achieved, 708 million tons of household municipal waste.<sup>3)</sup> The Landfill remains under contract to be sold to the Los Angeles County Sanitation District No. 2 ("LACSD"). Despite ECEC's assertions to the contrary, the Landfill and the Project are not compatible as discussed in more detail in this letter.

**1.1 THE WATER QUALITY CERTIFICATION APPLICATION SHOULD BE DISMISSED SINCE ECEC NEITHER OWNS NOR CONTROLS MUCH OF THE LAND ON WHICH THE PROJECT IS PROPOSED TO BE CONSTRUCTED.** At the outset it must be recognized that ECEC neither owns nor controls the very heart of the proposed Project—the Eagle Mountain Mine pits and the land necessary for the power generation facilities. Additionally, ECEC has not had access to the Eagle Mountain Mine site. Without ECEC demonstrating ownership of or the terms by which it will control the necessary land, the State Water Board cannot establish clear, certain and enforcement conditions that ensure compliance with water quality objectives and the beneficial uses they are intended to protect. Thus, the State Water Board should not issue a 401 water quality certification unless and until ECEC owns or controls the land that is necessary for the Project.<sup>4)</sup> For this reason alone, ECEC's application for a 401 water quality certification should be immediately dismissed.

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<sup>1)</sup> All page references are to the applicable page number in the DEIR unless otherwise noted.

<sup>2)</sup> The Landfill has been the subject of extensive litigation, including litigation initiated by ECEC. In April 1999, the California Court of Appeal unanimously rejected challenges to the Landfill under the California Environmental Quality Act. Subsequent to their loss in state courts, Landfill opponents filed federal litigation against a completed land exchange between Kaiser and the U.S. Bureau of Land Management ("BLM"). In September 2005, a U.S. District Court ruled against the completed land exchange and "set aside" the completed land exchange. By subsequent order, the U.S. District Court explained that "set aside" did not mean the exchange was undone, but that it would be held in abeyance pending BLM's preparation of an environmental impact statement and a record of decision consistent with the court's ruling. Title to the exchanged lands remains with Kaiser. The U.S. District Court decision was appealed to the U.S. 9<sup>th</sup> Circuit Court of Appeals. In November 2009, the majority of a three-judge panel ruled in favor of Kaiser on several issues but found that there were three matters that still needed to be addressed. Kaiser remains committed to the Landfill and the completed land exchange and is pursuing its options with regard to the Landfill. These options included seeking review of the adverse 9<sup>th</sup> Circuit decision by the U.S. Supreme Court and/or pursuing a fix of the three deficiencies found by the 9<sup>th</sup> Circuit through the BLM. Thus, to paraphrase Mark Twain: "The rumors of the Landfill's death have been greatly exaggerated."

<sup>3)</sup> The Landfill will have the capacity to handle and dispose of 470 million tons in current Phases 1-4 and 238 million tons in Phase 5.

<sup>4)</sup> Where a project is proposed for a portion of the property owned by an entity other than the project proponent, it appears difficult and bad policy for the State Water Board to issue a 401 water quality certification; unless and until a determination is made that the project proponent has an actual legal right to use the property and a determination can be made that the proposed project is consistent with existing and future uses by the existing landowner. Indeed, consistent with these points, the applications for 401 water quality certification of the California Regional Water Quality Control Boards for the San Diego, Lahontan, and North Coast Regions ask for



**1.2 THE WATER QUALITY CERTIFICATION SHOULD BE DISMISSED BECAUSE OF A LACK OF PROPER ENVIRONMENTAL ASSESSMENT SINCE ECEC HAS NOT ACCESSED THE EAGLE MOUNTAIN SITE AND CONDUCTED CRITICAL STUDIES.** ECEC has not conducted critical studies and evaluations for material components of the Project. Lack of critical environmental studies and evaluations have resulted in an inadequate description and analysis of material Project components and related impacts and mitigation programs. The deferred studies include the following:

**1.2.1 DEIR SECTION 3.1 - GEOLOGY, SOILS AND MINERAL RESOURCES.**

The DEIR's discussion of geological conditions includes no detailed and site-specific geological studies regarding conditions at the Eagle Mountain location - the site of the proposed reservoirs, power generation facilities and ancillary facilities. Accordingly, the DEIR's discussion regarding ground subsidence, soil erosion, and landslides and mass movements are not sufficient. The DEIR indicates that future testing is required before any analysis can be completed. For example, the first of several "project design features" described by the DEIR are to be performed *after EIR certification* and once "site access is obtained." "Stage 1 Subsurface Investigations" will only then be conducted to provide the information necessary to "finalize project features." These investigations are to be followed by Stage 2 investigations for final design, including the design of dams. (p. 3.1-29.) Additionally, the DEIR proposes to perform "geologic mapping" to describe the stability of slopes within the mine pits where the reservoirs are to be located *after the EIR is certified. (Id.)* Under the California Environmental Quality Act and its implementing guidelines, rules and legal interpretations (collectively "CEQA"), this type of analysis cannot be deferred.

**1.2.2 DEIR SECTION 3.2 - SURFACE WATER.** The DEIR notes that the Project-created surface waters may be impacted by sedimentation and metals as a result of former mining activities at the Eagle Mountain site. However, the DEIR does not specifically discuss these potential impacts but instead asserts that mitigation of these impacts will be through the "erosion plan." The erosion plan suffers from the same lack of information identified above, and "on-site studies of acid production potential," which will be performed "when access is granted to Eagle Crest Energy Company" to collect samples. (p. 3.2-16.) Thus, the DEIR again acknowledges that ECEC does not have sufficient information to identify the Project's potential impacts upon water quality. Instead studies and necessary analysis regarding these potential impacts will be delayed until after certification of the EIR which also means that mitigation measures will be adopted without essential public review or comment. CEQA does not allow for the deferment of necessary studies.

**1.2.3 DEIR SECTION 3.3 - GROUNDWATER.** The evaluation of potential impacts to groundwater at the Eagle Mountain site is limited to document

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information from the owner or related to ownership of the project site. Other Regional Water Quality Control Boards request information that would be difficult, if not impossible, to provide without the project proponent owning or maintaining the right to use the subject land. See, for example, California Regional Water Quality Control Boards, Central Coast, Central Valley and Colorado River Basin Regions' Application Form, which requests information on proposed schedule. How could a schedule be developed by a project proponent, if that proponent does not have the right to use the property on which the project is proposed to be located?



and photographic review, rather than any actual studies by ECEC at the site. (p. 3.3-19.) For example, the DEIR acknowledges that seepage may impact the amount of groundwater that will need to be pumped for the Project. However, "estimates" for seepage in the DEIR are provided without performing any actual geological studies of the characteristics of the areas in which the reservoirs, the tunnels, and water over flow areas are proposed to be located. As a consequence of not having critical information, the DEIR indicates that a "detailed reconnaissance" of areas where leakage and seepage is expected to occur will be conducted during "final engineering design" as part of ECEC's seepage control efforts. Once again deferring necessary studies and analysis deprive the State Board and the public of meaningful information that is necessary for the analysis of water quality impacts and other Project impacts. Proposing potential methods for mitigating Project seepage is speculative in nature without sufficient geotechnical studies to determine the site's characteristics and to conclude whether impacts are significant.

**1.2.4 DEIR SECTIONS 3.5 AND 3.6 - BIOLOGICAL RESOURCES AND THREATENED AND ENDANGERED SPECIES.** No onsite biological surveys of the mine pits that will serve as the reservoirs and other features at the Eagle Mountain Mine site have been undertaken. (p.3.5-32.) Instead, ECEC relies upon "pre-construction surveys" of plant and wildlife species, that will take place sometime after (i) the EIR is certified; (ii) the proponents obtain access; and (iii) the Project is licensed. (p. 3.6-24.) This lack of actual field information and resulting analysis clearly does not meet the requirements of CEQA.

As the State Water Board is aware, the EIR is the very heart of CEQA compliance (*Dunn Edwards v. BAAQMD* 9 Cal. App. 4<sup>th</sup> 644, 653) (1992)) and the participation of governmental entities and the public in the evaluation and commenting on a project through the EIR process is essential. This process is throttled when material studies are deferred.

## **2. THE PROJECT AND PROJECT DESCRIPTION**

**2.1 INADEQUATE PROJECT DESCRIPTION.** The Project description is inadequate. As discussed in this letter, there is an inadequate description of certain material components of the Project, related mitigation measures, and how the mitigation will be implemented. Further, the DEIR states that three wells would be utilized to pump groundwater but there is an insufficient clarity as to exactly where the wells will be located that will be used by the Project. As a result the review and analysis of local groundwater impacts is inherently limited. ECEC and the DEIR also assume that there will be no material alteration of the physical environment at the Eagle Mountain site prior to the possible construction of the Project. As discussed in more detail under "**Mineral Resources**" below, this may be incorrect.

**2.2 THE NEED FOR THE PROJECT IS NOT ESTABLISHED.** The DEIR provides an inadequate analysis of the reasons for the Project. The Project is not aligned with the need for both on- and off-peak power in California or California Independent System Operator's ("**CAISO's**") Southern California local capacity requirements. There should be sufficiently detailed independent studies that demonstrate that there in fact is a need for the Project so that there can be a realistic



analysis of the benefits of the project versus the detriments of the Project. For example, in a report issued by the CAISO dated August 31, 2010, titled "Integration of Renewable Resources-Operational Requirements and Generation Fleet Capacity at 20% RPS" (the "**CAISO Integration Report**"), there is no discussion of the need for a hydro-electric pumped storage project like the Project in order to integrate renewable energy sources such as solar and wind power into the electrical system in California. In fact, the CAISO Integration Report concludes that this "study confirms that the generation fleet possesses sufficient overall operational flexibility to reliably integrate 20% RPS in over 99% of the hours studied." (CAISO Integration Report, p. 93.) With the ability to integrate renewable resources into the electrical grid already being met, the justification for the Project is weak at best. As further justification for the Project, the DEIR states: "The Project will provide an economical supply of peaking capacity, as well as load following electrical system regulation through spinning reserve, and immediately available standby generating capacity." (p. ES-2.) Yet, these ancillary services being touted as justification for the Project are not sufficiently quantified in the DEIR. For example, the DEIR does not explain how the Project could be considered to have spinning reserve and immediately available standby generating capacity if the lower reservoir is already full of water. Additionally, as discussed in more detail in this letter, the DEIR fails in its analysis of how these benefits compare to other alternatives that can provide most, if not all, of the claimed benefits of the Project.

**2.3 THE DEIR FAILS TO ADEQUATELY ADDRESS TRANSMISSION CONSTRAINTS.** The EIR fails to adequately address serious transmission constraints that impact the Project. The Project currently has no capacity to deliver the power it may generate to market. At best, the Project must wait until the Devers - Palo Verde 2 ("**Devers 2**") transmission line is built. At worst, given the number of solar and wind projects that may access the Devers 2 line, there may be no transmission capacity for a substantial number of years for the Project. Without the ability to sell power into the grid, ECEC may not be able to, among other things, timely implement required mitigation measures. A full explanation of the availability and timing of transmission capacity and the impacts of any delay in being able to connect the power grid should be made in the DEIR.

**2.4 THE PROJECT IS NOT COST-EFFECTIVE.** The cost to operate the Project (using realistic off-peak power costs to operate and transmission costs) will exceed the benefit/value of the on-peak power as well as any revenues that can be derived through the ancillary services market. ECEC has effectively conceded that the Project is not commercially viable in that there is not a sufficient differential between day-time and night-time electrical rates. The Project will be more expensive to operate than a natural gas combined cycle facility or a natural gas combustion turbine, while affording less operational flexibility than either alternative.

**2.5 THE PROJECT IS NOT GREEN.** The Project will consume more energy than it would produce and it is misleading for ECEC and the DEIR to assert that the Project is in any way a "renewable energy" or a "green" project, or essential to the development of renewable resources. (See comments under Section 2.2 above.) By confirming memorandum dated March 30, 2010, ECEC corrected previously incorrect published numbers for the amount of energy to be consumed by the Project versus the amount of energy to be produced by the Project. (See **Attachment #2**). Under the



assumptions used, ECEC states that the proposed annual average generation would be 4,308 giga-watt hours, while the pumping energy would be 5,744 giga-watt hours. As discussed in this letter, there are other alternatives which ECEC did not study as required by CEQA that could more efficiently and cost effectively to achieve the Project's touted benefits of providing peaking capacity and electrical system benefits (p. ES-2).

Additionally, the DEIR states that one of the goals of the Project is the reduction of greenhouse gases. However, the DEIR is misleading to assert that greenhouse gasses will be reduced without appropriate documents and analysis when the Project uses substantially more power than it will generate. Undoubtedly, much of this power for the Project will likely originate from fossil fuel sources. An appropriate study needs to be undertaken that demonstrates the net increase or decrease in greenhouse gases as a result of the Project, taking into account the likely true sources of the power that will be utilized by the Project.

**2.6 THE DEIR FAILS TO ADEQUATELY IDENTIFY AND DISCUSS NECESSARY CONSENT AND APPROVALS.** The DEIR fails to adequately identify and discuss all the consents and approvals necessary for the Project. For example, the DEIR does not address in any meaningful manner the necessary consents from the Metropolitan Water District of Southern California ("MWD") that will be required for ECEC's crossing of the Colorado River Aqueduct ("CRA") and for discharges across the CRA as result of emergency releases of water.

### **3. ALTERNATIVES ANALYSIS**

The DEIR has impermissibly narrowed the range of alternatives. The Statement of Goals and Objectives (p. 2-2 to 2-7; p.4-12.) has narrowed the range of alternatives to exclude other potential energy generation projects or locations that could meet some or most of the same stated objectives. CEQA Guidelines state in § 15124(b) that "A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR ...." It also states in Section 15126.6(a) that "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." There are several other alternatives that should be given substantial consideration and analyzed in the DEIR, including renewable energy projects, alternative site location, and other means of achieving ancillary services to benefit the electrical grid.

**3.1 OTHER RENEWABLE PROJECT ALTERNATIVES.** Other renewable projects should be considered at this location. For example, expanded wind and solar projects would help meet most of the objectives and goals set out in the DEIR. They could also avoid many of the adverse impacts associated with the proposed Project, and avoid potential conflicts with the Landfill, which already has a certified EIR. The NET energy balance of these other renewable resource energy projects should also be analyzed and compared with the NET energy balance of the proposed pumped storage project.



**3.2 OTHER ALTERNATIVES FOR PROVIDING ANCILLARY SERVICES.** The DEIR does not evaluate what other types of projects and facilities may provide the ancillary services touted for the Project. For example, the approved Blythe Energy Project II ("BEP II") located near Blythe, California is considering modifying such facility in order to expand the ancillary services available from such facility. As proposed, such facility would be a high efficiency quick start facility to meet the current and future market demand for Southern California. The incorporation of new technology will make BEP II a more flexible generating facility with the ability to work as an intermittent load that will assist in the integration of renewable power and in the regulation of power into the electrical grid. There are likely other alternative options as well that can provide ancillary services that have not been studied.

**3.3 ALTERNATIVE LOCATIONS.** Alternative pumped storage project locations were not sufficiently analyzed in the DEIR. For example, there are two additional iron ore pits at Eagle Mountain and this fact is recognized in the DEIR. (p. 3.1-9) The DEIR does not discuss the possible use of these two pits or the use of one of these pits in conjunction with the Central Pit serving as the lower reservoir instead of serving as the upper reservoir as the proposed Project is currently configured. This alternative would likely offer similar advantages in terms of possible suitability for the Project including proximity to transmission lines and groundwater, yet further minimize (though they would not be completely be eliminated) potential impacts to the Landfill. Additionally, using an Eagle Mountain Black Eagle Pit as the upper reservoir might result in other and lesser environmental impacts of the Project including those related water quality. There is no question that these possible alternatives, which seemingly meet all the attributes articulated in the DEIR (p. 4-12), should have been exhaustively analyzed in the DEIR. Additionally, no analysis of other potential sites in other parts of California has been substantiated.

**3.4 ALTERNATIVE PUMPED STORAGE PROJECT DESIGNS-CONSTRUCTION CONFLICTS.** The DEIR analysis of alternatives assumes that the proposed project is compatible with the Landfill, at least during the fifty years term of the Project. (However, see the comments under "The Project is Not Compatible with the Landfill" below.) Since the Landfill has a certified EIR, and is in the process of obtaining final federal approvals, assuming the Project is ultimately approved it is indeed a possibility that simultaneous construction could occur given the uncertainties of timing approvals for both projects. In that case, portions of the proposed pumped storage project would not be immediately available, and the DEIR should therefore analyze the option of what additional design modifications would be necessary should both projects proceed simultaneously.

**3.5 FILL ALTERNATIVES.** The DEIR does not adequately address the possibility of drilling and pumping only two groundwater wells. A longer fill period for the Project would likely reduce the impacts of the Project's pumping. A longer fill period should not be rejected just because it may take more time and/or be more expensive than the preferred alternative.

**3.6 TRANSMISSION LINE ALTERNATIVES.** The DEIR does not discuss all the transmission line scenarios although the EIR does generally discuss several possible transmission line routes and their inter-connection into the electrical grid. However,



the DEIR does not analyze the associated environmental impacts of a possible transmission line and route from Eagle Mountain to near Blythe, California, as originally proposed by ECEC. ECEC must still consider the construction of such electrical transmission line to near Blythe as a viable alternative route since ECEC continues to hold a reservation on U.S. Bureau of Management land for the construction of such a transmission line. One must ask why ECEC has not surrendered its reservation of federal lands for this purpose unless it is holding this land in reserve for a possible transmission route? Given the facts, this alternative should have been studied in the DEIR.

#### **4. GROUNDWATER RESOURCES AND IMPACTS**

There is no doubt that the proposed use of groundwater by the Project is a significant concern that must be thoroughly analyzed by the State Water Board. The DEIR concedes that the Project will put the Chuckwalla Groundwater Basin into overdraft. Particular care must also be taken in analyzing the cumulative impacts on groundwater of the Project with other projects such as the solar energy projects. As expressed in more detail below, Kaiser is concerned that there is insufficient documentation and explanation of certain assumptions used in the preparation of the DEIR and that there are apparent inconsistencies among other recent ground water analysis prepared for the Chuckwalla Groundwater Basin. These concerns of course lead to concerns about the accuracy of various conclusions reached concerning the groundwater analysis in the DEIR.

**4.1 CONFLICTS WITH THE GROUNDWATER ANALYSIS PROVIDED BY OTHERS.** A number of potential regional projects would utilize groundwater from the Chuckwalla Groundwater Basin. A number of these projects have released information and provided their own respective analysis of the Chuckwalla Groundwater Basin and impacts of their and other projects on water in the basin. It appears that these other studies often have different assumptions, analyses and conclusions. It would be beneficial to the public and the State Board for there be a review all of the recently published groundwater analysis for the Chuckwalla Basin and to provide a report and a summary table showing the material differences used in each respective analysis including the different methodologies used in evaluating the groundwater impacts, differences in assumptions such as groundwater recharge, amount of groundwater in the basin, the rate of transmissivity, etc. Additionally, a narrative and chart that seeks to harmonize these various studies would be useful.<sup>5</sup>

**4.2 INCONSISTENCIES AND LACK OF CLARITY ON GROUNDWATER ASSUMPTIONS USED IN MODELING AND REACHING CONCLUSIONS.** The analysis and accounting of the groundwater balance for the Chuckwalla Valley Groundwater

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<sup>5</sup> Illustrative of the type of comparative information that should be provided so that there can be an informed review of groundwater information for the Project along with other proposed projects is found in the Desert Solar Farm Project Draft EIS and CDCA Plan Amendment (August 2010). For example, see the identified paragraph in **Attachment #3**. With the vast amount of water to be used by the proposed Project and the Project putting the Chuckwalla Basin into overdraft, the State Water Board and the public need to see how other major projects have analyzed groundwater and groundwater impacts in relation to the information being supplied in the DEIR.





Basin does not sufficiently document and explain the basis for its assumptions that the pumping effects of the Project will actually result in a water surplus by the end of the assumed 50-year operation period. This accounting is set forth in Table 3.3-8 (p. 3.3-22 and 3.3-23). There is not a sufficient identification and explanation of how there is not a net decrease in the water balance because of an increase in inflow between 2014 and 2060. For example, the DEIR provides no support for the assumption that the water usage by the Chuckwalla and Ironwood State Prisons will be reduced by thirty percent in 2011 and continuing after such date. Additionally, this analysis appears to be incorrect, because of the cumulative groundwater impacts of the Project when combined with other existing and foreseeable projects are now purportedly set forth in revised version Table 5.5. (Revised Table 5.5 was provided after the commencement of the comment period.) Revised Table 5.5 evidences a completely different conclusion than set forth in Table 5.5 of the DEIR. Instead of supposedly demonstrating a cumulative increase of 87,000 acre feet during the 50-year period of the Project, revised Table 5.5 shows a cumulative decrease of almost 80,000 acre feet during the same period. This is a dramatic shift from the information presented in the DEIR, and it must be adequately analyzed with the true environmental impacts associated with this deficit understood.

**4.4 HYDROCOMPACTION.** The decrease in groundwater levels that would result from the potential use of this water for initial fill of the reservoirs and for recharge may also result in hydrocompaction.<sup>6</sup> Excessive withdrawal of groundwater, such as the 50 to 80 foot decline forecasted here for the two-year initial fill of the reservoirs and subsequent, long-term withdrawals for make-up water (which may be at levels greater than projected in the DEIR given its inadequate assessment of the Project's seepage risks), may cause the water table to move to deeper levels than exist in its current withdrawal and recharge pattern. Since lowering of the water table involves loss of water, hydrocompaction may occur. While the DEIR concludes that "it is unlikely that the lowering of the water levels below their historic lows by up to an additional 5 acre feet will have a significant effect" (p. 3.3 - 26.) such analysis is limited to the potential impacts on the CRA. A more complete hydrocompaction analysis must be undertaken on a cumulative basis to the Chuckwalla Ground Water Basin rather just relying upon the conclusion that while the risk of hydrocompaction is greater, it remains low. Accordingly, it is unclear from the DEIR what long-term effects the proposed groundwater withdrawal might have on aquifer storage areas in the vicinity of the Project. Inelastic subsidence in aquifer storage areas could permanently reduce aquifer capacity. Similarly, hydrocompaction could impact the habitat of burrowing wildlife.

Reservoir seepage could also raise groundwater levels, causing hydrocompaction from surface soil subsidence.

The sediments around the fringes of the Chuckwalla groundwater basin were deposited as alluvial debris flows. These types of sediments are susceptible to subsidence if wetted from above or

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<sup>6</sup> Hydrocompaction results when formerly unsaturated soils become saturated, allowing the soil particles to reorient. High porosity of soils in the arid environment means that surface soils are susceptible to hydrocompaction.



below. The CRA is constructed on these sediments at the base of the Eagle Mountains. Seepage from the reservoir or brine ponds could raise groundwater levels and consolidate the sediments leading to subsidence. (p. 3.3-27.)

Over the proposed 50-year term of the Project, use of extraction wells to respond to this risk (as suggested in the DEIR) does not appear to be a reasonable or efficient control measure. To assess these hydrocompaction impacts, additional information should be gathered through use of geologic mapping, soil borings and/or geophysical methods, or other appropriate methods. Only when this information is provided can we begin the process of identifying sufficient protection, mitigation, and enhancement measures.

## 5. WATER QUALITY IMPACTS

**5.1 RESERVOIR SEEPAGE RISKS ARE NOT SUFFICIENTLY ANALYZED AND POSE SIGNIFICANT RISKS TO THE LANDFILL USE, WATER QUALITY, AND WATER QUANTITY.** In addition to the potential impacts to water quality already discussed in this letter, the DEIR acknowledges that seepage from the Project could adversely affect the Landfill there are significant seepage risks and concerns. (See, e.g., p.3.) The Geosyntec Comment Letter addresses in detail some of the seepage concerns and such comments are incorporated herein by this reference.

**5.2 CONCERNS OVER THE PROPOSED REVERSE OSMOSIS WATER TREATMENT SYSTEM.** The DEIR essentially acknowledges that there are significant water quality concerns arising from the Project but the discussion in the DEIR asserts that any such issues will be adequately addressed in a number of ways, with a key component being a reverse osmosis water treatment system. On Kaiser's behalf, Geosyntec reviewed the proposed reverse osmosis system and provided comments with respect to such system which are set forth in the Geosyntec Letter. These comments are incorporated herein by this reference.

## 6. THE PROJECT IS NOT COMPATIBLE WITH THE EAGLE MOUNTAIN LANDFILL

ECEC maintains, and the DEIR seeks to support, that the Project is compatible with the Landfill.<sup>7</sup> This is incorrect. Over the nearly twenty years that ECEC has been promoting the Project in one form or another, ECEC has indeed refined its initial design in an attempt to reduce conflicts with the Landfill, the fact is the Project and Landfill are not compatible and remain in conflict.

ECEC's Project as currently proposed would use portions of the Eagle Mountain Landfill site to generate electricity as water flows from an upper reservoir (known as the Eagle Mountain Central Pit) through tunnels containing turbines to a lower reservoir (known as the Eagle Mountain East Pit) when power demand is high and pumping it from the lower to upper reservoir when demand is low. The approved

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<sup>7</sup> The DEIR sometimes mischaracterizes the status of the Landfill and the completed land exchange with the BLM. See footnote 1 for an accurate description of status of the Landfill.



Landfill would utilize the Eagle Mountain East Pit as a place in which municipal solid waste would be deposited.

It should be noted that ECEC effectively assumes that the Project will be built prior to the construction of the Landfill. (See, e.g., Appendix C-Technical Memoranda, § 12.8- Eagle Mountain Pumped Storage Project-Landfill Compatibility ("**Compatibility Report**") p. 3). This is not necessarily the case given the delays often associated with large and controversial projects, particularly projects that are not independently commercially viable. Additionally, the DEIR assumes that the phasing of the Landfill will not change. Again, this is not necessarily a correct assumption. The exact implementation of the filling (i.e., the phasing) of the Landfill may change as a result of various considerations, including engineering considerations.

**6.1 ECEC HAS CONCEDED THAT THE LANDFILL AND THE PROJECT ARE INCOMPATIBLE IN THE FUTURE.** The DEIR essentially concedes that at some point in the future that ECEC use of the Eagle Mountain East Pit (ECEC's proposed lower reservoir) will directly conflict with the Landfill. (See, e.g., Compatibility Report, p.5.) However, it is argued that this direct conflict will not occur for a number of years, and thus, because that direct conflict is outside the 50-year term of the license being sought that the direct future conflict need not be considered and analyzed. ("Therefore, it is fair to leave the decision of the best use of the east pit to a future generation if relicensing is proposed and a conflict with future land fill operations is encountered (Compatibility Report, p.5.) ECEC through the DEIR minimizes this direct conflict. This is not what is required under CEQA. A project proponent must analyze all foreseeable environmental impacts and not just for a limited period. For example, the Landfill's certified EIR conducted an environmental analysis covering a period of more than 100 years even though the approved life of the Landfill is for a materially shorter period of time. (The DEIR incorrectly identifies the landfill as being approved for a 50-year term by Riverside County." (Compatibility Report, p.5.) Actually, the initial term is 50-years with an approval of up to 78 years.) The DEIR artificially truncates the time period of the environmental analysis for the Project.

**6.2 NOT ONLY IS THE PROJECT IN CONFLICT WITH THE LANDFILL IN THE FUTURE, THE PROJECT IS CURRENTLY IN CONFLICT WITH THE LANDFILL.** As previously noted, Kaiser retained Geosyntec Consultants, Inc. to review the DEIR with respect to the compatibility of the Project as currently proposed with the Landfill. Rather than repeat Geosyntec's comments in detail. In summary, Geosyntec: (i) points out the obvious-no one purposefully sites a landfill near a large body of water; (ii) discusses a number of issues, concerns and conflicts that have been inadequately studied and analyzed including geotechnical matters, seepage, slope stability, impacts to the Landfill's storm water plan, liner, monitoring and collection systems and facilities, etc.; and (iii) the possible loss of approximately 31 million cubic yards (25.6 million tons) of airspace impacts in current Phase 2 of the Landfill, and approximately 9 million cubic yards (7.4 million tons) of airspace impacts in Phase 3 of the Landfill. Additionally, there will likely be other Landfill air space losses as well as delays in the use of portions of Landfill phases. As previously noted, Geosyntech's letter and comments are incorporated in this letter.



**6.3 THE DEIR MUST EXAMINE THE IMPACTS OF POSSIBLE CONSTRUCTION CONFLICTS.** ECEC effectively assumes away any possible construction conflicts by arguing that the Project will be constructed first. ("... it is highly unlikely that the landfill project and the pumped storage project construction periods will overlap." (Compatibility Report, p.5). The Project bases its assumption on the belief that the construction of the Project can commence as early as June 2012 and be completed by August 2016 and the Landfill cannot commence construction within that period of time. The DEIR assumes that there will not be any delays. This is very optimistic thinking. If the 401 water quality certification is not immediately denied, at the very least ECEC will be required to prepare a revised DEIR, there will be an additional review period and ultimately a final EIR. There will be hearings on the EIR and on whether the 401 water quality certification will be issued. The State Board will make a final determination whether the 401 water quality certification will be issued and if issued, the conditions associated with its issuance. Assuming there is ultimately a conditional certification of the Project final EIR, there is likely to be litigation over the EIR. There is also the Federal Energy Regulatory Commission process, including the issuance of a draft environmental impact statement ("EIS"), receiving comments, preparing a final EIS, conducting hearings and perhaps ultimately granting a license for the Project. In such case, there is likely to be federal litigation. Additionally, among other things, ECEC will need to acquire or control the land necessary for the Project. As discussed above, ECEC does not currently own or control the land that is the heart of its Project. Thus, additional litigation may ensue. ECEC will also need to obtain financing, power supply contracts, and wait for the construction of transmission line capacity and obtain various other consents such as those that will be required by MWD. When one puts into context that ECEC has been "working" on the Project since at least 1990, there are more than serious doubts that the Project will be approved, constructed and begin operation on the time table optimistically expressed in the DEIR. Accordingly, ECEC cannot essentially assume away construction conflicts based upon assumed timing of the Project and the Landfill. These conflicts and possible cumulative environmental construction related impacts need to be studied and analyzed. The DEIR is inadequate in this regard.

**6.4 ECEC MUST EXAMINE IMPACTS IF THE PROJECT PREVENTS IMPLEMENTATION OF THE LANDFILL.** Assuming that the Project is implemented and the Landfill project cannot move forward as a result the Project, the DEIR fails to address the indirect impacts of the Landfill not being constructed at Eagle Mountain. For example, the Eagle Mountain Landfill EIR examines a "No Project" Alternative, which identifies potential significant adverse impacts that would occur in other parts of the seven County solid waste disposal area if the Landfill is not constructed.

**6.5 IF THE 401 WATER QUALITY CERTIFICATION FOR THE PROJECT IS ULTIMATELY APPROVED, IT MUST BE APPROPRIATELY CONDITIONED TO ASSURE COMPATIBILITY WITH THE LANDFILL PROJECT.** ECEC has stated that it "is committed to successfully resolving all issues of compatibility between the two projects." (Compatibility Report, p. 4.) Given this expressed commitment by ECEC to resolve conflicts, in the event the 401 water quality certification is not ultimately denied, the certification as issued by the State Board should include the conditions set forth in Exhibit "A" attached hereto.



## 7. MINERAL RESOURCES

The DEIR does not adequately discuss and analyze the Project's impacts on the mineral resources at Eagle Mountain. Large-scale iron ore mining at Eagle Mountain ceased by 1983, with the Kaiser Steel Corporation steel mill near Fontana, California, closing in 1983. However, the DEIR incorrectly identifies the Eagle Mountain Mine as being inactive and closed, (See, e.g., p. 31-8.) The Eagle Mountain Mine remains active and has continued to ship rock, rock products and stock-piled iron ore pellets and iron ore fines as market conditions may allow. The Eagle Mountain Mine continues to have a vested mining right. There is an estimated up to 300 million tons of iron ore still available at the Eagle Mountain Mine with approximately 170 million tons estimated to be economically recoverable in 1983. A material portion of that tonnage is located on the property on which the Project would be located. For example, based upon final pit designs as of January 1, 1983, and using estimates based upon the then current technology and iron ore prices, the estimate of the then economically recoverable open pit iron ore tonnage was approximately 33 million tons for the East Pit (the Project's proposed lower reservoir) and approximately 64.6 million tons in the Central Pit (the Project's proposed upper reservoir). (See Attachment #4). The DEIR essentially assumes that there will be not be reactivation of large-scale iron ore mining but has not conducted the necessary analysis to support such conclusion other than to say there is not currently active iron ore mining, much of the mining equipment originally used at Eagle Mountain no longer exists, and that the railroad would need to be repaired. This is an insufficient analysis. The price of iron ore has substantially increased over the last year and the price is anticipated to remain relatively high. (See Attachment #5). Historically iron ore pellets were produced at Eagle Mountain with some of such product ultimately exported to Japan. Given current and projected iron ore prices, the active world market for basic commodities including iron ore, proximity to transportation, currently available mining and recovery technology and other factors, all contribute to the real possibility of the resumption of large-scale iron ore mining at Eagle Mountain. The DEIR fails to analyze this possible resumption of large scale iron ore mining, if the resumption of large-scale iron ore mining would be compatible with the Project and the associated cumulative environmental impacts<sup>8</sup>. Given the state of the economy, any resumption of large-scale iron ore mining would have a significant and positive impact for the area, region and state.

## 8. CUMULATIVE IMPACTS ANALYSIS

**8.1 RECREATION-THE DEIR INCORRECTLY CONCLUDES THAT THE IMPACT ON THE WILDERNESS EXPERIENCE IS LESS THAN SIGNIFICANT.** The DEIR states (p. 5-28.) that "Development and operation of the proposed Project in addition to other potential projects, including the proposed landfill and cumulative solar projects may have an effect on the wilderness experiences of visitors to the remote eastern margins of the Joshua Tree National Park ("JTNP")." The DEIR goes on to state that

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<sup>8</sup> With the possible resumption of large-scale iron ore mining, it is likely that that the current physical dimensions of the pits that ECEC is seeking to use or the Project would be materially altered, including the mining out of that portion of the land that would serve as the dam of the Project's proposed upper reservoir (i.e., the Central Pit.)



"...Congress has indicated that 'the fact that non-wilderness activities or uses can be seen or heard from areas within a wilderness area shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area' (CDPA, 1994)." The DEIR therefore concludes that "this cumulative impact would be less than significant and the incremental impact of the proposed Project would be less than cumulatively considerable." The certified Eagle Mountain Landfill EIR concluded that because people's experience of wilderness is so different, and that the full impact of the wilderness experience cannot be fully known, it had to be considered a significant impact under CEQA. Because it has been found to be significant impact in a certified EIR for a project in the same area, it should be found to be cumulatively significant in the Pumped Storage Project EIR.

**8.2 GROUNDWATER CONJUNCTIVE USE ANALYSIS REQUIRED.** The DEIR concludes (p. 5-20) that "...Basin overdraft of about 9 feet is likely to occur over the life of the Project, in which case, this Project would contribute to a significant adverse cumulative effect." The EIR also acknowledges (p. 5-20) that it does not include MWD conjunctive management policies in its analysis. There may also be additional demands in adjacent aquifers that could affect groundwater supply and quality over a larger area. The cumulative effects analysis should be expanded to ensure that both supply and water quality will not be adversely affected in the long term.

## **9. BIOLOGICAL IMPACTS**

**9.1 DESERT TORTOISE.** In August 2010 the U.S. Fish and Wildlife Service issued a guidance document on how to handle the relocation of desert tortoises in certain situations. The discussion in the DEIR on the desert tortoise, particularly with respect to tortoise mitigation measures should be reevaluated and modified as appropriate in light of this guidance.

**9.2 INTRODUCTION OF NEW WATER SOURCES - EUTROPHICATION.** During the Eagle Mountain EIS/EIR process, the National Park Service, through Joshua Tree National Park ("JTNP") staff, expressed extreme concerns about the introduction of additional nutrients into the desert environment. From their comment letter on the Eagle Mountain Landfill EIS/EIR: "Joshua Tree National Park is considered one of the finest examples of preserved Mohave Desert and Colorado Desert ecosystems in existence today. The Joshua Tree desert is characterized by geographic, botanical, and wildlife diversity. Human activities can disturb natural nutrient cycles. Just as a lake can be affected by the addition of small amounts of phosphorus, deserts can be affected by small amounts of water...and other nutrients. Once changes are set in motion, related ecological effects may proliferate." And "although the term 'eutrophication' properly applies to aquatic systems, JTNP uses this term in a broad sense, referring to the large scale addition of nutrients...to the desert ecosystem." Also from the JTNP comment letter: "In the desert where resources are scarce, even small amounts of nutrients are highly attractive to animals and alter wildlife behavior." And finally: "In seeking to fulfill its mandated mission, Joshua Tree National Park seeks assurances based on data that resources within the park boundary will not be significantly affected by this project."



These same concerns apply to the ECEC project. The introduction of two large bodies of water will substantially impact wildlife behavior. The ECEC DEIR is inadequate in its consideration of the proliferation of nutrients, the potential significance to park resources, and the possible impacts to biodiversity in the sensitive desert environment.

The creation of these major artificial water sources will certainly attract known and potential predators of the desert tortoise, including, but not limited to, coyotes, ravens and gulls. Desert tortoise habitat is not far from these new water sources. Accordingly, it is likely that there will be increased predation on the desert tortoise. The DEIR effectively dismisses these concerns by stating that it unlikely that there will be a measurable change in the density of predators. However, the DEIR does not adequately support this conclusion or study the "eutrophication" concerns.

## **10. OTHER MATERIAL ENVIRONMENTAL MATTERS**

**10.1 TRANSMISSION LINE EFFECTS - EMF ANALYSIS REQUIRED.** The potential health hazards associated with electromagnetic fields are well documented. The Project proposes substantial new transmission lines onsite and to connect to existing and proposed transmission corridors. The DEIR does not adequately address the potential impacts and health hazards of EMF. For example, the Eagle Mountain Landfill project includes a Townsite, which will house hundreds of permanent residents. Included within the Townsite is an existing school with students. The DEIR analysis is deficient in analyzing potential hazards and health effects to these and other residents, sensitive receptors and potential impacts to wildlife.

**10.2 BEST MANAGEMENT PRACTICES.** To obtain a 401 water quality certification, the applicant must provide detailed best management practices and a specific plan to ensure water quality standards are met. The DEIR includes many generic BMPs for erosion and sediment control, and some other issues. While many water quality impacts can be reduced because of the dry nature of the site and lack of water bodies, additional specific plans need to be developed and provided concerning BMP's for treatment processes, brine control and disposal, and groundwater protection to conclusively demonstrate that mitigation is adequate and that impacts will be less than significant.

**10.3. DAM BREAK ANALYSES.** Due to the catastrophic consequences to the landfill, the town of Eagle Mountain, the CRA and other infra-structure if a dam breaks or fails, a dam break analyses is a required matter, which are incorporated herein by this reference. See the comments in Geosyntec Comment Letter on this.

**10.4. DECOMMISSION OF THE PROJECT.** The DEIR effectively states that the Project has a life of 50-years since that is the life of the license being sought for the Project. If this is correct, under CEQA, all reasonably foreseeable environmental impacts are to be analyzed. The DEIR fails in undertaking any study of the impacts associated with the decommissioning of the Project including closure and post closure impacts.



MR. PAUL MURPHEY  
STATE WATER RESOURCES CONTROL BOARD  
OCTOBER 7, 2010  
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11. CONDITIONS OF THE PROJECT

If the State Board should ultimately determine to certify the final EIR for the Project and not to deny the 401 water quality certification for the Project, the Project should be appropriately conditioned, including, but not limited to, the conditions specified in Exhibit "A" attached hereto and incorporated herein by this reference.

If you should have any questions about these comments, please do not hesitate to contact the undersigned.

Very truly yours,

Terry L. Cook, Vice President  
Kaiser Eagle Mountain, LLC  
Mine Reclamation, LLC

Enclosures

TLC:jpk

terry10\ecec comment letter on EIR





## EXHIBIT "A"

Conditions to 401 Water Quality Certification Shall Include The Following:

### CONDITION 1

The applicant must obtain a signed agreement from the permittee and landowner of the proposed Eagle Mountain Landfill project that acknowledges that construction and operation of the Project will not interfere with the design, construction or operation of the proposed Eagle Mountain Landfill project.

### CONDITION 2

The Project shall be constructed and operated consistent with the terms and conditions included in permits issued for or other conditions or requirements imposed on the Eagle Mountain Landfill, including but not limited to water discharge requirements, as they may be modified from time to time. The State Water Board reserves its jurisdiction to use appropriate administrative procedures to ensure the Project does not conflict with or otherwise cause the Eagle Mountain Landfill to violate any permit(s) issued to it or other conditions or requirements imposed on the Eagle Mountain landfill or other appropriate actions to maintain consistency between the Project and Eagle Mountain Landfill.

### CONDITION 3

This Order shall not take effect and may not be relied upon by any agency, body or authority that may have the ability to grant a license, permit or consent for the Project unless and until applicant provides sufficient written documentation to the State Board that demonstrates that applicant owns or maintains the right to use the land on which the Project will be located.