

CITIZENS FOR THE CHUCKWALLA VALLEY

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“DON’T WASTE THE DESERT”

February 16, 2009

Via Electronic Filing

Kimberly D. Bose, Secretary
Nathaniel J. Davis, Sr., Deputy Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington DC 20426

Via Email

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RE: COMMENTS ON SCOPING DOCUMENT 1 FOR THE EAGLE MOUNTAIN PUMPED STORAGE PROJECT FREC PROJECT NO. P-13123-000

Dear Secretary Bose and Deputy Secretary Davis,

The Citizens for the Chuckwalla Valley (“CCV”) thank you for this opportunity to provide comments on the Scoping Document 1 (“SD1”) issued by the Federal Energy Regulatory Commission (“FERC”) and the State of California State Water Resources Control Board (“SWRCB”) for the Eagle Mountain Pumped Storage Project, FERC No. 13123 (“Project”). **We request at this time to be added to your mailing list for the Project.**

CCV has been involved in this project since 1990 when it was included in the initial Environmental Impact Report/Environmental Impact Statement (“EIR/EIS”) conducted from 1990 – 1997 for the Eagle Mountain garbage dump proposed by Kaiser Ventures and Mine Reclamation Corporation (“Kaiser/MRC”). CCV is a grassroots group formed to prevent the development of the proposed Eagle Mountain dump and to be involved in participating in policies that enhance natural, cultural, scientific, and human environment. (From the beginning CCV felt water and the world’s largest garbage dump simply do not mix). CCV understands and recognizes the need for economic development in desert communities, but do not believe that project which will result in an irretrievable commitment to our community’s and Joshua Tree National Park’s (“JoTr”) natural resources are appropriate. For information on how the environmental community want to see this area grow, see <http://www.ccae.org/rockinforjoshuatree/theNEST/narrative/index.html>, that contains the “Vision for Eagle Mountain” designed to promote tourism, protect desert communities and JoTr’s resources. Members of CCV and other environmental groups have successfully challenged the Eagle Mountain dump which resulted in setting aside the exchange of land Kaiser/MRC needs for it’s dump. The Polluters appealed the lower court’s ruling and once the 9th Circuit Court of Appeals rules favorably, the lands in question will revert back to the Bureau of

Land Management (“BLM”) then ultimately the National Park Service (“NPS”).

We submit these comments to identify some of the areas that we believe warrant environmental studies and analysis as part of the environmental review of the Project in accordance with the requirements of National Environmental Policy Act, 42 U.S.C. § 4321 *et seq* (“NEPA”), and the California Environmental Quality Act, California Public Resources Code §§21000-21177 (“CEQA”).

Seismicity: CCV would like comprehensive studies regarding seismicity. The construction of liners, dams, and ponds have the potential to breach resulting in groundwater and surface contamination from the Project as well as the dump. Please include a detailed cumulative analysis.

What is the potential ground shaking at Eagle Mountain? Please explore random, non-fault specific events inside the site and estimate the PGA. What affect will a 6.75 event have on the liners of the pits involved, as well as brine ponds with the epicenter at the site?

How will horizontal deformation be mitigated? All liners, pipes, dams, ponds will be sheared fully or partially. Leakage and flooding will occur. What analytical method will be used to determine the extent of damage?

What physical barriers, berms, techniques, and engineering methods will you use to stabilize the liner to the slopes? Where will these measures be employed in the design and construction of the liner?

Bulletin of the Seismological Society of America Vol. 85 No. 2, pages 379 and 405, April 1995. clearly define the Eagle Mountain site as containing diverse or hidden faults. Each zone is assumed to have randomly distributed earthquakes.

Utilizing conservative G Force estimates is inappropriate, when the State and Federal laws require a design that would resist relatively high intensity forces? Maximum horizontal acceleration needs to be the criteria. Maximum possibilities should be the criteria. PGA should be .63. Why use a PGA which is smaller than what potentially is possible? How can you predict where ground slippage will occur? Will slippage vary with source, direction, and intensity of ground movement? Why not?

The project is surrounded by active faults, and also show many unnamed little or subsurface faults. These unnamed, subsurface faults need inclusion as to their potential for seismic impact? The Seismology Bulletin we discussed above states that clearly northwest trending, strike-slip faults are important sources of large - magnitude earthquakes.

Because of the web-like nature of faulting and activity along the San Andreas & the Eastern Mojave segment Southeast Transverse Ranges, Pinto Mountains, and Blue Cut Fault, it is commonly accepted that earthquakes generated on a specific fault can generate earthquakes on other separate known and unknown faults. A predictable maximum earthquake generated elsewhere and causing the Blue Cut to slip, would be larger than the 7.5. Please analyze the potential of a large Blue Cut event and the potential from an unknown site specific earthquake.

Blind thrust faults are present and difficult to predict. Please address the potential impacts of a blind

thrust fault. A 7.3 is possible. You need to analyze all of the modeling with this potential in mind. Blind thrust faults demonstrate importance as hazards. There is much uncertainty of the extent, geometry, depth, and origin. Show how you will resolved these issues.

Previous modeling shows the Palos Verdes fault inaccurately in origin, direction, and connections to other faults. Also Whittier was classified as inactive and now is classified as a major active strike-slip fault. How can you guarantee that the same flaws won't reoccur in your modeling?

Again, we see Northridge, with a displacement of 1.5m to 3.5m, that the causative fault was not previously mapped. Landers, which unlike Northridge, ruptured the surface, contain many previously unmapped faults. No evidence before showed this group would produce such large earthquakes. An integrated Approach for Assessing Potential Earthquakes must be used.

Implementing satellite technology, the rate of slip for the Blue Cut could be easily and cost effectively determined. This ought to be done.

Little is known about accumulation at lesser faults. What have you done to increase this knowledge relative to Eagle Mountain?

Models show strain release to the biggest faults is not consistent with recent geodetic data ! How will this affect small faults in the site area?

Cal Tech and the USGS put out a week earthquake report for the week of August 8 - 14, 1996. It states, "...Landers triggered activity as far away as Yellowstone...". Larger earthquakes will trigger activity on known as well as unknown faults. What cumulative affect will occur at the site?

After the Landers quake, a section of sidewalk at Eagle Mountain rose 12 inches. The sidewalks, door & window jams are constantly shifting and in need of repairs. This is because of the unstable ground. How will you stabilize a sheet of plastic, when concrete and steel are easily shifted by the constant ground movement?

Please include field studies to show activity rates.

There needs to be trenching or bore holes performed on faults and old geomorphic features (7) at the site? Also, potential under ground sources must be evaluated with data to substantiate any conclusions.

Not all faults recognized as active have been zoned. Include all known active faults, even if not zoned yet. USGS has a bunch you need to include.

Ground water: It has been determined that the action leakage rate for plastic liners is 21 gallons per acre per day with one foot of head pressure. This has been concluded by Dr. Bonaparte who was commissioned by the EPA to study action leakage rates when promulgating Subtitle D regulations for dumps. There will be hundreds if not thousands of feet of head pressure from the Project and the dump. How will the integrity of the Chuckwalla aquifer be affected by leachate from the Project and the dump?

Further, if the dump happens to come to fruition, how will the Project affect their leachate collection system? According to Drexel Institute, all leachate collection filtration systems will fail. Flow rates are reduced over time because of organism, mineralization, and fine particle clogging of the filter. All forms of remediation - back-flushing with water, gas, and leachate are temporary and never return to flow rates of original design. Sumps will not be able to remove the leachate at potential generation rate, much less the inclusion of direct infiltration due to the Project. The removal system will fail. What is the plan is to remediate the problem? Massive releases of water from the Project and garbage juice from the dump will occur under the Project and through side wall liners and our water will be poisoned forever.

How will side slopes of the pits hold up over time? The author of this has lived in Eagle Mountain going on 28 years. The mining pits once had defined 40 ft slopes, but now are a victim of erosion and the slopes are beginning to regain their natural repose. Explain how the liners will hold up to shear tension.

The Project may use Chuckwalla Valley groundwater or water from the MWD canal has been talked about in several letters to FERC. It has been established that the dump will exacerbate over draught in the Valley to complete depletion of the groundwater. If ground water is used, clearly the projects together will make this happen at an accelerated rate. All Chuckwalla Valley residents (except those who live at MWD's pumping plant at Eagle Mountain) depend on ground water to live. How will residents and JoTr be assured there will be no impacts from water depletion?

If water from MWD via the Colorado River Aqueduct is used, we have a problem with water quality. A cumulative impact study of this must be conducted. Metropolitan Water District of Southern California (MWD), proposes the Upper Chuckwalla Valley Water Storage Project. MWD is a quasi-governmental agency whose mandate is to supply drinking water for more than 16 million Southern Californians. In the 1930's, an aqueduct was built from the Colorado River that conveys water to various pumping stations through the desert, to its ultimate destination, Lake Matthews. The open aqueduct flows next to Joshua Tree National Park, to its pumping plant located in the Eagle Mountains. The plan is to pump water from the Pinto Basin into the aqueduct and pump Colorado River water from the aqueduct onto the desert floor and allow it to percolate into the underground water basin. During times of drought, extraction wells will pump the water back into the aqueduct. One of the stated reasons for the project is to dilute the polluted river water which contains perchlorate, an oxidizer used in developing rocket fuel that disrupts the thyroid, creating problems with metabolism, reproduction, development and cancer in children, with our clean water. CCV is concerned about perchlorate precipitating on the surface, then becoming airborne from winds, and being taken up by plants and eaten by animals. CCV also anticipates a PM10 problem at the mouth of the Pinto Basin (Upper Chuckwalla Valley) as a result of this plan that currently is non-existent. Residents are also concerned about exposing arsenic, that naturally occurs in desert soils, by denuding the desert. CCV is extremely concerned with the potential impacts to Desert Center/Eagle Mountain and Joshua Tree National Park's ground water quality and quantity, potential significant impacts to air quality, as well as other environmental impacts to desert natural resources. Water transfers between the Project and MWD will have significant impacts to the area.

Our concerns for Joshua Tree National Park: Introducing a large source of water where it currently is scarce will have significant impacts on the resources of Joshua Tree National Park. The application for license attempts to portray the proposal to build two giant lakes less than a mile from

pristine desert national park-land as environmentally sound and without significant impacts on fish, botanical, and wildlife resources. The document reaches this conclusion by focusing attention on the immediate project area (the abandoned pit mine) and by specifically addressing threatened and endangered species of state and federal concern. By taking this narrow approach the project proponents are able to ignore the much larger ecological questions raised by their project. They also ignore the significance of lands immediately outside their project boundary and the mandate of the National Park Service to preserve and protect these resources for future generations.

The Project plans on utilizing existing wells or other sources from the Chuckwalla Basin aquifer but does not identify actual locations or the owners of the water rights. Any water source utilized from within the Chuckwalla Basin will require an analysis of potential impacts to the Pinto Basin aquifer and JoTr's water rights. If the Chuckwalla is so located that withdrawals and a corresponding decline in the water table will induce flow from the three basins feeding the Chuckwalla. The three basins referred to are the Pinto, Hayfield, and Cadiz. Flow from the Pinto Basin could result in a decline in the water table with resulting impacts on the flora and fauna of the area.

Drawdown of the aquifers is not expected to affect local springs. We seriously question this conclusion and would require additional studies to analyze the potential impacts to local springs. The springs in the area surrounding the project are important water sources for local wildlife including Desert Bighorn Sheep. There is a deficiency in reliable data and observations on the existing springs in the area. Since the Desert Protection Act was enacted, Buzzard Springs is within the new boundaries of Joshua Tree National Park.

Colonization of the reservoirs by fish and the dreaded mussel should CRS water be used, is likely. We maintain that establishment of entire biological systems in these reservoirs is a real possibility. Typically one would expect growth of "weedy" species that might include alien or exotic species. If this project were somewhere in a city, perhaps these biotic components would be insignificant, but coming as they do to a pristine desert ecosystem, all of these organisms constitute an uncontrolled, probably uncontrollable eutrophication experiment. By adding large amounts of biological material to what should be a pristine, arid, part of the world, far-reaching biological effects are likely which cannot be foreseen and which need to be addressed.

While it is true that existing fish resources are not likely to be affected, that is not the point. The issue is that fish and their associated algal and invertebrate food bases will be added to an area where they do not naturally belong, only a 1/2 from national park land, designated wilderness, and an international biosphere reserve. All of these designations intended to preserve and protect the unique and highly desirable natural resources of the Mojave and Colorado Deserts.

If this were a city area where plants and animals are already largely absent, such species lists might be of less concern. But here in southern California's most pristine desert, such presence or absences are extremely important as are the ecological forces regulating these populations. Specifically, it is these natural resources that were set aside by the Congress in their creation of Joshua Tree National Monument.

Although the reservoirs will fluctuate in depth on some days, there are numerous organisms that can and will quickly colonize such a water body. "Weedy" algal and planktonic communities can be

established very quickly and are extremely resistant to disturbance. Aquatic invertebrates are aurally dispersed and rapidly colonize any body of water. Fish may or may not become established, but certainly there are species that can survive the rigors these impoundments will impose. It is clear that other cascading effects up the food chain will occur because of the sudden establishment of a large food and water source in what should be a pristine arid desert. Home ranges of small animals will be altered by the sudden availability of this water, predators will increase or move home ranges to reap the windfall in prey. The result will be a large scale biological manipulation with unpredictable results. The situation might be described as a biological experiment without controls.

Bird species will definitely colonize the reservoir. Every birder knows that birds use available water sources. Migrant species may stop for a short time and continue their trip when watered and rested. Other less long-range travelers may stay and colonize areas when water is made available. "Weedy" species, such as gulls may be particularly troublesome. Bird species already using the nearby Salton Sea could very easily colonize the project site. Raven populations are already known to pose a problem to tortoises.

New studies would be required before any of the proponents' assertions can be accepted. Such study, occupying several years, would test the null hypothesis that adding a huge lake to a desert has no effect on nearby plants and animals. The applicant might have indicated studies they proposed to conduct rather than concluding in advance that no effect would result.

National Park Service radio tagging studies have shown that tortoises are active throughout the summer months although they are very hard to find then. JoTr represents the most pristine, most protected, and for that reason, most important population of tortoises in the area. Desert tortoise densities in the Pinto Basin have been documented at 200-250 per square mile. Clearly JoTr is an important reservoir for tortoises and this project will have far-reaching effects on the national park lands immediately adjacent.

"Impacts on the desert tortoise would be limited to disturbance during construction and some loss of habitat due to permanent, above ground project facilities," is both untrue and misleading. The applicant has neither studied nor cited other studies supporting this claim. The widespread ecological effects of operational impacts will affect the desert tortoise. Most critically, the project will have impact on predator populations in the area and on raven numbers. The applicant once again conceals ecological problems by addressing close-by direct effects whereas long-term indirect effects are the actual concern.

The applicant describes using fencing around the reservoirs and other project areas. Fencing will be necessary to prevent entry of large mammals and people. But such fencing will have minimal effect on the many small mammals, birds, and reptiles that live in this area. Most of them are small enough or sufficiently mobile to get over, under, or through the fence.

The applicant discusses conducting raven monitoring studies. Raven numbers will undoubtedly increase with the combined water, food, power lines, towers, and roads resulting from this project.

Each of these is a direct aid to raven increase, together they could produce a significant synergistic increase. Work by Camp, Knight and Freilich 1993 (Common raven populations in Joshua Tree National Monument, California. *Western Birds* 24: 198-199) showed the project area to have

extremely low raven numbers leading the authors to conclude the area to be among the most pristine in southern California.

Besides monitoring their numbers, the applicants have no plan for how to deal with this threat to tortoises. Although they suggest using non-lethal methods and don't even mention direct reduction of ravens, such aggressive techniques will undoubtedly be required. The applicants do not show commitment to such aggressive reduction nor do they explain how they will handle the problem ecologically, financially, or logistically.

The project proponents plan to build two large lakes in the midst of a pristine desert ecosystem only a 1/2 mile from a national park, designated wilderness, and International Biosphere Reserve. Each of these designations; national park status, wilderness, and Biosphere establishment was bestowed on Joshua Tree National Monument in consideration of world class, precious resources deemed valuable to the people of the United States and to the people of the World. The botanical and wildlife studies mentioned in the application give attention to the barest minimum of environmental concerns for those species of special status. The few threatened or endangered species addressed are already in serious trouble. Although parks and biosphere reserves may be natural refugia for these species, the National Park Service is charged with the long-term maintenance of **all** species and intact, functioning ecosystems.

To be a viable project and neighbor to a national park site, the proponents would have to conduct studies addressing the null hypothesis: "Construction of two large lakes in pristine desert does not cause effects on the plants and animals of the land about 2 km away." Only with these results in hand could the applicant then go further and propose suitable mitigations or modifications based on data. The selection of bats and ravens for attention in the section on monitoring studies is arbitrary. It is true that bats include a number of Category II species and that ravens pose special concern to tortoises. But this project threatens widespread ecological impacts that would affect many more species than these few.

The application states that all disturbed areas would be seeded to reduce erosion potential. There is no discussion on whether native or non-native vegetation would be used. To reduce any potential impacts to JoTr, we strongly suggest that only native vegetation be allowed for erosion control.

Reservoirs and brine pond(s): We request these be covered to prevent evaporation and to exclude birds and other species from drinking the water or the brine. The Glamis gold mine had arsenic ponds for their heap-leach gold mine in the Imperial Valley, CA. Birds, attracted to this source of what they thought was water, were attracted and met with death upon consuming the liquid. The mining company placed a cover over the ponds to eliminate the problem. They were pleasantly surprised to learn that not only were bird species now protected, the liner paid for itself over several years in saved water. The reservoirs and the brine pond(s) for the Project must be covered to protect animal species and prevent loss of precious water.

Pipelines & transmission lines: A complete analysis of the pipelines to be constructed if Chuckwalla water wells are used must be conducted. Also, will transmission lines be constructed or will the Project tie into existing MWD transmission line? A complete cumulative analysis of impacts from all proposed transmission lines in the Chuckwalla Valley must be conducted.

Lastly, how can pumping billions of gallons of ground water be labeled “renewable energy”? Simply put, “There is no life without water”. Chuckwalla Valley residents depend on a clean supply of groundwater and this project alone, or with the dump will deplete our precious water resources.

Respectfully Submitted

Donna Charpied
Executive Director
Citizens for the Chuckwalla Valley

Cc: Interested Parties