

**State Water Resources Control Board  
Eagle Mountain Pumped Storage Project  
(FERC Project No.13123)**

**Responses to Comments on July 2010  
Draft Environmental Impact Report (SCH #2009011010)**

**January 2013**

**Package 5 of 6**

This package contains the following responses to comments:

<b>PACKAGE</b>	<b>LETTER</b>	<b>COMMENTER</b>	<b>DATE OF LETTER</b>
5	R	SC – Sierra Club	October 7, 2010
5	S	RB – Ron Binkley (citizen)	October 5, 2010

Mr. Paul Murphey      October

7, 2010

Re: Eagle Mountain Pumped Storage Project

State Water Resources Control Board

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**COMMENTS OF THE SAN GORGONIO CHAPTER OF THE SIERRA CLUB  
ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE  
EAGLE MOUNTAIN PUMPED STORAGE PROJECT  
AND REQUEST TO BECOME A PARTY TO THE 401 APPLICATION HEARINGS**

**I. Introduction**

The Sierra Club is a national nonprofit organization of approximately 760,000 members, roughly 195,000 of who live in California. As part of the Sierra Club, the San Gorgonio Chapter is dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and encouraging humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Chapter boundaries include all of San Bernardino and Riverside Counties which means we have within the Chapter 2 currently ongoing Federal Energy Regulatory Commission ["FERC"] pumped storage proceedings. Chapter members use, enjoy and value the lands that will be affected by the project. [FERC docket P-13123, Eagle Mountain Pumped Storage Project ["EMPS"]].

We submit these comments on the Draft Environmental Impact Report ["DEIR"] to State Water Resources Control Board ["SWRCB"] in order to assure EMPS will be permitted only if absolutely necessary and then in a fashion which will ensure the maximum protection to a sensitive, valuable and fragile resource.

SC #1

We request that we receive any and all filings, notices and public communications associated with the application for a 401 permit required for EMPS. Send these to:

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Conservation Chair  
4079 Mission Inn Ave.

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## II. Alternative Analysis

We begin by noting that in these comments we will not be giving lengthy quotes from court cases with citations but rely instead on “Guide to CEQA” by Remy et. al. ; 2007 11<sup>th</sup> Edition [“Remy”]. We reserve the right to extend these comments with appropriate citations if our concerns are not sufficiently addressed in the Final EIR.

As we pointed out, our Chapter is home to 2 current pumped storage projects both with open applications with FERC for permission to build and operate. In addition to EMPS we are engaged with Lake Elsinore Advanced Pumped Storage [“LEAPS”], FERC docket P-11858. As SWRCB is aware the LEAPS proponents are seeking a 401 permit and in a recent petition for reconsideration have claimed that the Final Environmental Impact Statement [“FEIS”] issued by FERC, accession number 20070130-4000, satisfies CEQA requirements.

Since EMPS and LEAPS are on the same segment of the southern California 500kV grid they will draw pumping power from essentially the same sources and will provide power to essentially the same load. These major pumped storage projects are only about 140 miles apart and we don't see how building both with their combined accumulated impacts can be justified. “The court found it “illogical that an EIR should carefully evaluate the direct impacts of one project which is 'under environmental review', but completely ignore the cumulative impacts of that project's siblings in the same category.””(Remy p. 478). But the DEIR does completely ignore the LEAPS sibling. This omission is totally unacceptable – and forbidden by CEQA.

SC #2

Comparing the LEAPS FEIS with this DEIR shows that many of the goals and claimed benefits are the same for both projects. Since the developers are both seeking approval from SWRCB and FERC for the same type of project in the same grid vicinity it is incumbent on the permitting agencies to consider each project as an alternative to the other. If there is any reason for not doing so the reason must be stated and supported. (Remy pp. 577-587, on alternatives).

We could find only one reference to LEAPS in the thousands of pages in the DEIR (its as if the LEAPS project doesn't exist) and that was a recorded statement from a scoping meeting. The DEIR is deficient in that it ignores cumulative impacts and contains a faulty alternative analysis.

### III. Critical Energy Infrastructure Information (CEII)

A number of the documents in the FERC elibrary for P-13123 contain the designation "Availability CEII". CEII means Critical Energy Infrastructure Information which has restricted public access. This is a designation used by FERC shortly after the 9/11/2001 attacks on the World Trade Center. After some discussion FERC issued Order No. 630 (102 FERC ¶ 61, 190, February 21, 2003). There has since been a rather constant stream of rule making and discussion about the necessity, utility and effectiveness of restricting information to the public which may be useful in analyzing and evaluating proposed projects.

FERC has classified some of the information in this project as CEII. That should be sufficient authority to include a section of the draft EIR for an analysis and risk assessment used to evaluate alternative means for accomplishing the same outcome and alternative sites based on risk. FERC said so, it can't be ignored.

SC #3

When FERC issued their new rule on Critical Energy Infrastructure Information (CEII) 3 years ago they explained that despite the fact that the rule would hamper stakeholders in their ability to participate fully in FERC proceedings, it was necessary for security reasons. CEII places new restrictions on the types of information about energy infrastructure that will be freely available to the public and by extension to terrorists.

In their response to comments on this rulemaking FERC said; "The Commission remains convinced that the responsible course is for it to protect CEII. The arguments that such protection is unnecessary are speculative and unconvincing. For instance, one commenter points to an estimate that seventy percent of infrastructure attacks come from insiders as evidence that CEII is unlikely to aid an attack, while another states that "the possibility that terrorists will study government records and take advantage of perceived weaknesses is speculative." The Commission is not prepared to stake the public's safety on this reasoning. According to the National Infrastructure Protection Center, the energy sector is considered one of the most attractive terrorist targets."

It should be made clear that in all discussions FERC consistently maintains that by taking steps to restrict information in an open society ( frequently used to characterize less democratic governments) they are mitigating and reducing significant terrorist risks to public safety both locally and nationally by using a CEII designation. This being the case FERC has lent sufficient authority to include a section in the DEIR for an analysis and risk assessment and at least give some estimate of their nature and severity of the risk. These risks will offset benefits and that they can be mitigated by emphasizing electricity conservation and power reduction.

It is obvious that the best way to achieve security is also one of the best means for achieving reliability. This is to use distributed generation and distributed storage whenever possible. This may have some difficulties with technology (but where in the world is technological

SC #4

development best?) but it also has the problem that it is basically a competitor with large generation and transmission owners, and so is not a likely source of profit for these owners.

SC #4

The National Infrastructure Protection Center is a good candidate along with the Department of Homeland Security for making these assessments and they should be called in to participate in obtaining maximum security for what FERC has told us is an important and vulnerable part of our society. We do not have to wait for a major attack to begin taking precautions, we have a whole new federal agency put in business for that purpose, let's start using them.

SC #5

Just as in the case of threatened species, clean water and clean air the appropriate agencies should be considered responsible agencies. We assert that because FERC has constrained information in this project because of the risk of terrorist attacks, Homeland Security should be a responsible agency.

SC #6

Urbanization and sprawl are the underlying causes of the need for new energy corridors which makes for a reasonable argument that urban areas should be the place where meeting these needs are located. Another perhaps more serious reason is that there are a lot more watchful eyes in urban areas than there are in the public lands.

SC #7

An even better solution to this electric power problem is to use distributed generation (eg solar roof tops) and distributed storage (Batteries in electric vehicles and local flywheels). These alternatives have distinct advantages and should be thoroughly discussed in the EIR.

SC #8

#### **IV. Light Pollution and Scenic considerations**

In section 3.7.1 we find the statement that... "No State or local regulatory settings pertaining to aesthetics or visual resources apply to the proposed Project". We point out that Riverside County has an Ordinance 655 pertaining to light pollution and we would like this to be addressed in the EIR

SC #9

In general scenic values are among the most highly valued by the public, but they are much more difficult to quantify than other environmental resources, such as wildlife or fish resources. That is because an evaluation of scenic values involves not only a visual response, but also a non-quantifiable esthetic and at times an emotional response that relates to an individual's background, mood, place, time, and expectations.

SC #10

It does not matter that aesthetic values are difficult to quantify they are an integral part of the evaluation process which must take place to put proposals in proper context. This is one of the non-cash values that we as a society prize most and we must extend our capabilities so that our bottom line business culture does not creep into everything we do in such a way as to reduce us to crass one dimensional financial cogs in an investment machine. We need at

least one more bottom line that takes into account sustainability of what we inherited so that we can pass it on for the benefit of future generations

A big question in any CEQA document is level of significance of an impact. It is common to see statements to the effect that a small incremental impact is insignificant. We have found over a period of years that these types of analysis are difficult to dispute. Nevertheless we see examples all around us which belie this approach. For instance in housing approvals the statement is common that a particular development will contribute an insignificant amount of commuter traffic. Nevertheless, the 91 freeway is rated as one of the worst commutes in the country precisely because of all of these insignificant additions.

SC #10

More telling is the case of water runoff from new developments which in the past were rated as insignificant. Eventual pollution of waterways and water bodies has led to the conclusion that an impacted body of water can take no more. Which is to say that if the situation is already intolerable any addition to the problem is significant. We now are moving to the regulation of no net runoff.

So it is with the desert night sky. There is already too much light. Rather than add net lighting the proponents should be required to negotiate with local lighting decision makers to turn off lights that aren't really necessary. This may be a small effect but if taken as a policy it would eventually darken skies that should be dark. This would also have the effect of lessening our already profligate use of energy.

The DEIR contains this statement: "Hikers on surrounding ridge tops within the JTNP and Wilderness Area may view some of the Project features (mainly reservoirs and dams) which would be within middle ground distance zones (see Figure 3.10-8 in Section 3.10 Recreation). Access to these ridge tops is very difficult and viewer numbers are low."

SC #11

Some of our members are hikers who intentionally go into the back country in order to get some idea of what our country once looked like. We take umbrage with the idea that we can be readily dismissed.

## V. Greenhouse Gas

This project is being discussed as if we are to assume that it will in fact be a source of renewable energy which will have the overall effect of reducing the generation of CO2. We choose just one of a large collection of "green" statements. On page 2-29 "Greenhouse Gas (GHG) Emissions – Construction may affect GHG levels, however, operational activities would displace energy demand for single cycle natural gas power plants and if effectively used would reduce GHG emissions necessary for meeting the energy demands in California and assist meeting future targets for a larger portfolio of renewable power generation sources."

SC #12

There are many other statements about what this project “can” do to reduce GHG emissions. In the above quote we note the phrase “if effectively used” , we prefer the phrase “this project is contractually obligated to.....” and in other places we prefer “will...” rather than “can...”.

SC #12

We have the general idea that this project will pay off its debt and produce profit by purchasing inexpensive (mostly night time) power and selling it at a higher price (mostly at peak day time demand). However, given no constraints the owners will buy the cheapest power available. This could well turn out to be coal fired power.

SC #13

Coal power is rated as the most GHG producing power. The national effort to reduce GHG therefore translates into an effort to reduce coal fired power. In a normal economic situation this means that coal baseline generators will sell night time power at a deep discount. This project could well buy all of its pumping power from coal generators and sell it in competition with peak renewable sources. It could just as well be a GHG disaster as otherwise.

The DEIR states that there is 359 MW of wind generation in the local area. How much of that is already committed to long term contracts? We assume that even with that full capability there will be the need to purchase nearly 1000MW of carbon based pumping power. When coupled with pumping inefficiencies as well as double transmission losses (pumping/generation) this project has a carbon multiplying effect (higher carbon production for power used at the load).

SC #14

Given the operational generality we just mentioned, any discussion of solar energy as a source of pumping power is misleading. Solar is inherently a peak generator which will be sold at a premium, it is hardly a low cost source of pumping power and till proven otherwise we assume that discussions of solar pumping power is a “greenwashing” red herring.

We want to know how power from this project will be counted. Given the possibility of a pumping power mix it might end up attempting to sell all of its generation as renewable power.

SC #15

Before we are willing to consider this as a project which will help us to reach renewable, low carbon goals we need to see a more detailed analysis of the market and some contractually binding or permit binding conditions on the minimum amount of renewable pumping power and maximum amount of carbon generation taking into account efficiency and transmission losses. Until then we will consider this a profit making carbon generator.

SC #16

In general we find too many assumptions about how the plant will operate with no real analysis that we can count on. What are the actual sources of pumping power in the real world of the southern California grid and what types of power will this plant compete with – we expect data not speculation! Until we get real world data rather than hypothetical scenarios we will object to this project's potential to worsen rather than correct carbon generation. With

this assumption (rather than self serving speculation) we insist that the No Project Alternative is the preferred alternative. In this regard any statement of over-riding considerations necessary to address irreversible significant effects must be based on fact.

SC #16

## VI. Dam Failure Hazard

On June 9, 2008, Kaiser Eagle Mountain, LLC and Mine Reclamation, LLC ("Kaiser") submitted comments to FERC in response to Eagle Crest Energy Company's ("ECEC") Pre-Application Document for the Project ("PAD"). [FERC accession number 20080619-0045 in P-12509 the docket preceding P-13123]

SC #17

Kaiser points out that ....beginning on page 3-5 of the PAD, ECEC states that "No spillway will be needed because the dams, which will be RCC, could withstand overtopping during an over pumping event, without serious consequences". Kaiser requested documentary proof of that statement. We have been unable to find anything in the DEIR that supports the claim that over pumping is not a problem. ECEC merely continues with the unsupported claim that a roller compacted concrete ("RCC") dam can withstand over pumping.

ECEC should undertake the studies necessary to provide an assessment of the impacts of an over pumping event and a reservoir breach event for the upper and of the lower reservoirs including, at a minimum, the impacts to the Landfill Project and the town of Eagle Mountain upon the occurrence of such events. Additionally, please provide information on whether these flooding events are insurable risks.

We are given assurances concerning the safety of the dam based on an RCC dam. It is disconcerting to find the following statement in the DEIR. "The foundation conditions at the upper reservoir are judged to be suitable for either a concretefaced, rockfill dam or a roller-compacted concrete (RCC) gravity dam. Selection of the type of dam will be made during final design and following intensive subsurface explorations and materials testing. The layouts presented in this application are based on constructing an RCC dam, using on-site mine tailings that would be processed and/or using materials generated from tunnel and underground structure excavations." Why are we given assurances based on one type of construction when that may not be the construction used?

SC #18

In addition the studies necessary to make the determination have not yet been made so we actually have no idea nor a method to even estimate what the actual design may be. This postponement of information which will be very difficult for the public or even SWRCB to obtain and evaluate is forbidden by CEQA.

It may be objected that the dam engineering capability of civil engineer designers in the United States makes dam failure unlikely. We disagree.



On December 14, 2005, there was a breach of the upper reservoir of the Taum Sauk Project. The breach caused personal injury and significant environmental and property damage. A house downstream from the Taum Sauk project was destroyed as a result of the breach, injuring the residents, including three children. Water from the reservoir toppled trees and left a path of mud and debris on the land and in a river downstream, including the Johnson's Shut-Ins State Park.

This is a stipulation by the owner. Others have said that had the breach happened on a summer day there would have been significant loss of life. This dam was a pumped storage facility licensed by FERC and we can be assured that preliminary licensing proceedings made the same sort of safety statements now being made in this DEIR. There were mitigations provided for which included regular inspections by FERC staff.

SC #18

The Federal Energy Regulatory Commission licenses this facility under docket P-2277. According to the docket, available online in FERC's eLibrary, FERC inspected the project's safety within three months prior to the breach and certified that the project was satisfactorily compliant.

There aren't so many pumped storage dams licensed by FERC that we can't count this event as highly unlikely. FERC has taken precautions against terrorist attacks on electric infrastructure (so far much less likely than a dam breach) so more robust precautions must be accorded dam safety.

These should include: 1) discussion of dam design differences and similarities with Taum Sauk, 2) professional evaluation of the engineering relevance of these factors, 3) an estimation of the effects of a dam breach, 4) provisions for emergency response, e.g. a disaster plan, 5) insurance, 6) a clean up plan.

## VII. Mitigation Assurances

Mitigation is an important part of an acceptable EIR. According to Remy page 392 – “The overall thrust of Public Resources Code section 20181, subdivision (a)(1), and CEQA Guidelines section 15091, subdivision (d), is that mitigation measures should be implemented.”.... other code sections, according to Remy, are meant to insure that “..the mitigation measures to be monitored or the subject of reporting must be “fully enforceable through permit conditions, agreements, or other measures.”

SC #19

As far as we are aware the only permitting authority that SWRCB has is for the 401 permit. We have not been told that the 401 permit will be conditioned by a binding and enforceable agreement with ECEC to the effect that all mitigations listed in the EIR will be implemented in a timely and effective manner. Until that is done we will insist that the mitigations listed do not comply with CEQA requirements. In addition any referral of mitigation implementation to FERC is of no substance until we see a document that FERC agrees. FERC will issue the EIS

but that is no guarantee that they will agree with all mitigations listed in the EIR.

SC #19

It seems that recently those agencies responsible for the protection of the public safety, health and welfare have had lapses with sometimes devastating consequences. There have been indications that these may well be due to private influence on the operations of public agencies charged with matters of regulation or public protection or to politically driven adverse decisions on emphasis regarding bureaucratic attention. We refer to the recent operation of the largest "Ponzi" scheme ever (SEC), the recent meltdown of the entire financial system, a massive egg recall, the largest ever oil spill in continental waters and the World Trade Center attacks. In most cases there are suggestions that alertness to warnings would have prevented or minimized these events, but that those charged with front line action are too comfortably assured of job security guaranteed by those who need watching.

SC #20

This is actually surprising because advances in the science of human psychology have shown that for the most part job security is the upper most consideration of virtually all people. So for the most part if the watch dog is controlled by the fox the chickens are never safe. At first we were impressed that many hundreds of the mitigation measures were the responsibility of the Environmental Coordinator, including the important task of monitoring.

We then discovered that the person who will do this will be employed by ECEC. We could find no mention of the qualifications of this person or how they would be assured that honest and timely reporting would be rewarded rather than discouraged. Does anyone doubt that under the circumstances if ECEC finds monitoring or implementation a disadvantage of any sort that failure to comply with ECEC wishes will put the Environmental Coordinator's job in jeopardy? A much better arrangement must be in place before we are ready to concede that CEQA mitigation requirements are met.

In the case of the Taum Sauk dam failure just discussed, the FERC docket P-2277 discloses that FERC inspected the project's safety just three months before the massive failure and certified that the project was satisfactorily compliant. FERC has attempted to downplay its role but the fact remains that a recent FERC safety inspection was inadequate protection against total dam failure. This project must do better.

SC #21

We point out that the failure to implement mitigations in a timely and effective manner is itself a significant impact on the environment. As a consequence discussion of the financial, political, bureaucratic, social and physiological factors involved is called for (we are able to provide instances known to us). In the discussion we want a mitigation of the impacts due to a failure to mitigate in a timely and effective manner. We know that we can seek a writ of mandamus, but this is slow, cumbersome and expensive. We suggest a prepaid ombudsman with the power to issue an enforceable writ on proof of mitigation failure.

SC #22

## VIII Groundwater supply

The Project proposes to pump tens of thousands of acre feet of water from a relatively small groundwater basin for initial filling, and to lose significant amounts of water yearly during operations. Groundwater impacts are perhaps the most significant problem posed by the project, yet the DEIR's analysis of the project's individual and cumulative impacts to groundwater supply does not provide adequate foundation for its conclusions. For example, the analysis limits consideration of cumulative impacts assessment to Eagle Mountain Landfill and only those solar projects currently undergoing environmental review.

SC #23

However, both the California Renewable Energy Transmission Initiative and the Bureau of Land Management have identified the east Riverside County area as a key solar energy development zone, and there are no less than 17 applications for solar projects on tens of thousands of acres in this zone, with backup applications behind the primary ones in many cases. (See attached "Solar Energy Applications Palm Springs - South Coast Field Office") Cumulative impacts from additional solar projects are not speculative; even if only a subset of these 17 applications come to fruition, they will add substantially to the expected groundwater drawdown both for construction and operation. Moreover, the expected life of these other projects will extend beyond the 30 years calculated in the DEIR groundwater analysis. Additionally, the DEIR fails to adequately consider the local growth inducing effects of the Project in combination with other reasonably foreseeable projects, and the consequent increase in groundwater use.

In particular, the water supply analysis gives short shrift to the National Park's concerns about lowering of the Pinto groundwater basin (GWB). The DEIR's conclusions related to Pinto GWB are based on inadequate baseline information and unfounded assumption. The analysis fails to provide up-to-date groundwater level data for Pinto Basin, and the modeling upon which it relies makes various assumptions without providing adequate foundation. For instance, without basis, the modeling assumes that the groundwater gradient is parallel to the ground surface. Additionally, it measures groundwater connectivity between the Pinto GWB and the Chuckwalla GWB based upon the notion that the basalt ridge underlying the gap between Pinto GWB and Chuckwalla GWB is 100% impermeable. Where is the data to support these assumptions?

SC #24

Even the DEIR's flawed analysis acknowledges that the drawdown in the Pinto GWB may be nine feet, yet it fails to assess the potential impacts to biota reliant on this groundwater. What seeps, springs, lakebeds and biological resources are dependent on Pinto GWB and the Chuckwalla basin and in and adjacent to the Park? How may these resources be affected by lowering of the groundwater level? The DEIR fails to adequately address this critical issue.

In addition to the above, the mitigation for excessive drawdown does not provide adequate assurance. If monitoring shows that groundwater pumping exceeds the "Maximum Allowable Changes" the proposal is: "The initial fill period would therefore be extended *to a maximum of 4.5 to 6 years.*" (Summary, Mitigation p. 3, emphasis added) How does stretching the pumping just a few years offer protection for groundwater resources? Would it be feasible to extend the initial fill period longer?

SC #25

## IX Biological resources

As discussed more fully below, in its assessment for many if not most biological resources the DEIR acknowledges lack of current data. Because the DEIR fails to include critical studies and information necessary to fully understand the impacts that the Project will have, it violates CEQA. The biological assessment relies almost exclusively on the work done in 1992 and 1996 for the Eagle Mountain Landfill project. Although the area of the Kaiser Mine is heavily disturbed, even prior EIRs found it provided resources for bighorn sheep, sensitive bat species and potentially desert tortoise.

Yet the instant DEIR relies on 14 year old data, and impermissibly defers biological data gathering as well as mitigation for the majority of potential biological impacts. For a few examples:

SC #26

- With regard to sensitive bat species the DEIR proposes: “the pumped storage project intends to conduct pre-construction surveys for bats, and develop a mitigation plan to avoid roosting and foraging impacts (see MM BIO-15) if needed.” (3.9-23)
- The DEIR’s treatment of Couch’s spadefoot toad is much the same.
- There is no baseline plant survey information, nor is there a Revegetation Plan, just good intentions: “a detailed Revegetation Plan shall address the following measures and include - Quantitative identification of the baseline community, both annual, herbaceous perennial and woody perennial species.” (Summary, Mitigation Program, p. 23)

The DEIR fails to provide the CEQA-mandated Mitigation and Monitoring Plan for biological resources. The project’s evaporation ponds with contaminants are insufficiently described, and the measures to ensure that they do not become a deadly nuisance to wildlife are scant. Worse, the current DEIR actually deletes some evaporation pond measures, such as monitoring and adaptive management, that were proposed in the earlier Project application. (Summary, Mitigation Program, pp. 29 and 30)

SC #27

In sum, the DEIR fails to comply with CEQA in several distinct ways. First, it omits essential information and, as a result, fails as an informational document. Second, the DEIR unlawfully defers the formulation of various studies and mitigation measures. Third, the assessment of the project's environmental impacts is inadequate. Significant impacts are deemed insignificant and impacts that can be mitigated are mistakenly found to be unavoidable. Fourth, significant new information is planned to be added at a future date, so the DEIR must be re-circulated and an additional public comment period provided.

SC #28

Respectively Submitted

Kim F. Floyd  
Conservation Chair  
San Gorgonio Chapter – Sierra Club

**Responses to Comments on Draft Environmental Impact Report  
Eagle Mountain Pumped Storage Project**

**Responses to Comments from the Sierra Club (SC):**

**SC #1:** We submit these comments in order to assure Eagle Mountain Pumped Storage Project will be permitted only if absolutely necessary and then in a fashion which will ensure the maximum protection to a sensitive, valuable and fragile resource.

**Response to SC #1:** Comment noted; no further response required.

**SC #2:** Since the Eagle Mountain Pumped Storage Project and LEAPS [Lake Elsinore Advanced Pumped Storage] are on the same segment of the southern California 500kV [kilovolt] grid they will draw pumping power from essentially the same sources and will provide power to essentially the same load. These major pumped storage projects are only about 140 miles apart.

The Draft Environmental Impact Report (EIR) is deficient in that it ignores cumulative impacts and contains a faulty alternative analysis.

**Response to SC #2:** A “cumulative project” refers to land development projects that are in various phases of planning, entitlement, or construction and that may affect the same resources and geographic area as the proposed Eagle Mountain Pumped Storage Project (Project). As defined under California Environmental Quality Act (CEQA) Guideline §15130(b), the following elements are necessary to provide an adequate discussion of potential cumulative impacts:

1. Either:
  - (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
  - (B) A summary of projections contained in an adopted local, regional, or statewide plan or related planning document that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency;
2. When utilizing a list, factors to consider when determining whether to include a related project should include the nature of each environmental resource being examined, the location of the project, and its type. Location may be important, for example, when water quality impacts are at issue since projects outside the watershed would probably not contribute

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

to a cumulative effect. Project type may be important, for example, when the impact is specialized, such as a particular air pollutant or mode of traffic;

3. Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limits used;
4. A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and
5. A reasonable analysis of the cumulative impacts of the relevant projects. An EIR [environmental impact report] shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

This EIR uses the list approach to define the past, present, and probable future projects (see Table 5-2 Existing Projects along the Interstate 10 [I-10] Corridor and Table 5-3 Future Foreseeable Projects along the I-10 Corridor).

The geographic area of cumulative effect varies by resource. For example, air quality impacts tend to disperse over a large area, while traffic impacts are typically more localized. For this reason, the geographic scope for the analysis of cumulative impacts must be identified for each resource area (see Table 5-1 Geographic Scope of Cumulative Effects Analysis). The analysis of cumulative effects considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. The geographic scope of each analysis is based on topography and the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope of cumulative effects often extends beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the proposed action and alternatives. The geographic area encompassed by the listed projects covers an approximate 15 to 20 mile radius around the Project site.

LEAPS was not included in the list of past, present, and probable future projects because it was not in the geographic area of the Project for any resource that could potentially be impacted. LEAPS is located 150 miles from the Project, in western Riverside County, California. It is in a different ecosystem, watershed, airshed, community, and groundwater basin. LEAPS is proposed to interconnect to Southern California Edison's existing 500-kV Valley Serrano transmission line to the north, and to San Diego Gas and Electric's 230-kV Talega-Escondido transmission line to the south. The Project is proposed to interconnect with the Devers-Palo Verde 500-kV transmission line. Therefore, these two projects are not on the same segment of the southern California 500-kV transmission grid, and do not have cumulative effects to the regional transmission grid.

As stated in the Draft EIR, Goal and Objective #3 (Provide Energy Storage for Integration of Renewable Energy Generation), and according to the California Energy Commission (CEC), the California Independent System Operator (CAISO), and the major electric utilities in the state,

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

large scale energy storage is essential for successful integration of wind and solar renewable power generation and maintaining reliable transmission grid operations (CEC Workshop on Energy Storage Technologies, April 2, 2009). The Project has specifically been designed to complement and support existing wind power generation in the San Geronio Pass, Tehachapi, and the Salton Sea areas, and thousands of megawatts (MWs) of proposed wind and solar power generation in the Mohave Desert, Chuckwalla Basin, and Palo Verde Valley.

**SC #3:** A number of the documents in the FERC eLibrary for P-13123 contain the designation “Availability CEII.” CEII means Critical Energy Infrastructure Information which has restricted public access. FERC has classified some of the information in this project as CEII. That should be sufficient authority to include a section of the draft EIR for an analysis and risk assessment used to evaluate alternative means for accomplishing the same outcome and alternative sites based on risk. FERC said so, it can’t be ignored.

FERC has lent sufficient authority to include a section in the Draft EIR for an analysis and risk assessment and at least give some estimate of their nature and severity of the risk. These risks will offset benefits and that they can be mitigated by emphasizing electricity conservation and power reduction.

**Response to SC #3:** This comment expresses concerns about FERC CEII procedures.

By way of background, the FERC Division of Dam Safety and Inspections (D2SI) monitors the security programs and measures implemented by dam owners. D2SI conducts periodic security inspections of projects based on the current threat conditions and as determined by the Attorney General and the Office of Homeland Security in order to ensure the security of FERC hydropower projects. These inspections determine if the licensees have implemented a security plan appropriate to current threat conditions while remaining flexible enough to address elevated threat conditions. As a special focus of the Dam Safety Inspections, the FERC D2SI Engineer evaluates the level of security that is in place at facilities having the potential of causing significant to high consequences if attacked (Security Group 1 Dams, which is the security classification likely to be determined for the Upper Reservoir dams). These dams are required to have completed (FERC 2009):

- Vulnerability Assessment (updated annually and reprinted within the past five years).
- Security Plan (updated as changes are made to security and/or procedures; at least annually). In addition, the Security Plan for a Security Group 1 Dam must be exercised at a minimum of every five years. The Security Plan must also show how the expected response can be increased as a result of changing threat conditions. The Security Plan must also contain a sub element, which shows how security and emergency notification/response actions are integrated and how the Project can recover rapidly.
- Annual Security Compliance Certification Letter (due annually by December 31 and submitted to the FERC Regional Engineer). The letter certifies compliance with the Security Group 1 Vulnerability Assessment and Security Plan requirements,

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highlighting any parameters that have changed from the previous year (effective date of December 31, 2010).

**SC #4:** The best way to achieve security is also one of the best means for achieving reliability. This is to use distributed generation and distributed storage whenever possible.

**Response to SC #4:** Distributed generation (DG) has been defined in many ways. It is most commonly defined as the generation of electricity near the intended place of use. The CEC assumes the following definition: "DG is electric generation connected to the distribution level of the transmission and distribution grid usually located at or near the intended place of use" (CEC, 2002). DG systems can be sized to meet a facility's total electrical requirements or they can be sized to partially replace or supplement electrical service from the grid. DG systems typically range in size from less than a kilowatt (kw) to tens of MW, although an individual unit's generating capacity depends on allocable space and size of load (CEC, 2002).

DG is available using a variety of technologies, including internal combustion engines, fuel cells, photovoltaic cells, and wind turbines (CEC, 2002). While DG reduces the need for, and environmental impacts of, some transmission facilities, DG alone will not be sufficient to meet California's energy demand. At the present time, DG facilities in California represent less than 800 MW of generating capacity, or little more than one percent of the approximate 67,000 MW of in-state generation supplies (ITron, 2010). Although California has a number of programs in place to incentivize the use of DG in California (such as the Emerging Renewable Program [Solar, Wind and Fuel Cell Rebates], Environmentally Preferred Advanced Generation Research and Demonstration Program, and the Distributed Generation Environmental Impacts Research and Demonstration Program; all programs sponsored by the CEC), there will continue to be a need for other non-greenhouse gas producing energy sources (e.g., wind, solar, etc.) to meet California's energy needs. The Project will produce 1,300 MW of electricity during peak demand periods, helping to reduce the state's need for fossil-fueled peak power generation.

DG energy storage (technologies such as compressed air energy storage [CAES], batteries, flywheels, electrochemical capacitors, superconducting magnetic energy storage [SMES], power, electronics and control system devices) are emerging technologies which are generally not available on a commercial scale. Excluding pumped storage, only 2,128 MW of installed energy storage technologies exist worldwide. The Project is designed to provide both energy generation and energy storage on a commercial utility scale.

**SC #5:** The National Infrastructure Protection Center is a good candidate along with the Department of Homeland Security for making these assessments and they should be called in to participate in obtaining maximum security for what FERC has told us is an important and vulnerable part of our society.

**Response to SC #5:** The United States Department of Homeland Security commented on the Project (see comment letter from the Federal Emergency Management Agency [FEMA] sent in response to the Draft EIR). FEMA is an agency within the Department of Homeland Security. The Project is required to comply with all federal regulations, and underwent environmental review in compliance with the National Environmental Policy Act (NEPA).



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**SC #6:** We assert that because FERC has constrained information in this project because of the risk of terrorist attacks, Homeland Security should be a responsible agency.

**Response to SC #6:** Public Resources Codes §21069 defines a Responsible Agency as a Public Agency, other than the Lead Agency (State Water Board) having responsibility for carrying out or approving a project.

The United States Department of Homeland Security operates with FERC on dam safety evaluations. However, the United States Department of Homeland Security is not required to approve this Project, nor is this federal agency required or responsible for implementation of the Project. Therefore it does not qualify as a Responsible Agency under CEQA.

Further, FEMA provided comments during the Draft EIR review period, focused on the National Flood Insurance Program. Please see Response to SC #5 and FEMA's comment letter for details.

**SC #7:** Urban areas should be the place where meeting these needs are located.

**Response to SC #7:** The comment is noted, and does not pertain to the adequacy of the Draft EIR. It is worth noting that the location of the Project has the following benefits: it is an already disturbed site, thereby reducing the potential environmental impacts of the Project; it uses already existing mining pits for reservoirs, creating a significant cost savings; it is located near a regional transmission grid, reducing the environmental impacts and costs of interconnection; and there are no perennial streams or wetlands in the Project area, eliminating the potential for impacts to aquatic ecosystems.

**SC #8:** An even better solution to this electric power problem is to use distributed generation (e.g., solar roof tops) and distributed storage (Batteries in electric vehicles and local flywheels). These alternatives have distinct advantages and should be thoroughly discussed in the EIR.

**Response to SC #8:** CEQA requires the discussion of alternatives which feasibly attain most of the Project Objectives, and at the same time, an EIR need not consider every conceivable alternative to a project (CEQA Guidelines §15126.6).

See the Project's Statement of Goals and Objectives, Section 2.2 of the Final EIR for the complete discussion of Project Objectives.

The alternatives discussed and analyzed in the Draft EIR were chosen based on the following criteria: 1) feasibly obtains most of the Project's Goals and Objectives; 2) lead agency determination of a reasonable range of alternatives; and 3) avoiding or substantially lessening identified significant impacts (refer to the Final EIR, Section 4.5 for full discussion of the evaluation criteria). The EIR considers and evaluates five Project Alternatives based on these criteria, including a No Project Alternative and the proposed Project alternative.

DG is an alternative energy source which was considered but eliminated from further analysis. Section 4.7.3 of the Final EIR was modified to more thoroughly describe the reasons why DG does not meet the Project's Goals and Objectives, and therefore was not considered as an

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alternative. Specifically DG does not meet the Project's Goal and Objective #3 – Provide Energy Storage for Integration of Renewable Energy Generation, Goal and Objective #4 – Provide Ancillary Services for Management of the Transmission Grid Goal and Objective #5 – Provide for Flexible Transmission Grid Operations, Goal and Objective #7 – Re-use Existing Industrial Site, or Goal and Objective #9 – Generate Hydropower Without Causing Impacts to Surface Waters and Aquatic Ecosystems.

**SC #9:** In *Section 3.7.1* we find the statement that... “No state or local regulatory settings pertaining to aesthetics or visual resources apply to the proposed Project.” We point out that Riverside County has an Ordinance 655 pertaining to light pollution and we would like this to be addressed in the EIR.

**Response to SC #9:** Section 3.7.1.1 of the Final EIR was revised as follows (new text in red):

### 3.7.1.1 Federal

Short segments of the water pipeline and transmission line are located on county lands; the Project would be designed to adhere to Riverside County Ordinance 655 (Regulating Light Pollution).

In addition, Section 3.7.1.2 was added to the Final EIR as follows:

### 3.7.1.2 Local

Riverside County Ordinance 655 identifies lighting standards for outdoor light fixtures. The Project would be designed to adhere to Riverside County Ordinance 655 (Regulating Light Pollution).

**SC #10:** In general scenic values are among the most highly valued by the public, but they are much more difficult to quantify than other environmental resources, such as wildlife or fish resources.

A big question in any CEQA document is level of significance of an impact. It is common to see statements to the effect that a small incremental impact is insignificant. So it is with the desert night sky. There is already too much light. Rather than add net lighting the proponents should be required to negotiate with local lighting decision makers to turn off lights that aren't really necessary.

**Response to SC #10:** With the exception of a few locations that would be lighted for security reasons, much of the upper reaches of the Project will have limited lighting. Mitigation measure (MM) AES-1 addresses light pollution concern and minimizes the overall adverse effect typical industrial-type lighting could have on its surroundings. With mitigation as proposed, the Project is expected to have a very small, not significant effect on increasing light over ambient background levels, and would only be noticeable within the immediate surroundings (within a couple miles) due to intervening topography. The intention of the mitigation plan is to eliminate unnecessary lighting. MM AES-1 also includes an on-going monitoring effort with the National Park Service (NPS) to help establish a baseline condition, and measure potential changes from

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the baseline condition, which may result in additional changes to lighting designs after construction.

**SC #11:** The DEIR contains this statement: “Hikers on surrounding ridge tops within the JTNP and Wilderness Area may view some of the Project features (mainly reservoirs and dams) which would be within middle ground distance zones (see Figure 3.10-8 in Section 3.10 Recreation). Access to these ridge tops is very difficult and viewer numbers are low.”

Some of our members are hikers who intentionally go into the back country in order to get some idea of what our country once looked like. We take umbrage with the idea that we can be readily dismissed.

**Response to SC #11:** The baseline condition of the Central Project Area, where the reservoirs and powerhouse will be located, is of a highly disturbed area that in no way resembles a natural or wilderness setting. The Project will not change the character of the landscape in a significant manner, since the majority of the landscape is currently a large scale open pit mine with associated tailing piles.

Please refer to Figures SC-1 through SC-4, which illustrate representative views from several ridge tops located within the Joshua Tree National Park’s (JTNP) boundary nearest to the Project site. Viewers accessing these ridge tops will observe features located outside JTNP’s boundaries, including some of the Project features. These proposed features will be visible within an existing setting that is disturbed by open pit mine tailings, and other features associated with past mining activity. As noted previously, these Project features are all located outside of the JTNP boundaries, and while the reservoirs represent a change in visual character, the change is insignificant within the context of the mine. These viewpoints that may allow detection of the Project are located in a remote and difficult-to-access portion of the JTNP. Minimal visual alteration may be experienced by a small number of visitors, but the change must be viewed in the context of the extremely modified landscape in the area.

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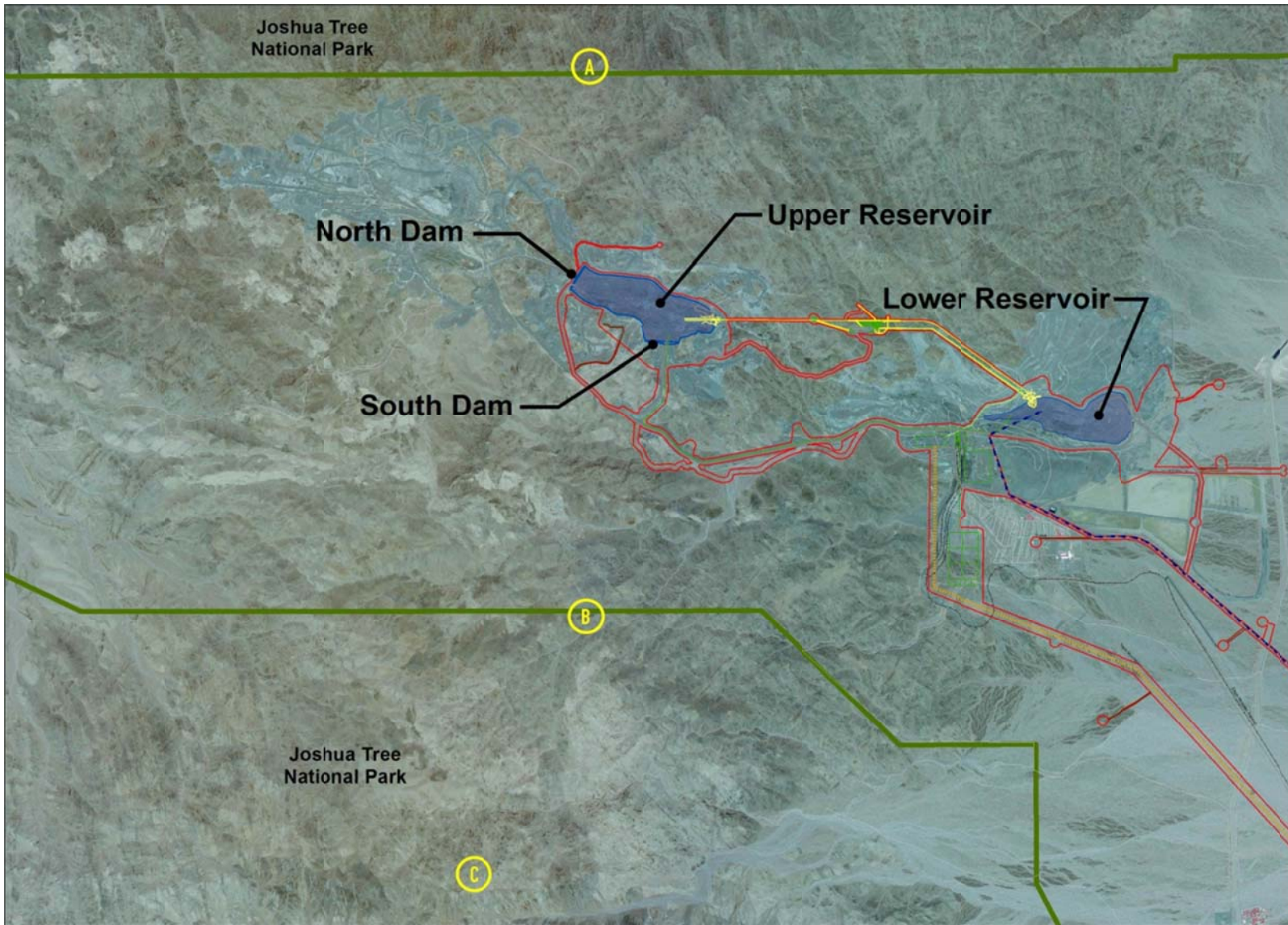


Figure SC-1: Aerial Overview of Project Area and Proposed Project Features, indicating viewpoint locations at higher elevations within National Park Boundaries. Green lines indicate the JTNP boundaries.



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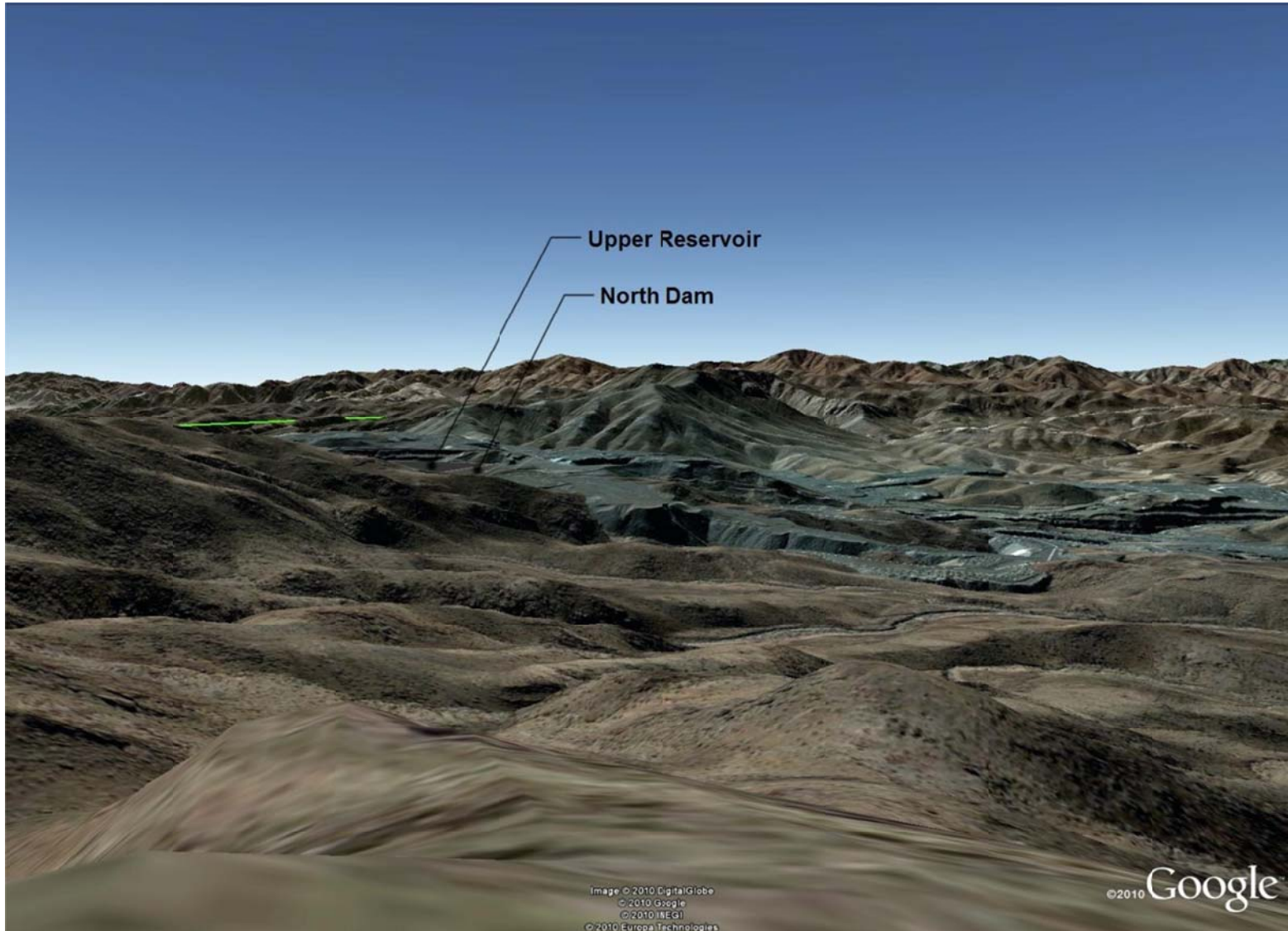
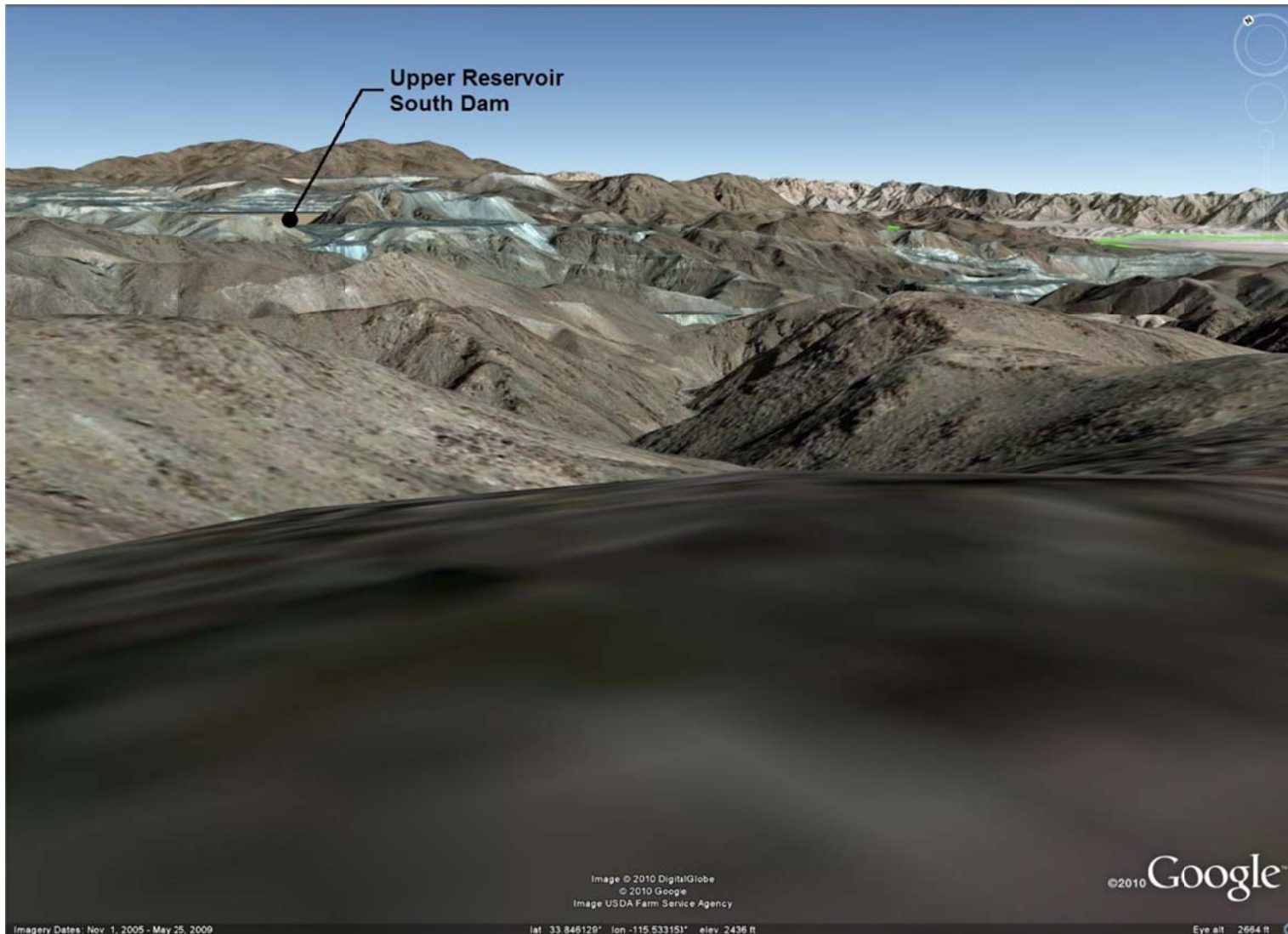


Figure SC-2: Viewpoint A. View to South from Highest Elevation Peak along North JTNP Boundary (see Figure SC-1 for location). Part of Upper Reservoir north dam and reservoir would be visible approximately 1.4 miles away. Green lines indicate the JTNP boundaries.

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**Figure SC-3: Viewpoint B. View to North from Highest Elevation Peak along South JTNP Boundary (see Figure SC-1 for location). Part of Upper Reservoir south dam and reservoir would be visible approximately 2 miles away. Green lines indicate the JTNP boundaries.**

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**Figure SC-4: Viewpoint C. View to North from Highest Elevation Peak within JTNP South of Project Area (see Figure SC-1 for location). Part of Upper Reservoir south dam and reservoir would be visible approximately 4 miles away. Lower reservoir site is screened by intervening topography. Green lines indicate the JTNP boundaries.**



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**SC #12:** This project is being discussed as if we are to assume that it will in fact be a source of renewable energy which will have the overall effect of reducing the generation of CO<sub>2</sub> [carbon dioxide].

There are many other statements about what this project “can” do to reduce GHG emissions. On page 2-29 “Greenhouse Gas (GHG) Emissions – Construction may affect GHG levels, however, operational activities would displace energy demand for single cycle natural gas power plants and if effectively used would reduce GHG emissions necessary for meeting the energy demands in California and assist meeting future targets for a larger portfolio of renewable power generation sources.” In the above quote we note the phrase “if effectively used,” we prefer the phrase “this project is contractually obligated to...” and in other places we prefer “will...” rather than “can...”

**Response to SC #12:** Pumped storage assists with the integration of renewable energy generation into the transmission grid in several different and complementary ways. Pumped storage stores energy generated at off-peak times for use during on-peak times. To the extent that renewable power is in the energy supply mix when pumping occurs, then renewable energy is captured and used for higher value use (peak generation). In addition, pumped storage solves the increased need for regulation services as more and more renewable resources are brought online in California.

Based on the GHG emission analysis in Section 3.15 of the Draft EIR, it is concluded that the Project would contribute to a decrease in GHG emissions. This conclusion is based upon the analyses presented in Table 3.15-2 and accompanying text of the Draft EIR. The most likely future scenario would be that power generation from the Project would displace simple-cycle power plants (natural gas-fired peaker plants) and that pump-back power would result in the dispatch of power from natural gas-fired combined cycle power plants. Under this scenario there would be a beneficial effect from each cycle of water through the Project.

Table 3.15-2 in the Draft EIR uses CO<sub>2</sub> emission factors for simple-cycle and combined-cycle power plants as recommended by the California Energy Commission (CEC, 2010). This analysis is based on existing generation sources and conditions in California, and the current energy supply stack in California. The Project will have a long-term tolling agreement in order to service its debt, but will likely be operated largely in the day-ahead markets for on-peak and off-peak energy. This means that the energy supply for pumping will likely not be purchased through long-term contracts, but will be purchased in the day-ahead markets, and then dispatched by CAISO.

The analysis in the Draft EIR does not assume renewable energy as a pump-back power source. This is considered to be a very conservative assumption because in the future California is mandated to have 33 percent of its electrical generation from renewable sources (Senate Bill 2 X1, Simitian, 2011). Therefore, it is likely that energy generated by renewable sources will provide some of the energy source on the margin during off-peak periods in the future. It can be reasonably assumed that over the proposed 50-year life of the Project, even greater level of emissions will be offset than the amounts presented in Table 3.15.2 of the Draft EIR.



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Although the Project itself is not legally classified as a renewable source of energy, the Project would help integrate existing and future renewable energy sources into the transmission grid.

According to the CEC, CAISO and the major electric utilities in the state, large scale energy storage projects, such as the Project, are essential for successful integration of wind and solar renewable power generation, maintaining reliable transmission grid operations, and will be imperative for the state to meet its GHG reduction goals (CEC, 2009). It is estimated that California will need a minimum of 4,000 MW of energy storage by 2020 (CEC, 2009) in order to meet its GHG reduction goals.

The Energy Storage Act (also known as Assembly Bill [AB] 2514 [Statutes 2010, Chapter 469, Skinner]), which requires the California Public Utilities Commission (CPUC) to open a proceeding by March 1, 2012, to consider establishing investor owned utility procurement targets for viable and cost-effective energy storage systems to be achieved by December 31, 2015, and an additional target to be achieved by December 31, 2020. Publicly owned utilities will be required to develop plans to maximize shifting of electricity use from peak demand periods to off-peak periods.

On December 16, 2010, the CPUC opened Rulemaking (R.) 10-12-007 to implement the provisions of AB 2514. Although AB 2514 directed the CPUC to open such a proceeding by March 1, 2012 (§ 2836(a)), the CPUC chose to open it sooner, explaining that it “see[s] the enactment of AB 2514 as an important opportunity for this CPUC to continue its rational implementation of advanced sustainable energy technologies and the integration of intermittent resources in our electricity grid.” (CPUC Order Instituting Rulemaking, December 21, 2010). In a Scoping Memo and Ruling issued on May 31, 2011, the assigned Commissioner and Administrative Law Judge (ALJ) determined that the proceeding should be resolved in two phases. The first phase would develop the overall policies and guidelines for electrical storage systems (ESS), including where and how ESS could be deployed to provide maximum benefits to the electric system. The second phase would develop the costs and benefits for ESS and establish how they should be allocated.

On August 6, 2012, the CPUC issued Decision 12-08-016 (D 12-08-016), which adopted the Energy Storage Framework Staff Proposal and initiated the second phase of the proceeding. The Staff Proposal contained a framework to analyze energy storage and identified 20 “end uses.” These end uses were then combined into four basic “scenarios” for further analysis. These basic scenarios are: generator-sited storage, bulk “generation,” distributed storage and demand-side management. D. 12-08-016 included the following Findings of Fact:

1. AB 2514 directs the Commission [CPUC] to open a proceeding to determine appropriate targets, if any, for each load-serving entity to procure viable and cost-effective ESS.
2. Energy storage is multi-functional and can be used at the transmission, generation, and distribution levels.

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3. The multi-functional nature of energy storage means that it is subject to regulation from various state and federal agencies.
4. It is not possible to adopt a single, comprehensive energy storage policy that would apply across all storage functions and regulatory agencies.
5. Parties generally agree that any adopted energy storage policy should be technology neutral.
6. Parties identified nine perceived barriers to the more widespread deployment of ESS.
7. The Final Proposal includes a proposed framework to analyze energy storage based on “end uses” for storage and where in the value chain storage is being used.
8. The Final Proposal’s analysis approach would consist of four major categories – regulatory framework, cost effectiveness, procurement objectives and energy storage roadmap.
9. The Final Proposal recommends four basic “scenarios” for analyzing energy storage based on existing state and Commission [CPUC] policy objectives.

On October 1, 2012 the CPUC issued a scoping memo and ruling, which identifies the issues to be considered in Phase 2 of the proceeding and sets a procedural schedule for the CPUC to issue a final decision in October 2013.

The analysis in the Draft EIR indicates that the Project should have environmental benefits related to the successful integration of renewable energy projects in California. Within AB 2514 the Legislature made the following declarations that support these assumptions:

- Expanding the use of energy storage systems can assist electrical corporations, electric service providers, community choice aggregators, and local publicly owned electric utilities in integrating increased amounts of renewable energy resources into the electrical transmission and distribution grid in a manner that minimizes emissions of GHGs.
- Additional energy storage systems can optimize the use of the significant additional amounts of variable, intermittent, and off-peak electrical generation from wind and solar energy that will be entering the California power mix on an accelerated basis.
- Expanded use of energy storage systems will reduce the use of electricity generated from fossil fuels to meet peak load requirements on days with high electricity demand and can avoid or reduce the use of electricity generated by high carbon-emitting electrical generating facilities during those high electricity demand periods. This will have substantial co-benefits from reduced emissions of criteria pollutants.

Use of energy storage systems to provide the ancillary services otherwise provided by fossil-fueled generating facilities will reduce emissions of CO<sub>2</sub> and criteria pollutants.

**SC #13:** The owners will buy the cheapest power available. This could well turn out to be coal fired power. Coal power is rated as the most GHG producing power. This Project could well buy

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all of its pumping power from coal generators and sell it in competition with peak renewable sources. It could just as well be a GHG disaster as otherwise.

**Response to SC #13:** Coal-fired power represents less than two percent of California's in-state energy generation mix, and eight percent of California's total power supply in 2009 (see Figure SC-5).

Electricity produced by coal is declining as a percentage of California total energy generation mix (Figure SC-6). According to the **CEPUC's** 2009 Integrated Energy Policy Report, the publicly owned utilities are reporting an increase in renewable contracts and a decline in the use of coal resources as contracts with coal-fired power plants expire over time. This shift in resource types will contribute to statewide goals for reduced GHG emissions.

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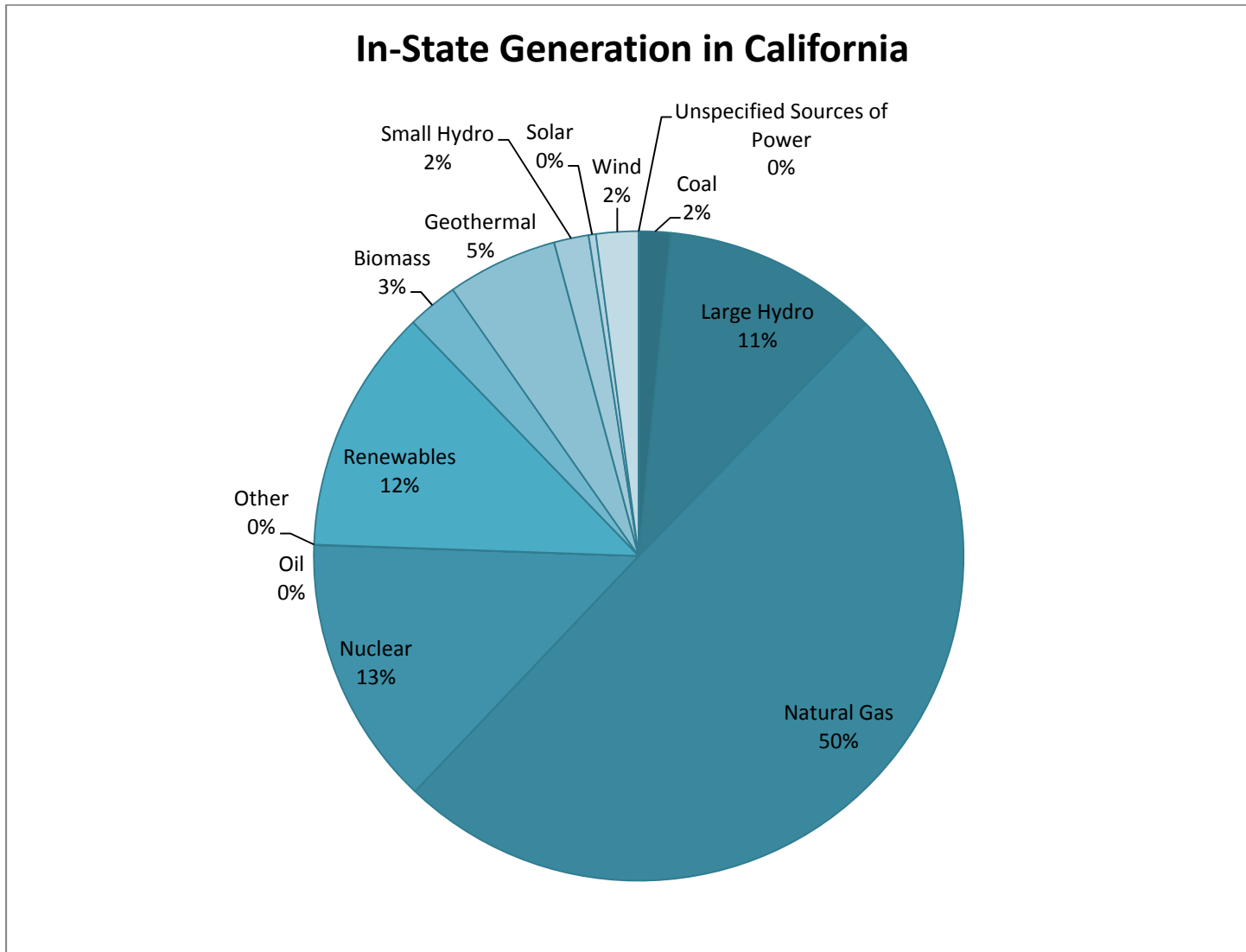
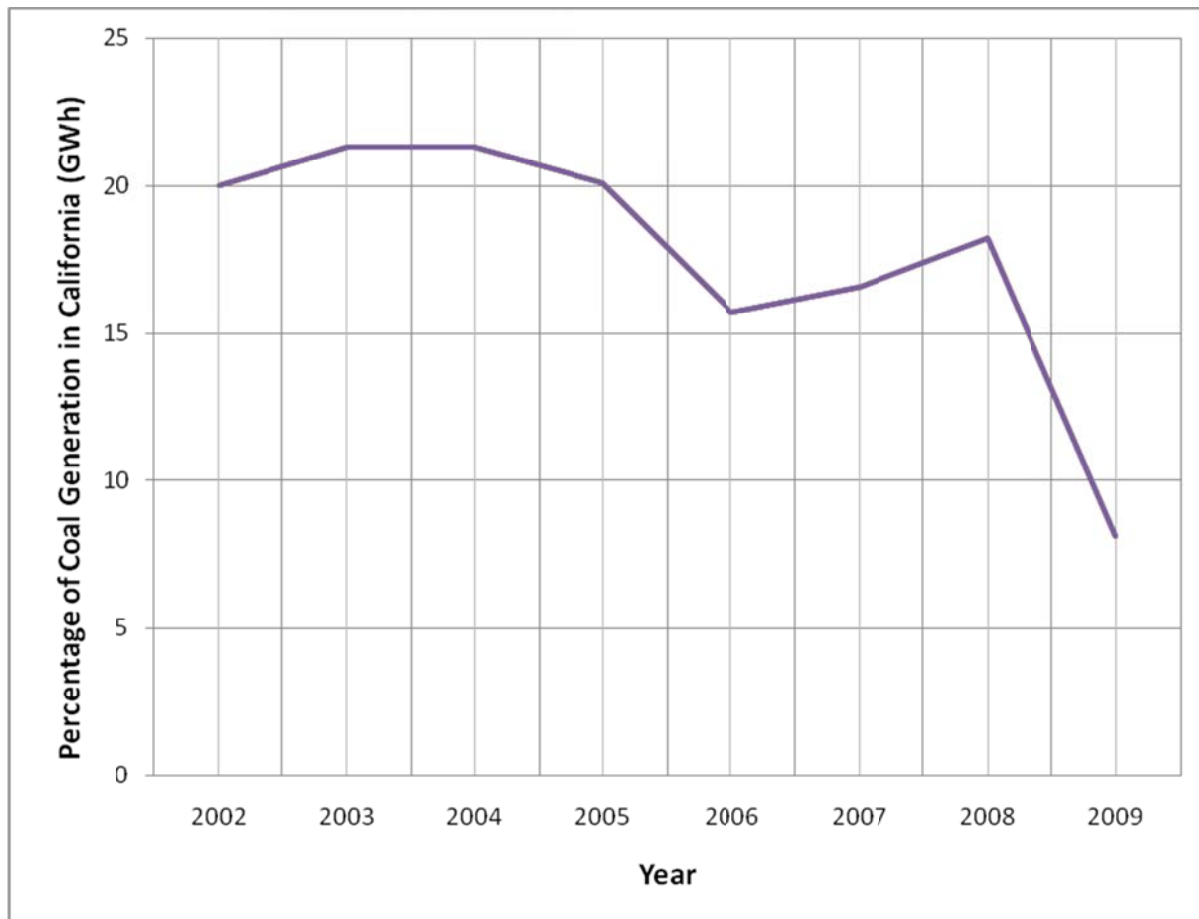


Figure SC-5: Percentage of In-State Electrical Energy Generation in California in 2009. Source: California Energy Commission, California Energy Almanac.

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**Figure SC-6: Percentage of Coal Generation in California 2002- 2009. Source: California Energy Commission, California Energy Almanac. Note: In 2002-2006, the in-state coal number included coal fired power plants owned by California utilities located out-of-state.**

Although the Project will add additional energy demand to the system, there is very limited potential for GHG associated with coal to increase as a result. The reason for this is the structure of the “supply stack” in California (Figure SC-7). CAISO dispatches energy in order, based on cost. In California this means that each night all of the nuclear, hydropower, and coal power is dispatched to meet demand, and varying amounts of combined cycle gas is also needed to meet demand.<sup>1</sup> This is what is referred to as “the margin” – the energy resource which is dispatched when additional demand is added to the system. In California, the resource that is added to the system when additional load is added during baseload periods is combined cycle gas.

<sup>1</sup> Note that the structure of the supply stack is different in different regions depending on the amount of each energy resource available.

## California Market

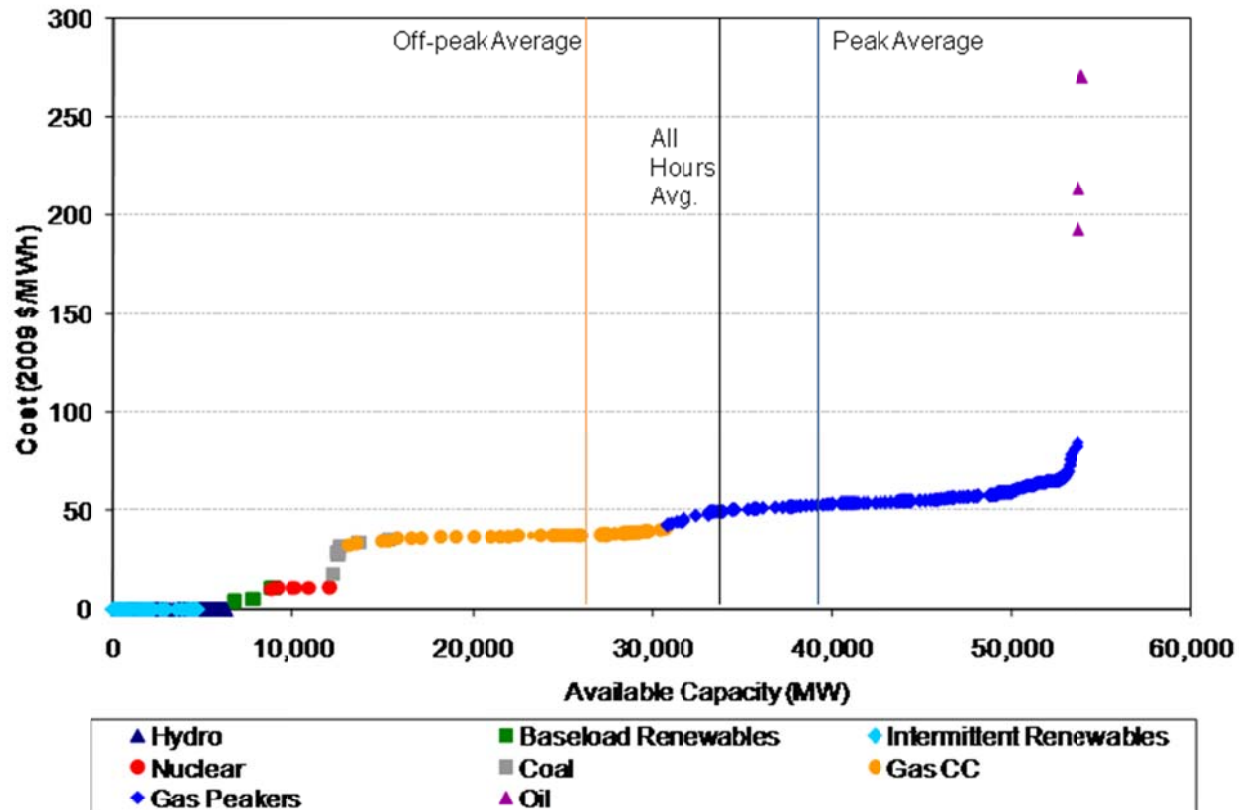


Figure SC-7: California Energy Supply Curve. Costs are production costs, and do not include capital costs. Based on plant data from U.S. Energy Information Administration, North American Electric Reliability Corporation, CAISO and Pace Global estimates of current variable costs for each plant data. Source: Pace Global, 2011 and Ventyx Energy Velocity database.

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Because of the way energy generation sources are dispatched in California, analysis of potential additional GHG emissions attributable to additional load must be considered on a system-wide basis rather than a single-project-basis. For example, if the Project were to contract directly with a wind power generator for its pump-back power, it would still be incorrect to claim that the additional load from the Project was GHG emission-free. The power from the wind in question would be dispatched by CAISO regardless of the presence of this specific additional load, and the marginal generation resource that is still required to be added to the system to meet the additional load on a system-wide basis would be combined-cycle natural gas.

Similarly, the system will not create more GHG emission related to coal when additional load is added to the California grid. The very limited available coal generation sources will have already been dispatched to meet base load demands in advance of the occurrence of the additional load, which then must be met by the next marginal cost source available to the system – in this case as described above, combined-cycle natural gas generation.

According to the CPUC (2010), the least-cost marginal source of power available on the California grid during night-time and weekend periods is combined-cycle natural-gas fired power.<sup>2</sup> Therefore, the most reasonably foreseeable scenario is that pump-back power would result in the dispatch of power from natural gas-fired combined-cycle power plants. Daytime peak power needs are met at present with simple-cycle natural gas-fired peaker<sup>3</sup> plants. For that reason, this source of power would be displaced by power generation from the Project. On those bases, the GHG emissions analysis concluded that there would be a beneficial effect of net reduction of CO<sub>2</sub> from operation of the Project, as shown in Table 3.15-2 in the Draft EIR. CO<sub>2</sub> emission factors for simple-cycle and combined-cycle power plants used in the analysis were obtained from the CEC (2010).

**SC #14:** The DEIR states that there is 359 MW of wind generation in the local area. How much of that is already committed to long term contracts? We assume that even with that full capability there will be the need to purchase nearly 1000MW of carbon based pumping power. When coupled with pumping inefficiencies as well as double transmission losses (pumping/generation) this project has a carbon multiplying effect (higher carbon production for power used at the load).

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<sup>2</sup> A combined cycle power plant uses the exhaust of one heat engine as the heat source for another heat engine, thus extracting more useful energy from the heat, increasing the system's overall efficiency. This works because heat engines are only able to use a portion of the energy their fuel generates (usually less than 50%). Combining two or more thermodynamic cycles results in improved overall efficiency, reducing fuel costs and emissions. However, combined cycle power plants are more expensive to construct than simple cycle power plants.

<sup>3</sup> Natural gas-fired peaker plants are operated only during high demand periods. The thermodynamic efficiency of simple-cycle gas turbine power plants ranges from 20 to 42%, with between 30 to 42% being average for a new plant. These plants are relatively inexpensive to build and the equipment can be operated for rapid changes in generation, but the efficiency is lower and emissions are higher than a combined cycle plant.

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Given the operational generality we just mentioned, any discussion of solar energy as a source of pumping power is misleading. Solar is inherently a peak generator which will be sold at a premium, it is hardly a low cost source of pumping power and till proven otherwise we assume that discussions of solar pumping power is a “greenwashing” red herring.

**Response to SC #14:** The Draft EIR (Section 3.15, page 3.15-10) analyzes the annual generation of greenhouse gases under two scenarios that represent maximum and minimum displacement scenarios. As described in the Draft EIR, the minimum displacement scenario assumes that 100 percent of the required pump-back power would be carbon-based from natural gas-fired combined cycle power plants. The maximum displacement scenario assumes that the required pump-back power would be renewable energy sources. The Draft EIR notes that the pump-back power would probably include a mix of power from the combined cycle power plants and the renewable sources so the actual emission displaced would fall between the maximum and minimum displaced amounts shown in Table 3.15-2 of the Draft EIR. Table 3.15-2 shows that the Project could displace (reduce) between 49,955 and 1,115,751 tons per year of CO<sub>2</sub>, depending on the mix of generation facilities used for the pump-back power.

Although the Project description in the Draft EIR does not specify solar energy as the source of pump-back power, discussions with CAISO staff indicate that the Project could be an important demand load (for pump-back power) in the early morning hours to help regulate solar projects that would begin generating electricity long before the peak demand hours for California (Hawkins, 2009).

**SC #15:** We want to know how power from this project will be counted. Given the possibility of a pumping power mix it might end up attempting to sell all of its generation as renewable power.

**Response to SC #15:** California Public Utilities Code Section 2805 defines hydroelectric power generators that produce in excess of 30 MW to be conventional power. Therefore, the Project does not meet the definition of a renewable energy project under California law, and none of its power generation will be sold as “renewable” power.

**SC #16:** We need to see a more detailed analysis of the market and some contractually binding or permit binding conditions on the minimum amount of renewable pumping power and maximum amount of carbon generation taking into account efficiency and transmission losses. What are the actual sources of pumping power in the real world of the southern California grid and what types of power will this plant compete with – we expect data not speculation! We insist that the No Project Alternative is the preferred alternative. In this regard any statement of overriding considerations necessary to address irreversible significant effects must be based on fact.

**Response to SC #16:** The analysis of GHG emissions in Section 3.15 of the Draft EIR is based on data on the sources of energy available to provide pump-back power in the real world of the southern California grid.<sup>4</sup> Specifically, the minimum displacement scenario assumes that the

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<sup>4</sup> Data sources used to support this analysis include the CEC Integrated Energy Policy Report <http://www.energy.ca.gov/2009publications/CEC-100-2009-003/CEC-100-2009-003-CMF.PDF>; and the California Energy Commission Energy Almanac [http://www.energyalmanac.ca.gov/electricity/total\\_system\\_power.html](http://www.energyalmanac.ca.gov/electricity/total_system_power.html) as well as other reports from the



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pump-back power for the Project will be combined cycle natural gas fueled electricity because this is the energy source on the margin in California, as documented in the avoided cost proceedings of the CPUC (2006). Avoided costs are cost savings that result from a public utility not having to produce additional power. For example, measures that reduce demand for energy reduce the utility's need to produce power; therefore the price of energy conservation is set to the avoided, or marginal, cost. In California, the utilities' avoided costs are determined by the CPUC in public hearings. These prices are designed to simulate a "market price" for energy. The CPUC has determined that because California is connected to the western electric grid and purchases its electric requirements from power producers within California as well as in other states, the proxy for the long-run avoided cost of energy is based on a new combined-cycle gas turbine constructed somewhere in the grid-connected western United States.

**SC #17:** We have been unable to find anything in the DEIR that supports the claim that over pumping is not a problem. ECE [Eagle Crest Energy Company] merely continues with the unsupported claim that a roller compacted concrete ("RCC") dam can withstand over pumping.

ECE should undertake the studies necessary to provide an assessment of the impacts of an over pumping event and a reservoir breach event for the upper and of the lower reservoirs including, at a minimum, the impacts to the Landfill Project and the town of Eagle Mountain upon the occurrence of such events. Additionally, please provide information on whether these flooding events are insurable risks.

**Response to SC #17:** The Project is a "closed system" meaning that the water used for generating and pumping is a fixed volume that will be cycled between the two reservoirs. Both reservoirs have an active storage volume of 17,700 acre-feet. As designed, there will not be enough active storage in the Lower Reservoir (or any natural stream flow) to cause overtopping of the Upper Reservoir in an unlikely over-pumping event. The Lower Reservoir has more dead storage (4,200 acre-feet) than the Upper Reservoir (2,300 acre-feet), because of its shape. If an automatic shut-down system should fail, and pumping continues from the Lower Reservoir, water will flow over the Upper Reservoir spillway preventing overtopping of the Upper Reservoir dam. However, the amount of water that can be pumped into the Upper Reservoir is limited by the volume of water in the Lower Reservoir. Concrete dams, unlike earthfill and rockfill dams, can withstand some amount of overtopping.

Part 12, Subpart C of FERC's regulations provides general requirements for Emergency Action Plans (EAPs) at hydropower projects under FERC's jurisdiction. Section 12.20 (a) of FERC's regulations requires every licensee to develop and file an EAP with the Regional Engineer unless granted a written exemption in accordance with Section 12.21 (a) of the regulations. The EAP must be filed with FERC no later than 60 days prior to the filling of the reservoirs. A comprehensive review of the EAP must be prepared by the licensee annually.

An EAP is a formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life. These

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CPUC, CEC, CAISO, and California Air Resources Board. See literature cited for more information on data sources.

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

documents provide maps showing the extent of flooding that could result from a theoretical dam failure and provide warning times and instructions for actions and responses to be taken in the event of a dam safety emergency. The EAP specifies actions the licensee should take to minimize or alleviate the problems at the dam. It contains procedures and information to assist the licensee in issuing early warning and notification messages to responsible downstream emergency management authorities of the emergency situation. It also contains inundation maps to show the emergency management authorities the critical areas that require action in case of an emergency. The EAP will address the concerns expressed in the comment letter.

Federal and state regulations for dam safety do not require dam owners to assess the economic damages of loss of life from a dam failure. The FERC Office of Energy Projects (OEP) has published Engineering Guidelines for the Evaluation of Hydropower Projects which provides guidance to FERC technical staff for the processing of applications for license and in the evaluation of dams under Part 12 of FERC's regulations. These guidelines can be found on the FERC website at: <http://www.ferc.gov/industries/hydropower/safety/guidelines/eng-guide.asp>. The California Department of Water Resources, Division of Safety of Dams has published Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs, as defined in California Water Code Sections 6002, 6003, and 6004. These regulations require dam owners to design and maintain dams so that the possibility of a dam failure due to floods, earthquakes, and other natural events is miniscule. Regulations also require that security measures be installed to deter terrorist attacks.

Insurance is available to home owners to protect against flooding caused by a dam break. Insurance is also available to owners of hydroelectric projects to cover the liabilities associated with a dam break.

**SC #18:** We are given assurances concerning the safety of the dam based on an RCC dam. In addition the studies necessary to make the determination have not yet been made so we actually have no idea, nor a method to even estimate what the actual design may be. This postponement of information which will be very difficult for the public or even State Water Board to obtain and evaluate is forbidden by CEQA.

It may be objected that the dam engineering capability of civil engineer designers in the United States makes dam failure unlikely. We disagree.

On December 14, 2005, there was a breach of the upper reservoir of the Taum Sauk Project.

There aren't so many pumped storage dams licensed by FERC that we can't count this event as highly unlikely. FERC has taken precautions against terrorist attacks on electric infrastructure (so far much less likely than a dam breach) so more robust precautions must be accorded dam safety.

These should include: 1) discussion of dam design differences and similarities with Taum Sauk, 2) professional evaluation of the engineering relevance of these factors, 3) an estimation of the effects of a dam breach, 4) provisions for emergency response, e.g. a disaster plan, 5) insurance, 6) a clean-up plan.

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

**Response to SC #18.** The Project differs significantly from the Taum Sauk Project in Missouri. At Taum Sauk, the lower reservoir is an on-stream facility. The original Taum Sauk upper reservoir had a capacity of 4,350 acre-feet. The lower reservoir is on the East Fork of the Black River and has a capacity of 6,350 acre-feet, in addition to the water available from natural stream flow occurring in the river which averages 79 cubic feet per second. Unlike the Project which is a closed system, at Taum Sauk water can flow from the lower reservoir into the upper reservoir as long as the pumping continues. When the upper reservoir at Taum Sauk failed, it was because of a misaligned reservoir level gage. The Taum Sauk power house did not receive warning that the upper reservoir was full and the automatic pumping shut-down did not occur. With a continuous source of water supply larger than the capacity of the upper reservoir, pumping continued causing the rockfill upper reservoir dam to fail. Unlike the Project, at Taum Sauk the upper dam had no spillway.

Unlike Taum Sauk, the Project will be a “closed system” meaning that the water used for generating and pumping is a fixed volume that will be cycled between the two reservoirs. Unlike Taum Sauk, there will not be enough active storage in the Lower Reservoir (17,700 acre-feet) (or any natural stream flow) to cause overtopping of the Upper Reservoir (with an active storage capacity of 17,700 acre-feet) in an unlikely over-pumping event. The Lower Reservoir has more dead storage (4,200 acre-feet) than the Upper Reservoir (2,300 acre-feet), because of its shape. If an automatic shut-down system should fail, and pumping continues from the Lower Reservoir drawing down the dead storage pool, water will flow over the Upper Reservoir spillway preventing overtopping of the Upper Reservoir dam. However, even in the unlikely event of overtopping, concrete dams, unlike earthfill and rockfill dams, can withstand some amount of overtopping. The Upper Reservoir dam is proposed to be constructed of RCC. As a note, the replacement for the failed rockfill dam at Taum Sauk is an RCC dam.

All dams that could cause damage or loss of life should they fail, are required to have FERC-approved EAPs. These documents provide maps showing the extent of flooding that could result from a theoretical dam failure and provide warning times and instructions for actions and responses to be taken in the event of a dam safety emergency.

Federal and state regulations for dam safety,<sup>5</sup> require owners of high-hazard potential dams to design and maintain dams so that the possibility of a dam failure due to floods, earthquakes, and other natural events is miniscule. Regulations also require that security measures be installed to deter terrorist attacks.

Portions of the Project description are classified by FERC as CEII, meaning that the public is not authorized to view the conceptual designs, drawings, and backup materials developed for FERC licensing activities. ECE has complied with all FERC requirements to date and Project planning and eventual design of Project facilities will ensure that all Project structures and their operation will fully comply with applicable federal and state safety requirements. This information can be

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<sup>5</sup> Engineering Guidelines for the Evaluation of Hydropower Projects:  
<http://www.ferc.gov/industries/hydropower/safety/guidelines/eng-guide.asp>

Statutes and Regulations Pertaining to Supervision of Dams and Reservoirs:  
<http://www.water.ca.gov/damsafety/docs/statutes-regulations.pdf>

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

released by FERC, with its approval. FERC provides an electronic CEII request form available at this website: <http://www.ferc.gov/help/filing-guide/ceii-request.asp>. This information is on-file with the State Water Board.

**SC #19:** As far as we are aware the only permitting authority that State Water Board has is for the 401 permit. We have not been told that the 401 permit will be conditioned by a binding and enforceable agreement with ECE to the effect that all mitigations listed in the EIR will be implemented in a timely and effective manner. Until that is done we will insist that the mitigations listed do not comply with CEQA requirements. In addition any referral of mitigation implementation to FERC is of no substance until we see a document that FERC agrees. FERC will issue the EIS but that is no guarantee that they will agree with all mitigations listed in the EIR.

**Response to SC #19:** FERC issued the Final Environmental Impact Statement (Final EIS) for the Project in January, 2012. The recommended alternative in the Final EIS includes all of the proposed mitigation measures in the license application, as well as some additional measures proposed by FERC staff. The Final EIS is available for download at the FERC website ([www.ferc.gov](http://www.ferc.gov)).

Clean Water Act section 401 subdivision (d) states that any 401 certification “shall become a condition on any Federal license...” The Clean Water Act requires FERC to accept a state’s water quality certification conditions. (*See American Rivers Inc. v. FERC* (1997) 129 F.3d 99, 107 [court finds that the language in the Clean Water Act is “unequivocal, leaving little room for FERC to argue that it has the authority to reject state conditions...”].)

The State Water Board’s water quality certification will be conditioned by a binding and enforceable agreement with ECE to the effect that all mitigations listed in the EIR will be implemented in a timely and effective manner, as prescribed in the Mitigation Monitoring and Reporting Program (MMRP) presented in Table 6-2, Section 6.0 of the Draft EIR.

**SC #20:** It seems that recently those agencies responsible for the protection of the public safety, health and welfare have had lapses with sometimes devastating consequences. At first we were impressed that many hundreds of the mitigation measures were the responsibility of the Environmental Coordinator, including the important task of monitoring.

We then discovered that the person who will do this will be employed by ECE. We could find no mention of the qualifications of this person or how they would be assured that honest and timely reporting would be rewarded rather than discouraged. Does anyone doubt that under the circumstances if ECE finds monitoring or implementation a disadvantage of any sort that failure to comply with ECE wishes will put the Environmental Coordinator’s job in jeopardy?

**Response to SC #20:** The state and federal agencies with permitting authority over the Project will continue to have oversight over implementation of the MMRP during the life of the Project with enforcement powers for noncompliance. The MMRP describes in detail, the implementation timing, responsible party for implementation, and the timing of implementation, as well as identifying the resource agency responsible for verification and enforcement. The requirement

## **Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project**

for an Environmental Coordinator ensures that a designated point of contact and responsibility exists between FERC, the State Water Board, BLM, other resource agencies and the Licensee. The Environmental Coordinator will have no authority to make findings on behalf of the regulatory or resource agencies. A finding of noncompliance can result in enforcement, including substantial fines or “cease-operation” orders.

**SC #21:** In the case of the Taum Sauk dam failure just discussed, the FERC docket P-2277 discloses that FERC inspected the project’s safety just 3 months before the massive failure and certified that the project was satisfactorily compliant.

**Response to SC #21:** The comment is noted, and does not pertain to the adequacy of the Draft EIR.

A discussion of the Taum Sauk Project is included in Response to SC #18.

**SC #22:** We point out that the failure to implement mitigations in a timely and effective manner is itself a significant impact on the environment. In the discussion we want a mitigation of the impacts due to a failure to mitigate in a timely and effective manner. We know that we can seek a writ of mandamus, but this is slow, cumbersome and expensive. We suggest a prepaid ombudsman with the power to issue an enforceable writ on proof of mitigation failure.

**Response to SC #22:** The MMRP presented in the Final EIR contains specific terms for the required timing of mitigation for each measure and identification of the agency responsible for documenting that mitigation measures have been implemented.

Section 1.3.7 of the Final EIR states:

Public Resources Code §21081.6(a) [Public agency shall adopt monitoring program of mitigation measures and insure their enforceability] requires lead agencies to adopt a reporting or monitoring program to describe measures that have been adopted or made a condition of Project approval in order to mitigate or avoid significant effects on the environment. The mitigation program adopted by the State Water Board as conditions for approval of the Project is included in a Mitigation Monitoring and Reporting Program (MMRP), presented in Section 6 of this Final EIR. (CEQA Guidelines §15097). The MMRP is design to ensure compliance during Project implementation.

The MMRP outlines the mitigation program to be carried out during Project implementation and is used as a verification tool to provide the Lead Agency, Applicant/ Owner/ Operator, among others, the mitigation program task, staff monitoring, timing of compliance, and date of compliance.

**SC #23:** The Project proposes to pump tens of thousands of acre feet of water from a relatively small groundwater basin for initial filling, and to lose significant amounts of water yearly during operations. Groundwater impacts are perhaps the most significant problem posed by the

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

project, yet the DEIR's analysis of the project's individual and cumulative impacts to groundwater supply does not provide adequate foundation for its conclusions. For example, the analysis limits consideration of cumulative impacts assessment to Eagle Mountain Landfill and only those solar projects currently undergoing environmental review. Cumulative impacts from additional solar projects are not speculative.

**Response to SC #23:** The Project proposes to pump approximately 24,000 acre-feet of water over the first three years for the initial fill. The California Department of Water Resources estimate of the recoverable water in storage in the Chuckwalla groundwater basin is 15,000,000 acre-feet (DWR, 1979). Annual recharge is estimated to be approximately 12,000 acre-feet. Assuming no recharge, the initial fill represents depletion of 0.16 percent of the total water in storage. In response to concerns expressed regarding water losses to seepage, the Project design was amended to add grouting for major fractures, fine tailing material as lining, and concrete lining of the two reservoirs for seepage control. In addition to these mitigation components, seepage monitoring and recovery wells have been included as a project design feature to capture residual seepage losses and pump them back to the reservoirs. These features have been added for water conservation, water quality protection for the groundwater basin, and to mitigate potential adverse effects on the proposed Eagle Mountain Landfill (Landfill) and the Colorado River Aqueduct. Annual make-up water for evaporation losses that cannot be controlled is estimated at 1,800 acre-feet annually, and constitutes the operational water use component of the Project. Over the 50-year Project life, this totals 90,000 acre-feet. Assuming no annual recharge, this operational water use represents depletion of 0.6 percent of the total water in storage in the groundwater basin, and the Project's total water use (initial fill and 50 year operations) totals 0.76 percent of groundwater presently in storage.

The term "cumulative project" refers to land development projects that are in various phases of planning, entitlement, construction, or operation and that may affect the same resources and geographic area as the proposed Project. CEQA Guideline §15130(b) outlines the elements are necessary to provide an adequate discussion of significant cumulative impacts. See Response to SC #2.

This EIR used the list approach to define the past, present, and probable future projects (see Table 5-2 Existing Projects along the I-10 Corridor and Table 5-3 Future Foreseeable Projects along the I-10 Corridor). Potential solar projects that have not yet been contemplated or proposed, and which are therefore not in some phase of entitlement, planning construction and/or operation were not considered in the cumulative effects analysis, as allowed by CEQA.

The analysis of potential impacts on groundwater resources and the regional aquifers does include the cumulative water demands of the Project, all existing water uses, and projected water use for all reasonably foreseeable development projects in the Chuckwalla Valley region.

**SC #24:** In particular, the water supply analysis gives short shrift to the National Park's concerns about lowering of the Pinto groundwater basin (GWB). The DEIR's conclusions related to Pinto GWB are based on inadequate baseline information and unfounded assumption. What seeps, springs, lakebeds and biological resources are dependent on Pinto GWB and the Chuckwalla basin and in and adjacent to the Park? How may these resources be affected by lowering of the groundwater level? The DEIR fails to adequately address this critical issue.

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

**Response to SC #24:** Section 3.3.3.3.5 of the Draft EIR addressed potential Project impacts on springs, and Section 12.4 of the Draft EIR addressed potential groundwater level effects. The springs in the mountainous areas surrounding the Project site are hydrologically disconnected to the Pinto and Chuckwalla aquifers and so will not be affected by the Project.

For clarification, the third paragraph of Section 3.2.2 of the Final EIR was modified as follows (new text in red):

Springs that are fed by groundwater in the Eagle Mountains (see Figure 3.3-1) are hydrologically disconnected to the Pinto or Chuckwalla basin aquifers (NPS, 1994). The springs are located in the bedrock above the Pinto and Chuckwalla basins and the water is derived from fractures in the rock in the local area. Seasonal precipitation likely fills the fractures. None of the springs are documented as permanent, year round springs, (SCS Engineers, 1990) (Table 3.2-1). It is unlikely the fractures are connected to the sediments in the Pinto or Chuckwalla groundwater basins because if so, water would drain from the fractures into the sediments, leaving the springs dry. If the fractures did extend to the valley, it is unlikely that it would be refilled by the limited precipitation in the area. The difference of the spring elevations to groundwater in the adjacent valleys is 200 to 1,000 feet, which supports the conclusion that the fractures are not hydraulically connected to the valley sediments. None of these springs are identified by RWQCB Region 7 [Colorado River Regional Water Quality Control Board] as having site-specific use classifications. Therefore, the default use classifications for these springs are the uses for miscellaneous unnamed tributaries (e.g., groundwater recharge, water contact recreation, non-contact water recreation, warm freshwater habitat, wildlife habitat, and preservation of rare, threatened, or endangered species).

Groundwater levels in the Pinto Basin are monitored by well 3S/15E-4J1 (Pinto Well #2). As shown on Figure 3.3-6, the groundwater level is about 150 feet below ground surface. The groundwater level is too deep for plant resources to use the water and lowering of the water level by nine feet (cumulative change over the life of the Project) would not affect these resources.

The lakebeds may seasonally contain water from runoff, which is then lost to evaporation.

**SC #25:** In addition to the above, the mitigation for excessive drawdown does not provide adequate assurance. If monitoring shows that groundwater pumping exceeds the “Maximum Allowable Changes” the proposal is: “The initial fill period would therefore be extended to a maximum of 4.5 to 6 years.” (Summary, Mitigation p. 3, emphasis added) How does stretching the pumping just a few years offer protection for groundwater resources? Would it be feasible to extend the initial fill period longer?

**Response to SC #25:** Extending the initial fill period from 4.5 to 6 years would reduce the amount of drawdown that will occur near the pumping wells and Desert Center. For example, Section 12.4 Figure 15 shows the maximum drawdown predicted at the Desert Center Centroid Well after pumping three wells at 2,000 gallons per minute (gpm) each for four years, at the end

## Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project

of the initial fill, would be about 48 feet (at the well). Using a six-year fill-duration, and pumping at 3,500 gpm combined to fill the reservoirs, the drawdown at the well would then be approximately 35 feet<sup>6</sup>.

It would not be feasible to extend the fill period for a longer period from an economic perspective.

**SC #26:** The DEIR relies on 14 year old data, and impermissibly defers biological data gathering as well as mitigation for the majority of potential biological impacts.

**Response to SC #26:** Extensive field surveys of biological resources were conducted in the Project area in 2008, 2009, and 2010. Field surveys included protocol-level desert tortoise surveys (summarized in Sections 3.6 and Appendix A (Section 10) of the Draft EIR), sensitive plant and animal surveys (summarized in Sections 3.5 and Appendix A Section 10 and Appendix B Section 11 of the Draft EIR), and golden eagle surveys (summarized in Sections 3.5 and 12.15 of the Draft EIR) (see Section 3 for a summary of the methods used to assess each issue area in the Draft EIR).

The landowner of the Project's Central Project Area has not granted ECE access to the collect data on these lands. It is known that the Central Project Area consists entirely of previously mined lands from the Kaiser iron mine, and consists of mine pits and large mounds of mine tailings. In addition, as reported in the Draft EIR, the Central Project Area has been the subject of many years of scientific and environmental investigations in support of the proposed Landfill, and for previous versions of the Project. Site-specific data are available and were used in the impact assessment for the Draft EIR. This information includes the Biological Opinion (BO) issued by the United States Fish and Wildlife Service (USFWS) for the proposed Landfill that covers the Central Project Area.

Endangered Species Act (ESA) Section 7(a)(2) requires that each agency "shall use the best scientific and commercial data available." The State Water Board concludes that the information presented in the Draft EIR constitutes the best scientific data available at the time of the preparation of the document. The basis for this conclusion is described in the following paragraphs.

Conclusions developed for the Draft EIR were based on extensive field studies of the Central Project Area conducted during permitting for the proposed Landfill. Those studies were used as the basis for development of a BO 1-6-92-F-39 for the Landfill, issued by the USFWS on September 10, 1992. Those studies included a Biological Assessment (BA) for the Landfill prepared by RECON, dated April 8, 1992, and a Biological Technical Report prepared by Circle Mountain Biological Consultants, dated February 1996. The BA concluded that the Landfill does not extend into desert tortoise habitat, and therefore no direct construction impacts to desert

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<sup>6</sup> The 4.5 year scenario assumed pumping at 5,000 gpm for four years and then in the fifth year pumping at 1,475 gpm. Pumping would be 24 hours per day during October thru May and 12 hours per day between June through September. (See footnote Volume III, Appendix C, Section 12.4, Table 3 of Draft EIR). For the six year scenario, the flow rates are 3,500 gpm for the first six years and with carry over into the seventh year with pumping at a higher rate (2,660 gpm) to complete the fill.



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tortoise habitat will occur in the Landfill site area. The Biological Technical Report noted that developed portions of the existing mine are mostly denuded of vegetation, and are not representative of the plant communities that once occurred.

Recent aerial photography was also used to assess current conditions on the Central Project Area. Figure SC-8 (2008) is an example of the aerial photography used to review current site conditions. This review determined that the Central Project Area remains substantially unchanged since the time of the field studies for the proposed Landfill. The Central Project Area is highly disturbed from past mining activities, and remains denuded of vegetation. The Central Project Area does not provide habitat for desert tortoise.

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**Figure SC-8: Photograph of Upper Reservoir Site. Photo taken November 2008.**

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The BO for the Landfill was issued by the USFWS in 1992. A review of the mitigation measures in the BO confirmed that the Project will not interfere with the implementation of mitigation measures required for the proposed Landfill (see Table 3.9-3 of the Draft EIR for a complete list of mitigation measures in the Landfill BO, and the effect of the Project on these mitigation measures).

The BO for the proposed Landfill was reaffirmed by USFWS twice after it was issued. In 1993, a proposal to designate critical habitat for desert tortoise (*Gopherus agassizii*) was issued, and BLM requested a formal conference with the USFWS regarding the proposed Landfill and its potential to impact proposed critical habitat. On September 20, 1993, USFWS concluded that the original BO adequately addressed impacts to habitat which was proposed as critical habitat for the desert tortoise. USFWS stated that the mitigation measures proposed by BLM, the project proponent, and the terms and conditions of the BO, adequately offset impacts to proposed critical habitat (letter from the Field Supervisor, Carlsbad Field Office, USFWS, to the California State Director, BLM dated September 20, 1993).

An EIS on the Landfill was issued in 1996 (BLM, Riverside County, 1996). USFWS submitted a comment letter on that EIS on September 30, 1996, wherein it re-affirmed the conclusions of the 1992 BO. This letter references the 1992 BO and reiterates the conclusion that the mitigation measures proposed by BLM, the project proponent, and the terms and conditions of the BO, adequately offset impacts to proposed critical habitat. The letter further states that, "New survey information of desert tortoise in new areas in the Project vicinity and the recent designation of critical habitat shall be investigated, but at present the Service sees no need to reinitiate consultation pursuant to Section 7 of the Act" (letter from the Field Supervisor, Carlsbad office of the USFWS to the District Manager, California Desert District Office, BLM, dated September 30, 1996).

The CEQA Guidelines require an EIR to be prepared with a "sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences" (CEQA Guidelines, §15151). "The description of the environmental setting shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives" (CEQA Guidelines §15125(a)).

Adequate information is presented in the Draft EIR to make an assessment of potential environmental impacts, and MM TE-1 through MM TE-7 will be implemented to mitigate any adverse environmental impacts to biological resources that would result from the Project.

**SC #27:** The DEIR fails to provide the CEQA-mandated Mitigation and Monitoring Plan for biological resources.

**Response to SC #27:** Biological mitigation and monitoring plans are included in Section 12.14 of the Draft EIR. The CEQA mandated MMRP, which includes measures for biological resources, is found in Section 6 of the Draft EIR.

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**SC #28:** In sum, the DEIR fails to comply with CEQA in several distinct ways. First, it omits essential information and, as a result, fails as an informational document. Second, the DEIR unlawfully defers the formulation of various studies and mitigation measures. Third, the assessment of the project's environmental impacts is inadequate. Significant impacts are deemed insignificant and impacts that can be mitigated are mistakenly found to be unavoidable. Fourth, significant new information is planned to be added at a future date, so the DEIR must be re-circulated and an additional public comment period provided.

**Response to SC #28:** This comment provides a summary of the specific issues set forth above in the comment letter. Please see the specific responses to comments above which address each of the comments made. Responses to SC #9, SC #15, SC #16, SC #17, SC #23, SC #24, and SC #27 address the issue of omission of essential information. Responses to SC #19, SC #20, SC #22, and SC #25 address studies and mitigation measures. Responses to SC #10, SC #11, SC #12, SC #13, and SC #14 address the assessment of the Project's environmental impacts. Response to SC #26 addresses new information which is planned to be collected at a future date.



Re: Eagle Crest Pumped Energy Storage Project PGM

To:

Oct. 2, 2010  
Oct. 5, 2010

Paul Murphy  
Hearings and Special Projects  
State Water Resource Control Board  
1001 I St., 14<sup>th</sup> floor  
Sacramento, CA 95814

STATE WATER RESOURCES  
CONTROL BOARD  
10 OCT 11 AM 10:37  
DIV. OF WATER RIGHTS  
SACRAMENTO

Dear Sir,

Thank you for letting me submit comments about proposed Eagle Mountain Pumped Storage Project and the Draft Environmental Impact Report issued by the State of California State Water Resource Control Board regarding FERD No. 13123 "Project".

1) This project is illegal. In 1950, Congress removed 265,340 acres from Joshua Tree National Monument (now park) through Public Law 837 "to determine to what extent said area is more valuable for minerals than for National monument purposes. In 1952 Congress enacted Private Law 790 granting certain rights-of-way, issuing patent to 465 acres of land to Kaiser Steel Corporation for campsite

RB #1

(2)

and millsite purposes. PL 790 also stated clearly that the property would revert fully to the United States, when the property was not used for a campsite or millsite for seven years. Congress and the President made it absolutely clear that seven years after mining operations stopped, the land would be returned to Joshua Tree National Monument near Joshua Tree National Park.

This project is clearly illegal. No amount of legalese will change that. The land is part of Joshua Tree National Park. The land reverted to the United States public in 1990, seven years after mining operations ceased in 1983.

The land in question is part of Joshua Tree National Park. The people trying to push the pumped storage project, the dump, and all the other "projects" are by squatters.

RB #1

(3)

This massive project is bad anyway and shouldn't be allowed anywhere else like the Eagle Mountain location either. It will bring a very destructive infrastructure and an engineering bonfire to the tiny community around Desert Center. The construction maintenance, destructive effect on the aquifer and the stupid use of water, its evaporation and effect on the microclimate around Eagle Mountain — a very dry desert — will be uncorrectable. The future loss of power to the residents of the area over their community will increase, leaving them asking "Why can't Los Angeles and the rest of Southern California learn to conserve energy and resources that would completely offset the need for this unnecessary project?" It will provide an excuse for more rampant development. All of the projects aimed at exploiting the land in question have been stopped before.

RB #2

RB #3



several times. Now the squatters want to ~~to~~ appeal the other boondoggle - the mega-dumps - to the Supreme Court! What an outrageous waste of taxpayer money and waste of time for the Supreme Court. Squatters demanding that the Supreme Court let them steal our public land. The long list of "projects" by these companies and individuals are all inappropriate and illegal. They are merely attempting to take what is not theirs. It is illegal. Do not allow it.

This is not a green project. It is a land grab.

Now, since the large "energy" companies have thwarted the development of renewable energy produced in non-destructive ways - building-integrated photovoltaics, appropriately placed wind and water turbines etc. there is a massive rush to further destroy land by allowing huge "solar farms"

RB #3

RB #4

that will destroy yet more land - when such technology could be built right in to the built structures that need it. This is another money making scheme that will further wreck desert habitat and biodiversity. All of this technology could be placed in developed areas along highways and on buildings. The excuse to build the pumped energy storage project is skewed to appear as a necessary part of this bad vision. There are many ways to negate the need for this destructive project. What a waste of resources, and other people's time. It won't even make a dent in bad energy consumption - in fact, it might use more than it is trying to offset. Please stop this project. It is illegal, and the land is properly part of Joshua Tree National Park.

RG #4

6

In fact, the Eagle Mountain open pit mine area is smack dab in the remotest part of the Joshua Tree Wilderness area! That is not legal either! Hikers and explorers from all across our nation that want to distant corners of Joshua Tree National Park because of its isolated, pristine, and quiet nature - who will be able to come upon the old open pit mine and view the type of damage we humans can do to the land - will be further frustrated by the continuance of such behavior ~~by~~ and devices such as a pumped energy storage project right in the middle of the wilderness!

Better to lay another long pipe down the grade from Chiyaco Summit to Mecca and pump water, there, tied to the already existing grid. How much simpler and how much

RB #5

RB #6

(9)

RB #6

less destructive, along the existing road and right-of-way, with access to energy from building integrated photovoltaic on houses in the desert, with far less distance for transmission.

Save the exquisite environment, habitat, and biodiversity of the land in Joshua Tree National Park and the included Eagle Mountain Open pit mine area within the Park.

RB #7

Keep Eagle Crest Energy Company ~~out~~ out of our National Park.

Another huge problem with this proposed energy storage facility is the impassible barrier it will create in the ecosystem of the backcountry wilderness of Joshua Tree National Park. During the years of this potential illegal construction the haul road leading to the site will be filled with trucks and equipment. After

8

RB #7  
that, the road will continue to be a threat, but the illegal facility itself will block wildlife and harmfully diminish the fragile biodiversity of this beautiful remote area of Joshua Tree National Park.

This project will completely alter the back country experience of anyone who cares to visit this distant and quiet, remote part of the Joshua Tree Wilderness.

RB #8  
It is our land, part of the Joshua Tree National Park. All the schemes and land trappers that have been tried and found to be illegal - every step of the way - shows how desperate these companies are to steal this land.

Please do not allow this, or any other illegal project, to go any farther. The Park is waiting for the squatters to be evicted.

Submitted with respect,  
Ron Brinkley, General Delivery, Buslake GA 93604  
415-830-4331



**Responses to Comments on Draft Environmental Impact Report  
Eagle Mountain Pumped Storage Project**

**Responses to Comments from Ron Brinkley (RB):**

**RB #1:** This project is illegal. The land was to go back to the Joshua Tree National Park 7 years after mining at Kaiser ceased, in 1983.

**Response to RB #1:** The proposed Eagle Mountain Pumped Storage Project (Project) is planned to be constructed on land owned by private entities and/or managed by the Bureau of Land Management. No National Park land is within the Project boundary.

**RB #2:** This project is bad and will bring a very destructive infrastructure and an engineering boondoggle to the tiny community around Desert Center.

**Response to RB #2:** The comment is noted. Engineering studies have been conducted and are found in the Technical Appendix, Section 12 of the Final Environmental Impact Report (EIR).

**RB #3:** Concerned that the “mega-dump” will be fought in the Supreme Court – a waste of tax payer money – to take land that is not theirs. It is illegal.

**Response to RB #3:** The comment is noted, and does not pertain to proposed Project or the adequacy of the Draft EIR.

**RB #4:** This is not a green project, it is a land grab. This is a money making scheme, along with solar farms and the like that will destroy more land. All of this technology could be built along roads and on buildings (where the need is). It won't make a dent in bad energy consumption; it might use more energy than it is trying to offset. Please stop this project. It is illegal and the land is part of Joshua Tree National Park.

**Response to RB #4:** The Draft EIR does not describe the Project as a renewable power generator, nor is the Project described as “green.” The Project will facilitate the integration of renewable energy into the transmission grid. The Project is an energy storage project, as defined by the state of California as “a commercially available technology that is capable of absorbing energy, storing it for a period of time, and thereafter dispatching the energy” (Assembly Bill No. 2514 [Statutes 2010, Chapter 469, Skinner]).

The cumulative impact of the Project is considered with the potential impact of proposed solar projects in Section 5 of the Draft EIR.

The remaining comments are noted and do not pertain to the adequacy of the Draft EIR.

**RB #5:** The Eagle Mountain open pit mine area is in the middle of the remotest part of Joshua Wilderness Area. That is not legal. Hikers and explorers come from all across the U.S. visit the Park for its isolate, pristine, and quiet nature. People who come upon the old open pit mine and (if allowed) the pumped energy storage project and view the type of damage we humans can do to the land, will be frustrated.

**Response to RB #5:** The baseline condition of the Central Project Area, where the reservoirs and powerhouse will be located, is a highly disturbed open pit mine which in no way resembles

**Responses to Comments on Draft Environmental Impact Report  
Eagle Mountain Pumped Storage Project**

a natural or wilderness setting. The Project will not change the character of the landscape in a significant manner, since the majority of the landscape is currently a large scale open pit mine with associated tailing piles.

Please refer to Figures RB-1 through RB- 4, which illustrate representative views from several ridge tops located within the Joshua Tree National Park's (JTNP) boundary nearest to the Project site. Viewers accessing these ridge tops will observe features located outside the JTNP's boundaries, including some of the proposed Project features. These proposed features will be visible within an existing setting that is completely and extremely disturbed by open pit mine tailings, and other features associated with past mining activity. As noted previously, these proposed Project features are all located miles outside of the JTNP boundaries, and while the reservoirs represent a change in visual character, the change is insignificant within the context of the mine.



Responses to Comments on Draft Environmental Impact Report  
Eagle Mountain Pumped Storage Project

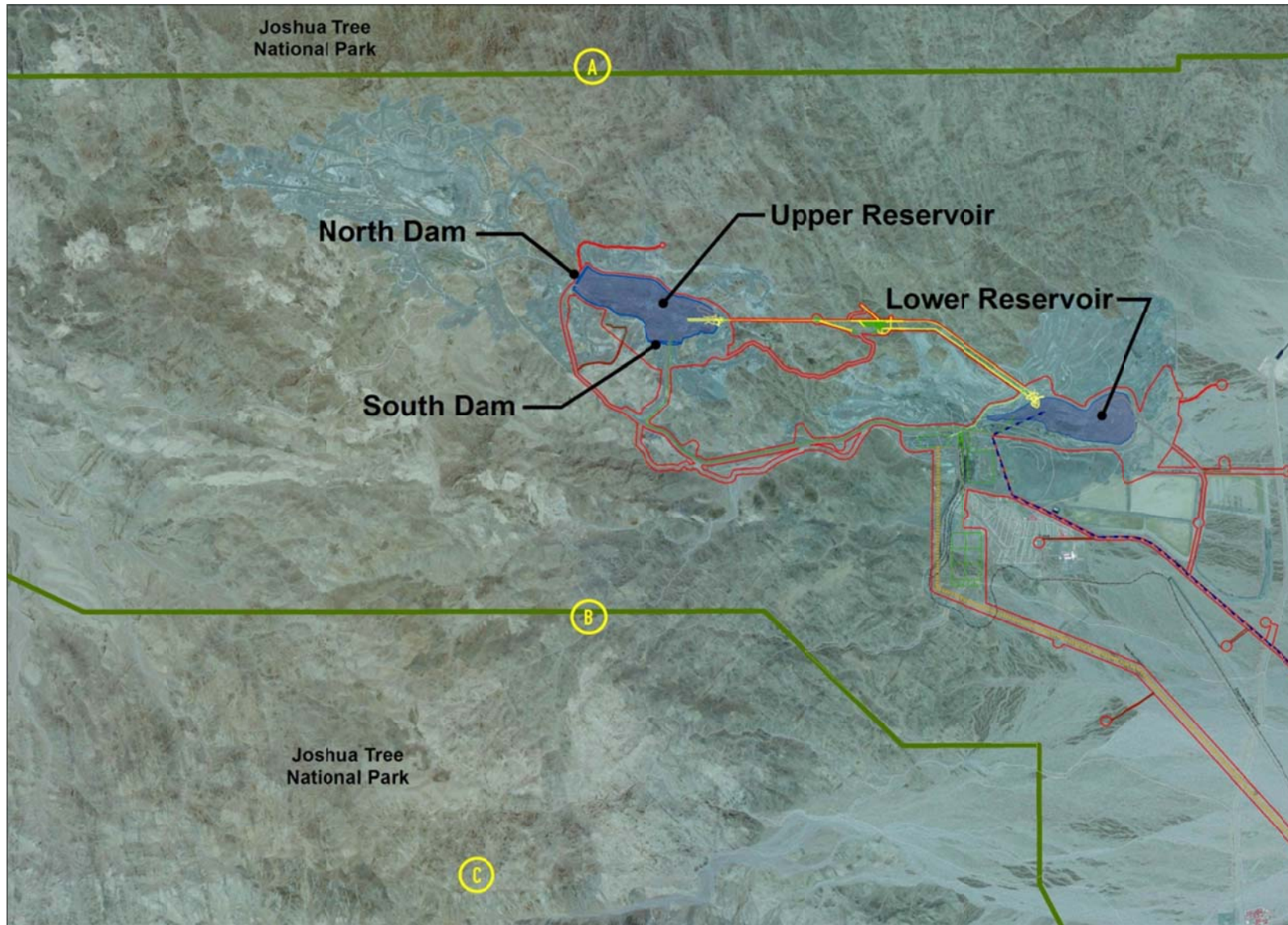


Figure RB-1: Aerial Overview of the Project area and proposed Project features, indicating viewpoint locations at higher elevations within National Park Boundaries. Green lines indicate the JTNP boundaries.

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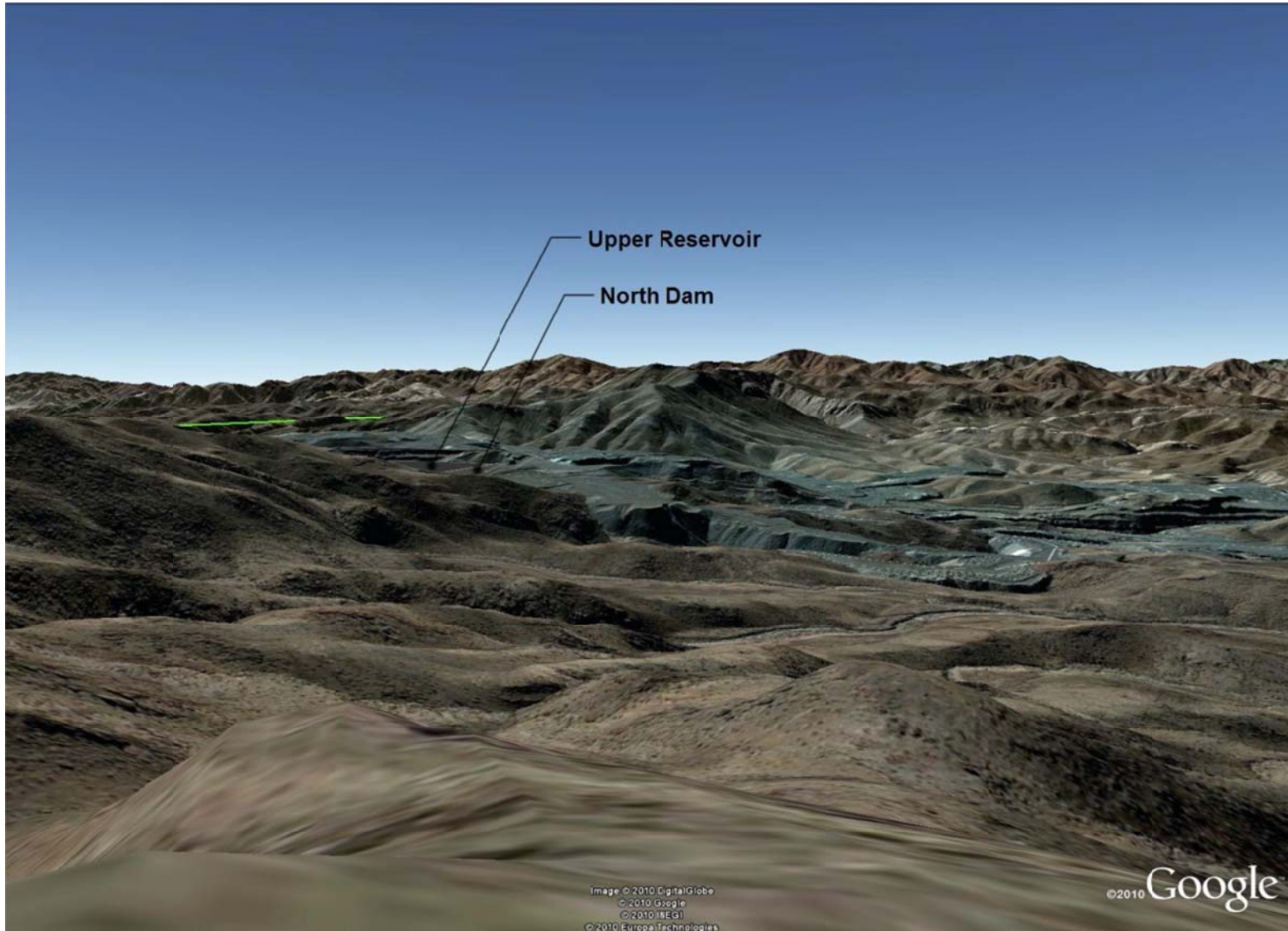
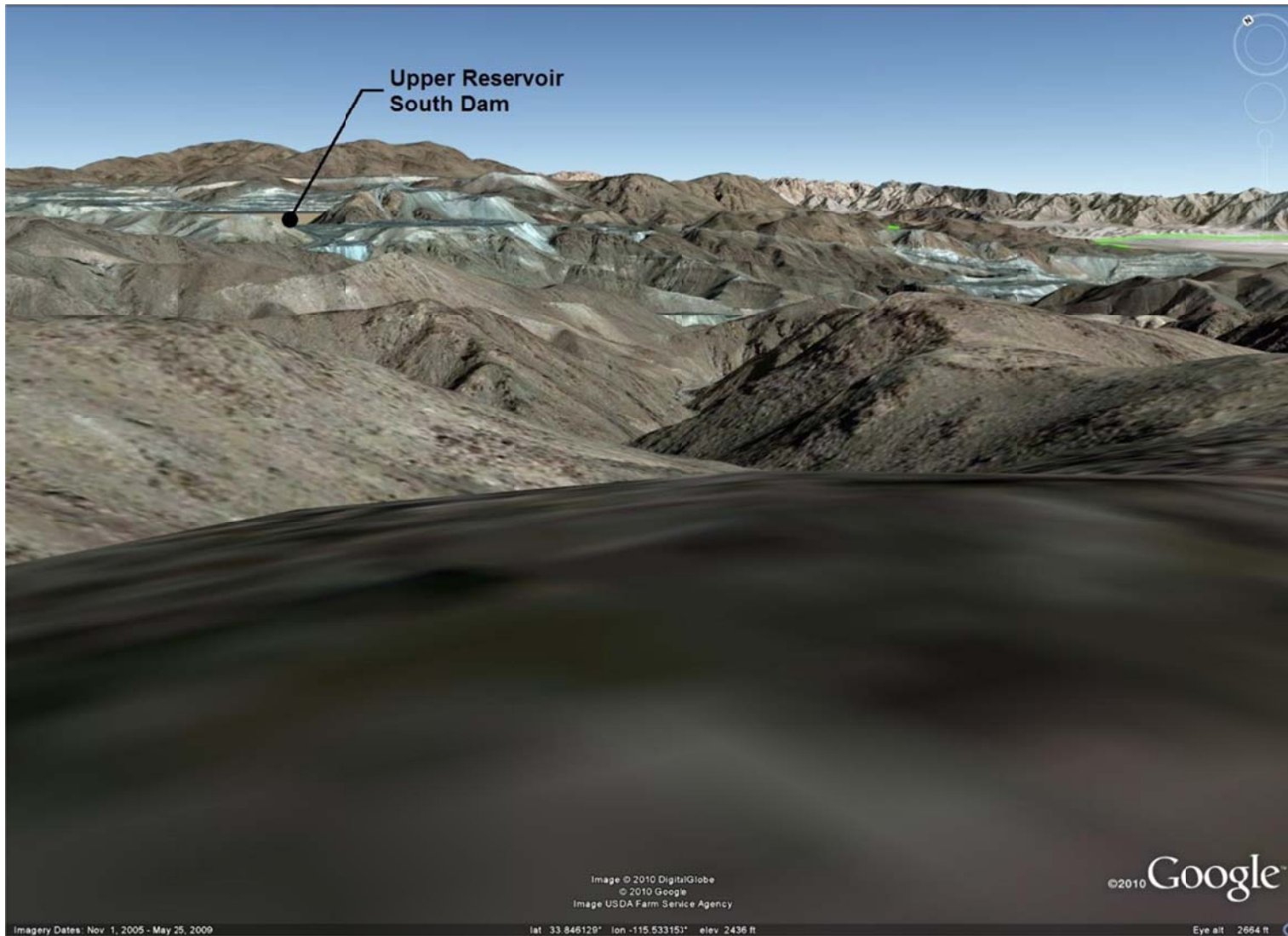


Figure RB-2: Viewpoint A. View to south from highest elevation peak along north JTNP boundary (see Figure RB-1 for location). Part of Upper Reservoir north dam and reservoir would be visible approximately 1.4 miles away. Green lines indicate the JTNP boundaries.

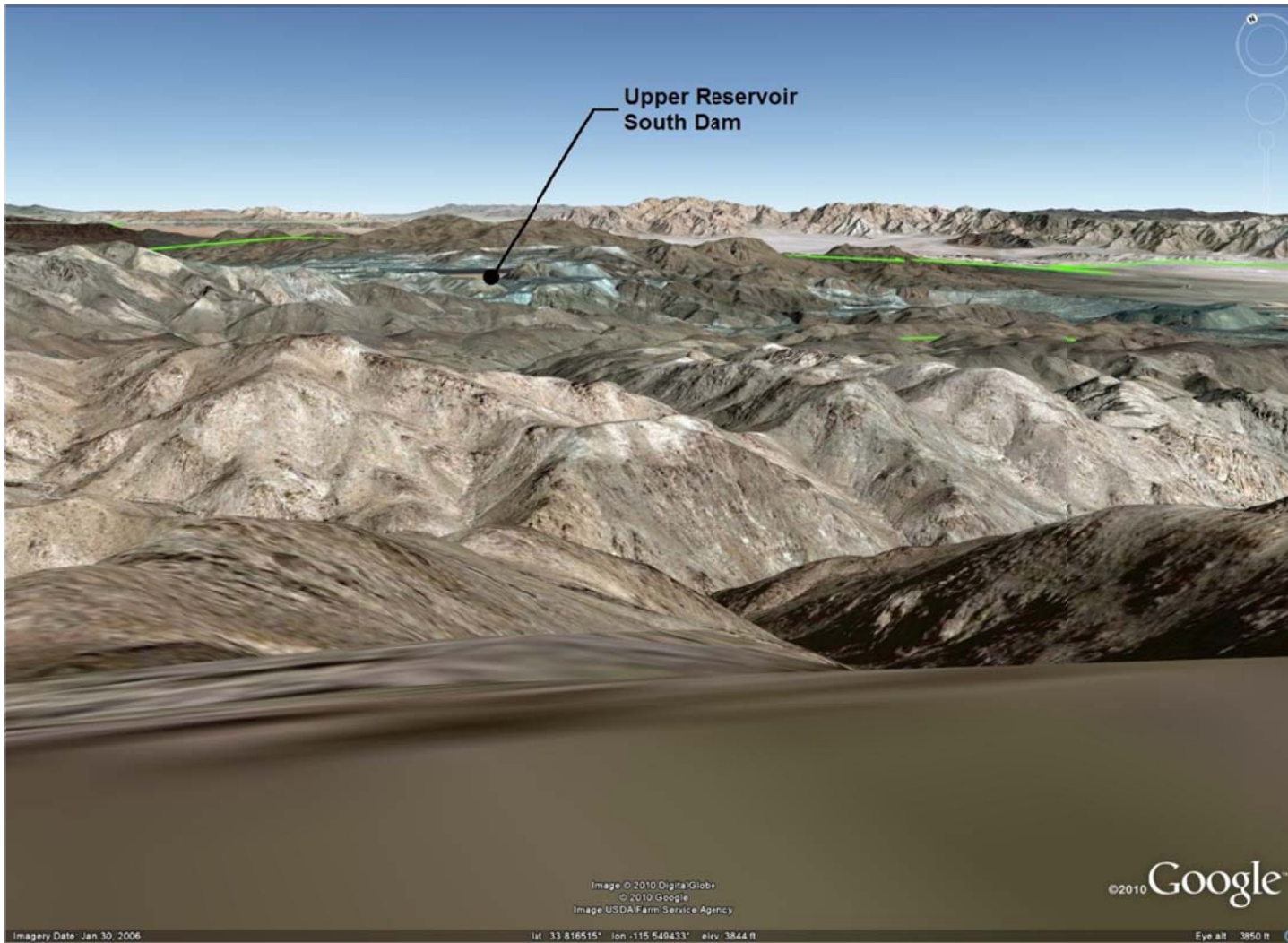


**Responses to Comments on Draft Environmental Impact Report  
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**Figure RB-3: Viewpoint B. View to north from highest elevation peak along south JTNP boundary (see Figure RB-1 for location). Part of Upper Reservoir south dam and reservoir would be visible approximately 2 miles away. Green lines indicate the JTNP boundaries.**

**Responses to Comments on Draft Environmental Impact Report  
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**Figure RB-4: Viewpoint C. View to north from highest elevation peak within JTNP south of Project area (see Figure RB-1 for location). Part of Upper Reservoir south dam and reservoir would be visible approximately 4 miles away. The Lower Reservoir site screened by intervening topography. Green lines indicate the JTNP boundaries.**

## **Responses to Comments on Draft Environmental Impact Report Eagle Mountain Pumped Storage Project**

**RB #6:** Better to lay another long pipe down the grade from Chiricco Summit to Mecca and pump water there, tied to the already existing grid. How much simpler and how much less destructive along the existing road and right-of-way with access to energy from building integrated photo voltaics on houses in the desert, with far less distance for transmission.

**Response to RB #6:** The comment is noted, and does not pertain to the adequacy of the Draft EIR. An array of alternatives to the Project was evaluated; this information can be found in Section 4 of the EIR.

**RB #7:** Save the exquisite environment, habitat, and biodiversity of the land in Joshua Tree National Park and the included Eagle Mountain Open pit mine area within the Park. Keep Eagle Crest Energy Company out of our National Park. Another huge problem with this pumped energy storage facility is the impossible barrier it will create in the ecosystem of the back country wilderness of Joshua Tree National Park. During the years of this potential illegal construction the haul road leading to the site will be filled with trucks and equipment. After that, the road will continue to be a threat, but the illegal facility itself will block wildlife and harmfully diminish the fragile biodiversity of this beautiful remote area of Joshua Tree National Park.

**Response to RB #7:** The former mine area is not within the JTNP, and has not been converted to native habitat since mining stopped. Potential impacts of the Project on wildlife movement can be found in Section 3.5.3.3 of the Draft EIR. Because of the disturbed nature of the Central Project Area, the Central Project Area is not wildlife habitat at the present time. The transmission line and water pipeline (which will be buried) will not be barriers to wildlife movement.

**RB #8:** This project will completely alter the back country experience to anyone who cares to visit this distant and quiet, remote part of the Wilderness. It is our land, part of the Joshua Tree National Park. All the schemes and land transfers that have been tried and found to be illegal – every step of the way – shows how desperate these companies are to steal this land.

Please do not allow this, or any other illegal project, to go any further. The Park is waiting for the squatters to be evicted.

**Response to RB #8:** The comment is noted, and does not pertain to the adequacy of the Draft EIR. Please see also Response to RB #5. The potential for visual impacts to JTNP visitors is addressed in Response to RB #5. The existing condition of the Central Project Area is highly disturbed from years of open pit mining.

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