

No. 11-15364

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

SAVE STRAWBERRY CANYON,

Appellant,

v.

**STEVEN CHU, AUNDRA RICHARDS, and UNITED STATES
DEPARTMENT OF ENERGY,**

Appellees

APPELLANT'S OPENING BRIEF

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CORPORATE DISCLOSURE STATEMENT

Pursuant to Rule 26.1 of the Federal Rules of Appellate Procedure,
Appellant Save Strawberry Canyon submits the following disclosure statement.

Appellant Save Strawberry Canyon does not have any parent corporations and does not issue stock. Therefore, there is no parent corporation or any publicly held corporation that holds ten percent or more of appellant's stock.

Dated: September 21, 2011

Respectfully submitted,

/s/ Stephan C. Volker _____

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I. INTRODUCTION

Plaintiff Save Strawberry Canyon (“plaintiff”) is a public interest conservation organization of concerned citizens. It appeals the district court’s ruling, which declined to set aside the approval of the proposed Berkeley Lab Laser Accelerator (the “project” or “BELLA”) and its Environmental Assessment (“EA”) by defendants Steven Chu, Aundra Richards, and the United States Department of Energy (hereinafter, collectively, “DOE”). In so doing, the court overlooked DOE’s failure to comply with the National Environmental Policy Act, 42 U.S.C. section 4321 *et seq.* (“NEPA”), and the Administrative Procedure Act, 5 U.S.C. sections 701-706 (“APA”).

The project entails construction of a uniquely powerful, experimental, radiation-emitting, hazardous waste-producing, laser accelerator in Blackberry Canyon at Lawrence Berkeley National Lab (“LBNL”) in Berkeley, California. The proposed location for the project lies in close proximity to private residences and the Lawrence Hall of Science, a children’s science museum. The site is extremely vulnerable to earthquakes and wildfires and is located within the State of California’s officially-designated hazard zone for earthquake-induced landsliding. Despite the obvious environmental risks posed by BELLA, DOE refused to prepare an Environmental Impact Statement (“EIS”) to analyze its

potentially significant impacts. Instead, it elected to address these concerns in an EA. Because there are substantial questions about whether the project may have significant impacts, an EIS was required.

Furthermore, to the extent that the EA attempts to discuss the impacts of BELLA, it completely glosses over *the key concern* about this project: whether construction and operation of the facility on unstable steep slopes near the Bay Area's most dangerous earthquake fault and in the vicinity of private residences and a children's museum threatens the public health and safety. The EA fails to adequately disclose and discuss the project's radiation impacts, hazardous waste, and geologic instability. Even the DOE employees charged with overseeing the preparation of the EA admitted, in writing, that "the EA does not do a very good job" analyzing radiation-related impacts. Excerpts of Record, Tab 11, p. 459 ("ER11:0459"). Instead of preparing an EIS as NEPA requires, DOE opted to see if any public commenter identified the errors and informational gaps in the EA, at which point DOE believed – incorrectly – that it could simply respond to the public comments rather than prepare the required EIS. *Id.* ("If the public comments on the lack of accident analysis we can provide the analysis in the response to the comment"). This type of hide-the-ball approach permeates DOE's analysis of BELLA and highlights DOE's failure to conduct an adequate

environmental review of the project.¹

DOE's violations of NEPA did not end there. As shown below, it failed to consider safer alternative locations, respond to key public comments, and describe and discuss mitigation measures that would address the project's adverse impacts. DOE also violated NEPA's prohibition against incorporating voluminous documents into an EA by reference.

The district court's ruling upholding DOE's approval of the project ignored these critical NEPA deficiencies. Accordingly, this Court should reverse the judgment below and direct DOE to prepare an EIS addressing the project's significant health and safety impacts before considering the project for approval.

II. JURISDICTIONAL STATEMENT

The district court had jurisdiction over plaintiff's claims under the APA, 5 U.S.C. sections 701-706, and 28 U.S.C. sections 1331 (action arising under federal laws), 1361 (mandamus), and 2102-2202 (declaratory judgments). This Court has jurisdiction under 28 U.S.C. section 1281 because this appeal is from a final

¹ *E.g.*, ER13:0544 (“[i]f EPA submits” comments on the project’s radionuclide emissions “from their review of the EA we can answer it in the reply to comments”); ER12:0460 (DOE email advocating minimizing discussion of operational traffic in the EA and then “focus[ing] on any particular issues that come back in the public comments in [DOE’s] Final EA response,” and admitting that this strategy is “not the perfect way to prepare an environmental analysis.”).

judgment entered December 20, 2010, disposing of plaintiff's claims. ER 1.

Plaintiff's appeal, filed February 11, 2011, was timely under FRAP 4(a)(1)(B).

III. STATEMENT OF ISSUES

This appeal presents the following three issues:

1. Whether DOE was required to prepare an EIS, instead of simply relying on an EA, prior to project approval;
2. Whether DOE's EA adequately addressed the project's impacts, alternatives, and mitigation measures and prepared appropriate responses to comments; and
3. Whether DOE improperly incorporated documents by reference into the EA.

IV. STATEMENT OF FACTS

On June 17, 2009, DOE issued a Notice of Availability of a Draft Environmental Assessment of BELLA. ER10:0455-0458. BELLA is part of DOE's High Energy Physics ("HEP") program, which "supports the development of particle accelerators at increasingly higher energies," so as to "provide intense energy beams for scientific and technological research." ER3:0079. BELLA would be capable of accelerating particles to 10 giga electron-volts (10 billion electron-volts) of energy in a distance of 1 meter. *Id.* Its "peak power level" is 1 petawatt (1PW = 10^{15} W).² ER3:0086.

²Although not disclosed in the record, according to DOE's Lawrence Livermore National Laboratory website, 1 petawatt is about 960 times the entire electrical

Operation of such an accelerator “produce[s] a variety of radiation fields,” including “neutrons, gamma rays, muons, and other radiations of which neutrons *have the highest intensity, and are the most damaging from a health risk point of view.*” ER3:0174 (emphasis added); ER16:0643 (“Several types of radiation will be generated [during project operations] including gamma-rays, neutrons and photomuons. There may also be activated gas production”); ER3:0103 (“When the electron beam terminates in the beam dump, its energy would be converted to radiation in the form of gamma-rays, neutrons, and photomuons). Indeed, DOE admitted that “the proposed action would have potential adverse effects from production of radiation during operation of the laser.” ER14:0552.

The project would be located in Blackberry Canyon near high density residential neighborhoods in Berkeley, California. The project site is located two blocks (590 feet) from the nearest private residence and three blocks (728 feet) from the Lawrence Hall of Science, a popular children’s museum frequented by young children throughout the year, including frequent field trips from area schools. ER3:0113 (graphic depiction of the proximity of the residential neighborhoods and the Lawrence Hall of Science to the project site). The project site is situated in a steeply sloped, seismically active area that is prone to

generating capacity of the U.S. See, <https://www.llnl.gov/str/Petawatt.html>

groundshaking, landslides, and wildfires. ER3:0099-0100. It is located about 1600 feet from the Hayward Fault, in the State of California's "official hazard zone for earthquake-induced landsliding." ER7:0009.

The proposed project would require extensive modification of 7,000 square feet of Building 71 at LBNL, and would involve the addition of another 2,000 square feet to that building. ER3:0068. Various widths and types of shielding would be installed around the actual accelerator, with the aim of protecting workers and nearby residents from the project's extreme radiation emissions. ER3:0069. According to the DOE's EA, construction would involve excavation about 16 feet below floor level to install piers to support the shielding. ER3:0070. Modifications to the project since the issuance of the EA indicate that the piers will be "designed to go deeper than previously projected (approximately 25 ft now. . .)." ER6:0001.

The project site is currently contaminated from past LBNL use and project demolition and construction activities will generate yet additional hazardous waste. *Id.*; ER3:0089 ("Approximately 10 percent of the shipments of materials generated by the Proposed Action would be expected to have some hazardous characteristics"). DOE predicted that the following hazardous waste materials are likely to be present at the project site: asbestos, lead, beryllium, poly-chlorinated

biphenyls, radioactive materials, Americium-241, Cesium-137, and Curium-244. ER3:0102-103.

After receiving public comment, DOE released the Final Environmental Assessment, Finding of No Significant Impact (“FONSI”), and Approval Memo on September 4, 2009. ER, Tabs 3 and 4 (“ER3, 4”). DOE concluded that the project would not have any significant impacts and accordingly approved the project without first preparing an EIS. *Id.*

Plaintiff filed its Complaint on February 25, 2010, and a First Amended Complaint June 17, 2010. After summary judgment briefing and a hearing on the matter, on December 20, 2010, the district court held that no EIS was required, the EA was adequate, and therefore that DOE did not violate NEPA when it approved BELLA. ER2. Appellant timely filed a notice of appeal on February 11, 2011. ER5.

V. STANDARD OF REVIEW

This Court reviews the grant of summary judgment *de novo*, “‘view[ing] the case from the same position as the district court’ and apply[ing] the same standards.” *Brower v. Evans*, 257 F.3d 1058, 1065 (9th Cir. 2001). Hence, this Court must determine, based on the same record, “whether any genuine issue of material fact exists precluding summary judgment and whether the district court

correctly applied the substantive laws.” *Idaho Sporting Congress, Inc. v. Rittenhouse*, 305 F.3d 957, 964 (9th Cir. 2002).

The APA, 5 U.S.C. section 706(2)(A)-(D), governs review of appellants’ NEPA claims. *American Disabled for Attendant Programs Today v. U.S. Dept. of Housing and Urban Development*, 170 F.3d 381, 383-84 (3d Cir. 1989). Under the APA, this Court “shall decide all relevant questions of law, interpret . . . statutory provisions, [and] . . . set aside agency action . . . found to be . . . arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law . . . [or] without observance of procedure required by law.” 5 U.S.C. §706(2)(A), (D).

With regard to NEPA claims, the APA applies as follows:

In reviewing an agency’s decision not to prepare an EIS, the arbitrary and capricious standard under the APA requires this court to determine whether the agency has taken a ‘hard look’ at the consequences of its actions, based [its decision] on a consideration of the relevant factors, and provided a convincing statement of reasons to explain why a project’s impacts are insignificant.

Barnes v. U.S. Dept. of Transp., ___ F.3d ___, 2011 WL 3715694, 6 (9th Cir. 2011) (quotation marks omitted), quoting *Environmental Protection Information Center v. U.S. Forest Service*, 451 F.3d 1005, 1009 (9th Cir. 2006) and *National Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001). Here, DOE failed to take the required “‘hard look’ at the consequences” of its approval and

also failed to provide a “convincing statement of reasons to explain” why BELLA’s “impacts are insignificant.” *Id.* Therefore, DOE violated NEPA.

The district court’s order is cloaked in the language of judicial deference to agency decisionmaking. But deference is *not* accorded to an agency’s failure to adhere to NEPA’s required *procedural* mandates. *Alaska Wilderness Rec. and Tourism Ass’n v. Morrison*, 67 F.3d 723, 727 (9th Cir. 1995) (“*Alaska*”) (“distinguish[ing] the strong level of deference . . . accord[ed] an agency in deciding factual or technical matters from that to be accorded in disputes involving predominantly legal questions”). As explained in *Park County Resource Council, Inc. v. U.S. Dept. of Agriculture*:

deference to agency expertise is inapplicable in the NEPA context. The deference envisioned under this rationale is appropriate when the disputed issue is one expressly delegated to an agency that deals exclusively with the area and so has refined an expertise in its nuances. *All* federal agencies are required under NEPA to prepare an EIS if a proposed action meets the statutory criteria. No single agency has expertise in determining whether an EIS is statutorily mandated in a given instance. NEPA *imposes* duties on agencies; agencies do not exist to administer NEPA. Hence, courts are equally well-suited to examine the issue of whether a proposed action is a major federal action significantly affecting the environment.

817 F.2d 609, 620 (10th Cir. 1987) (overruled on other grounds by *Village of Los Ranchos De Albuquerque v. Marsh*, 956 F.2d 970, 971 (10th Cir. 1992)); *accord*, *Blue Mountains Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir.

1998), quoting *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998) (“[G]eneral statements about “possible” effects and “some risk” do not constitute a “hard look” absent a justification regarding why more definitive information could not be provided”).

Nor is deference to the district court appropriate because “this is a record review case” and therefore the relevant facts are undisputed. *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 960 (9th Cir. 2006). Accordingly, DOE’s noncompliance with NEPA poses legal questions reviewed *de novo*. *Id.* at 961; *City of Carmel-by-the-Sea v. U.S. Dep’t of Transp.*, 123 F.3d 1142, 1150 (9th Cir. 1997); *Westlands Water Dist. v. U.S. Dep’t of Interior*, 376 F.3d 853, 865 (9th Cir. 2004).

VI. ARGUMENT

The district court held that DOE’s Finding of No Significant Impact and approval of the project without preparation of an EIS was proper. ER2. As discussed below, the court relied on extra-record, post-decisional rationalizations concocted by DOE’s counsel to support DOE’s decision not to prepare an EIS. ER2:5-10. The court also erroneously held that the EA took a hard look at the project’s impacts. ER2:5-8. Finally, the court erroneously held that the EA properly incorporated documents by reference. ER2:10. Each of these errors is

prejudicial and all provide grounds for reversal.

A. Because BELLA “May Have a Significant Effect” on the Environment, DOE Must Prepare an Environmental Impact Statement

An agency correctly determines that it need not prepare an EIS *only if* it demonstrates that the project will not have *any* significant impacts. It is settled law that “[i]f there is a substantial question whether an action ‘may have a significant effect’ on the environment, then the agency must prepare an Environmental Impact Statement (EIS).”³ Stated another way, “[t]o trigger the need for an EIS, an appellant need not show that significant effects will in fact occur; raising substantial questions whether a project may have a significant effect is sufficient.” *Barnes, supra*, 2011 WL 3715694, 11, citation omitted. Further, as stated above, the agency must “provide[] a convincing statement of reasons to explain why a project’s impacts are insignificant.” *Id.*, 2011 WL 3715694, 6.

Agencies decide whether a project’s impacts are significant based on their “context” and “intensity.” The term “context” measures the severity of the

³ *Center for Biological Diversity v. National Highway Traffic Safety Admin.*, 538 F.3d 1172, 1185 (9th Cir. 2008), *citing Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir.1998); *see also Barnes, supra*, 2011 WL 3715694, 11 (“an EIS must be prepared if ‘substantial questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor,’” *citing Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 864 (9th Cir. 2005)).

project's impacts in light of "society as a whole (human, national), the affected region, the affected interests, and the locality." 40 C.F.R. § 1508.27(a). For instance, "in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole." *Id.* "Intensity" is determined by reference to ten factors, *six of which are present here*:

- (1) The degree to which the proposed action affects public health or safety.
- (2) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
- (3) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
- (4) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
- (5) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
- (6) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

40 C.F.R. § 1508.27(b)(2)-(7).

Each of these factors requires an EIS. The project poses significant risks to

public health and safety, due to its use of extremely powerful beams of radiation, proximity to residential uses, and the vulnerability of the project site to earthquakes, landslides, and wildfires. These same risk factors constitute “[u]nique characteristics of the geographic area,” as it is located within the State of California’s designated hazard zone for earthquake-induced landsliding.

ER7:0009. The extensive public comment on and opposition to the project due to DOE’s inadequate analysis of the project’s health and safety risks shows that it is “likely to be highly controversial,” the third factor. Similarly, because the project involves “unique or unknown risks” due to the unprecedentedly powerful radiation beams it will utilize, coupled with the site’s “highly uncertain” safety due to its vulnerability to earthquakes, landslides, and wildfires, the fourth factor is present. DOE’s approval of this hazardous use in a risky location “may establish a precedent for future actions with significant effects,” triggering the fifth of these listed factors. Finally, because DOE is continuing to approve and construct projects within Blackberry Canyon and the adjacent Strawberry Canyon in the Berkeley hills, the cumulatively significant impacts of these projects taken together show that the sixth factor is present as well.

In light of these factors and the evidence in the Administrative Record, it is clear that an EIS is required here. Far from providing a “convincing statement of

reasons” demonstrating that the project will have no significant impacts (*Alaska Center, supra*, 189 F.3d at 859), the record shows just the opposite. As plaintiff demonstrated below, it is clear from the record evidence that “there is a substantial question whether [the project] ‘may have a significant effect’ on the environment,” and therefore an EIS is required. *Center for Biological Diversity, supra*, 538 F.3d at 1185. As noted, since at least six of the ten relevant factors for determining significance are triggered, an EIS is needed, as discussed further below.

1. Context

The context here is critically important, because the project’s potential radiation impacts on nearby residential neighborhoods and the Lawrence Hall of Science, a children’s museum, are significant. Yet the section of the EA that purportedly addressed “Radiation from Laser Plasma Accelerator Operation” contains *no analysis* of the setting of the project and fails to even *mention* the adjacent neighborhoods and children’s museum. ER3:0103-0105. Similarly, the project location section also fails to address the nearby neighborhood and museum. ER3:0082. In fact, the reader must glean information related to the context of the facility from the *visual impacts* discussion, where the EA reveals in passing that the nearest residences are a mere 590 feet from the project and that the Lawrence Hall of Science sits just 728 feet from BELLA. ER3:0115. The EA

fails to adequately discuss BELLA's environs and thereby also fails to demonstrate that the health and safety effects of the project on the nearby neighborhoods and children's museum are insignificant. Sweeping these risks under the rug does not constitute the "hard look" NEPA mandates.

2. Intensity

Under NEPA, "[a]n action may be 'significant' if *one* of the [intensity] factors is met." *Center for Biological Diversity v. National Highway Traffic Safety Admin.*, *supra*, 538 F.3d at 1220, *citing Ocean Advocates v. U.S. Army Corps of Eng'rs*, 361 F.3d 1108, 1125 (9th Cir.2004); *Nat'l Parks & Conservation Ass'n*, *supra*, 241 F.3d at 731 (*either* degree of uncertainty *or* controversy "may be sufficient to require preparation of an EIS in appropriate circumstances"), emphasis added. As summarized above and discussed below, the impacts of BELLA trigger multiple intensity factors, and therefore DOE should have prepared an EIS.

a. Controversy

DOE argued below that comments on the project only contained "[c]riticism" (ER22:3; D.Ct. Dkt. 31, p. 8) and "unsubstantiated conclusion[s]" (*id.* at 9) and therefore failed to raise any "substantial dispute" about the project's impacts on its surroundings. *Id.* at 8, *citing Nat'l Parks & Conservation Ass'n v.*

Babbitt, 241 F.3d 722 (9th Cir. 2001).

The record refutes DOE's claims. It shows that the public comments raised substantial questions about the project's radiation impacts. For example, the Committee to Minimize Toxic Waste questioned DOE's analysis of the project's safety, citing a June 2005 report from the National Academy of Sciences that states that "even very low doses of radiation pose a risk of cancer or other health problems and there is no threshold below which exposure can be viewed as harmless" ER3:0189; *see also* ER3:0223 (Comments of Mark McDonald, July 17, 2009). This report emphasized that lifetime exposure to low levels of radiation previously thought to be harmless can in fact cause cancer. *Id.*; ER21:2361-2364 ("The BEIR VII report concludes that the current scientific evidence is consistent with the hypothesis that, at the low doses of interest in this report, there is a linear dose-response relationship between exposure to ionizing radiation and the development of solid cancers in humans").

DOE failed to address the risk to nearby residents of developing cancer in light of the National Academy of Sciences report. Yet it had a duty under NEPA to do so because the information provided by the public created a "substantial dispute" about the effects of long-term, low-dose radiation on those residents. DOE should have prepared an EIS to fully address this controversial impact. 40

C.F.R. § 1508.27(b)(4).

The public likewise raised questions about DOE's analysis of the project's other risk factors, including seismic, landslide and wildfire dangers. E.g., ER3:0169. These substantial concerns about the project's environmental effects and the adequacy of DOE's analysis of them represent precisely the type of public controversy that the NEPA regulations recognize to be a significant factor requiring an EIS. 40 C.F.R. § 1508.27(b)(4).

b. Other Significance Factors Under 40 C.F.R. § 1508.27

BELLA's radiation impacts are not only significant because they are controversial. They also qualify as significant based on at least five of the other section 1508.27 factors. First, the radiation impacts of the "proposed action affect[] public health [and] safety." 40 C.F.R. § 1508.27(b)(2). The project requires "3 feet" of concrete, "16 inches of lead," "26 inches of steel" and then "another 6 feet of concrete to absorb the radiation" that will be produced by the accelerator. ER3:0104. This extensive shielding highlights the extremely dangerous radiation that operation of BELLA will produce and the threat that it poses to nearby members of the public. The EA does not address, for example, what would be the effect on the nearby residents and school children of an accidental release. What would be the radiation impacts if the accelerator's

shielding were compromised by an earthquake, landslide, or wildfire? To what extent would the public suffer from exposure to such radiation? The answers are unclear from the information provided in the EA. What is clear, however, is that the project *may* have a significant impact on public health and safety, and therefore an EIS should have been prepared. *Center for Biological Diversity v. National Highway Safety Admin.*, *supra*, 538 F.3d at 1185; *see, e.g.*, ER14:0552 (“the proposed action would have potential adverse effects from production of radiation during operation of the laser”).

Second, the regulations ask agencies to consider “unique characteristics of the geographic area” that might contribute to the significance of the project’s impacts. 40 C.F.R. § 1508.27(b)(3). As discussed above in the subsection on “context,” the proximity of the facility to residential neighborhoods and a children’s science museum heightens DOE’s duty under NEPA to address the project’s potentially significant health and safety impacts. Additionally, the seismic setting of the project site indicates a significant risk that an earthquake could cause accidental exposure of citizens to radiation, yet this issue was relegated in the EA to the category of “Issues Determined *Not* to Warrant Further Discussion.” ER3:0099, *emphasis added*. Rather than being an issue that does “not warrant further discussion,” the unanswered risks posed by the project’s

radiation emissions and the extreme seismicity of the project area must be addressed in an EIS. 40 C.F.R. § 1508.27(b)(3).

Third, the project's impacts are significant because of the "degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27(b)(5). For example, the admittedly "experimental" nature of the project, which will "require a laser at *or beyond state-of-the-art*" technology, presents unknown risks not addressed in the EA. ER9:0337, emphasis added.

The EA ignored the fact that the *project* generates hazardous radiation in a site clearly unsuited for such a hazard due to its high seismicity, unstable steep slopes, exposure to wildfire and proximity to residential uses and a children's museum. ER3:0099-0100 (discussing nearby earthquake faults), 0103-04 (acknowledging that project would emit radiation), 0115 (stating locations of nearby homes and children's museum), 11:0459 ("accidents typical at LBNL" are "earthquake, wild land fire, and slides"). The risks of radiation exposure to sensitive populations *are* uniquely high and pose uncertainties not addressed, much less resolved, by the EA. ER8:0306 (LBNL staff expressing doubt as to veracity of radiation analysis); 16:0642 (LBNL staff asking for "details of the radiation studies and health concerns" to be included in EA).

In any event, DOE fails to address the unknown risks inherent in the experimental nature of the facility. *Id.*; ER3:0103-0112. Could the laser degrade the shielding of the accelerator faster than traditional accelerators? Is there an increased risk of malfunction that could put members of the public at risk? Does the 10GeV laser present other risks or potential impacts not experienced or studied at other accelerator sites?

Furthermore, as discussed above, long-term human exposure to low doses of radiation – as would be experienced by the project’s neighbors – creates an increased risk of cancer for those members of the public exposed. ER3:0189; 21:2361-2364. Yet, the exact extent of this increased risk is “unknown” and therefore requires an EIS. ER21:2364 (calling for further research). Additionally, it is not clear whether long-term exposure of low-doses of radiation may also increase the risk of other health effects, such as heart disease and stroke. The National Academy of Sciences therefore concludes that “additional data must be gathered before an assessment of any possible dose response can be made between low doses of radiation and noncancer health effects.” ER21:2362. Thus, the impacts of the project “on the human environment,” including potential increases to cancer risk and noncancer health effects in nearby residents, “are highly uncertain or involve unique or unknown risks.” 40 C.F.R. § 1508.27(b)(5).

Therefore, DOE should have prepared an EIS.

Fourth, the precedential impact of the BELLA approval demonstrates its significance. 40 C.F.R. § 1508.27(b)(6). If DOE's approval stands, then DOE would be able to site radiation-emitting facilities near residential neighborhoods without presenting to the public an accurate and complete study of the radiation impacts of the facility on those neighbors. DOE should have provided to the public – at a bare minimum – the calculations it employed to determine the significance of the radiation impacts. ER16:0642 (LBNL staff requesting “radiation studies” to be included in the EA). Allowing DOE to approve a project as controversial as BELLA without this essential disclosure would set a dangerous precedent. This factor thus weighs heavily in favor of requiring DOE to prepare an EIS.

Fifth, section 1508.27 also requires that an agency consider “[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts.” 40 C.F.R. § 1508.27(b)(7). As discussed below, DOE ignored the potentially significant cumulative impacts of the project along with other nearby LBNL facilities.

As with the controversial nature of the project, evaluation of the other factors in section 1508.27 demonstrates that the project's impacts are potentially

significant within the meaning of NEPA. Therefore DOE should be required to prepare an EIS to fully evaluate those impacts.

3. The District Court Ignored the Lack of Analysis in the Administrative Record Regarding the Project's Significant Impacts and Relied Instead on Post-Decisional Rationalizations Proffered by DOE's Counsel

The district court held that all impacts due to “accidental release of radiation in the event of an earthquake, mudslide or fire” were properly deemed insignificant because DOE claimed that “the laser cannot operate during an accidental event, eliminating the apparent basis for” any concerns regarding accidental releases. ER2:6-7, citing Doc. #33 at 12-13. Rather than citing anything *in the administrative record* as support, the district court refers only to DOE's brief below. Later, the court specifically dismissed all concerns about radiation releases due to seismic events by repeating DOE's counsel's *post-decisional rationalization* that “seismic activity poses no threat of radiation release, because BELLA cannot operate if its components are not precisely aligned,” again citing *only DOE's briefs*. ER2:7, citing Doc #33 at 13-14.

NEPA, however, requires that an analysis of the accidental release impacts be presented in DOE's environmental review documentation for the project – not in the government's briefs to the courts. *Humane Soc. of U.S. v. Locke*, 626 F.3d

1040, 1049 (9th Cir. 2010) (courts “cannot gloss over the absence of a cogent explanation by the agency by relying on the *post hoc* rationalizations offered by defendants in their appellate briefs”); *Northwest Envtl. Def. Ctr. v. Bonneville Power Admin.*, 477 F.3d 668, 688 (9th Cir.2007) (“[W]e ‘may not accept appellate counsel’s *post hoc* rationalizations for agency action,’” quoting *Burlington Truck Lines v. United States*, 371 U.S. 156, 168 (1962)). Indeed, “[d]efendants’ *post hoc* explanations serve only to *underscore the absence of an adequate explanation in the administrative record itself.*” *Humane Soc.*, 626 F.3d at 1049, emphasis added. The district court’s reliance on DOE’s attempts to fill the gaps in the EA’s analysis is categorically contrary to NEPA’s public disclosure and informed decisionmaking mandates. This Court should therefore reverse the lower court’s decision.

B. The EA’s Analysis of Impacts Was Inadequate and Therefore Failed to “Foster Informed Decisionmaking and Public Participation”

In addition to determining whether the agency correctly decided not to prepare an EIS, courts must also determine whether the EA in question “‘foster[ed] both informed decision-making and informed public participation.’ ” *Native Ecosystems Council v. U.S. Forest Service*, 418 F.3d 953, 960 (9th Cir. 2005), quoting *California v. Block*, 690 F.2d 753, 761 (9th Cir. 1982). To do so,

agencies must take a “hard look” at the potential environmental consequences of their actions. *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1066 (9th Cir. 2002). “[G]eneral statements about “possible” effects and “some risk” do not constitute a “hard look” absent a justification regarding why more definitive information could not be provided.” *Blue Mountains Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998), quoting *Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1380 (9th Cir. 1998).

Here, DOE failed to take a hard look at BELLA’s impacts and the Court should therefore set aside and remand DOE’s decision for further NEPA review, as shown below.

1. The EA Does Not Adequately Address the Project’s Radiation Impacts

a. Accidental Releases

Despite admitting that an accidental release of radioactive materials has occurred in the same building in the *past*,⁴ the EA fails to adequately address the potential for *future* accidental exposure of radiation from the proposed project to citizens located in the surrounding public and residential areas. This critical fault in the EA was identified by *LBNL’s own NEPA Document Manager*, Kim Abbott

⁴ ER3:0103; *see also* ER20:1149.

ER3:0232, in a June 15, 2009 email wherein he *admitted* that “I talked to Gary and we agreed that the EA does not do a very good job of accidental analysis.”⁵

ER11:0459. Mr. Abbott continued: “The type so [*sic*] accidents typical at LBNL would be earthquake, wild land fire, and slides.” *Id.* Plaintiff concurs with these admissions by LBNL’s own NEPA Document Manager that its analysis of accidental releases in its EA “does not do a very good job,” and that it fails to adequately address the “type [of] accidents typical at LBNL.” *Id.* The EA therefore violates NEPA.

Even had LBNL not admitted the EA’s inadequacy, no other conclusion is possible. It is undisputed that the EA itself contains *no* analysis of accidental releases of radiation. The “Hazards and Human Health” section of the EA has *no* discussion of *accidental* radiation exposure. ER3:0101-107. For example, the subsection discussing “Radiation from Laser Plasma Accelerator Operations and Radiation Monitoring Systems” only addresses the extent of concrete shielding that will be constructed to attempt to protect workers and citizens from exposure

⁵ The “Gary” referred to is apparently Gary Hartman, the NEPA Compliance Officer for the EA, who works at DOE’s Oak Ridge Office of Science Integrated Service Center and whose name appears on multiple documents related to this project. *E.g.*, ER3:0068 and ER17:0666. The addressee, Jeff Philliber, a fellow employee of LBNL, also concurred with Mr. Abbott’s assessment that the EA did “not do a very good job” of analyzing accidental releases. ER11:0459.

during *normal* operations – not accidental releases. ER3:0103-105. It also discusses plans to install radiation monitors. *Id.* It fails, however, to address what would happen if the shielding became compromised due to the “typical” accidental release scenarios identified by Mr. Abbott such as “earthquake, wild land fire, and slides” (ER11:0459) during operation of the accelerator. ER3:0103-105.

Similarly, the “Fire and Explosion Risk” subsection only describes the potential for the accelerator to *cause* a fire and the general safeguards that LBNL has taken to prepare for wildfires, not the potential for accidental exposures that could result *from* a wildfire. ER3:0105-06. None of the other subsections of the EA attempts to remedy these omissions.

Perhaps most significantly, the EA sweeps under the rug the serious questions of earthquake safety and slope instability, relegating them to the category of “Issues Determined Not to Warrant Further Discussion.” ER3:0099. After cursorily noting the highly hazardous seismic conditions surrounding the project site, the EA inexplicably ignores the central issue of what would happen if an earthquake on the “active Hayward Fault” or the “inactive Wildcat Fault” caused an accidental release of radiation. ER3:0099. Instead, without any analysis of the threat, the EA sidesteps the issue with the conclusory claim that the building meets “standards for safe occupancy and the conduct of operations” and

that the proposed project “would further enhance the structural system” of the building. *Id.* Yet the most obvious concern about this facility is what would happen if an earthquake occurs while the accelerator *is in operation*. Assurances that the building is “up to code” fail to address the public’s fundamental concern about the project’s potential accidental release of radiation *during* a seismic event, since the project is sited in a highly hazardous earthquake zone.

In a similar vein, the EA states that the “[a]ction area is of ‘medium risk’ for slope instability occurring at some point in the future,” but then discounts any slope stability concerns without any analysis. ER3:0100. In fact, as the Geotechnical Investigation for the project admits, “most of Building 71 is located within an official hazard zone for earthquake-induced landsliding.” ER7:0009. Even if this designation translates into a “medium risk” of slope instability, such designation requires *at least a modicum of analysis* of what would occur if the slope underlying the site suddenly became unstable and compromised the accelerator in ways that could cause an accidental release of radiation. *Blue Mountains*, 161 F.3d at 1213 (“[G]eneral statements about “possible” effects and “some risk” do not constitute a “hard look” absent a justification regarding why more definitive information could not be provided.’ [citation]”); *San Luis Obispo Mothers for Peace v. Nuclear Regulatory Comm’n*, 449 F.3d 1016, 1030-31 (9th

Cir. 2006) (agency was unreasonable in categorically dismissing the possibility of a terrorist attack as “too remote and highly speculative” to warrant NEPA consideration). Without providing such an analysis, the EA simply does not pass NEPA muster.

Mr. Abbott’s email attempts to provide DOE with one escape hatch. After admitting that the accidental release analysis in the EA was inadequate, he states that “[w]e agreed at this point not to revise the EA. If the public comments on the lack of accident analysis we can provide the analysis in the response to the comment.” ER11:0459. NEPA requires, however, that all relevant information be provided to the public in a properly formulated EA so that the public may comment on the analysis undertaken by the agency.⁶ Parking relevant information

⁶ *Block, supra*, 690 F.2d at 770 (“NEPA’s public comment procedures are at the heart of the NEPA review process”); *Citizens for Better Forestry v. U.S. Dept. of Agriculture*, 341 F.3d 961, 970-71 (9th Cir. 2003) (One of NEPA’s fundamental purposes is to “ensure that federal agencies are informed of environmental consequences before making decisions and that the information is available to the public,” citing *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 473 (9th Cir. 2000)); *Ocean Mammal Institute v. Gates*, 546 F.Supp.2d 960, 972 (D.Hawai’i, 2008) (“Regardless of whether they prepare an EA or EIS, federal agencies must ‘[m]ake diligent efforts to involve the public in preparing and implementing their NEPA procedures,’ and ‘[s]olicit appropriate information from the public.’ 40 C.F.R. § 1506.6(a),(d)”); *Sierra Club v. Babbitt*, 69 F.Supp.2d 1202, 1218 (E.D.Cal. 1999) (EA provided “insufficient detail” to “allow the public a meaningful opportunity to comment on the project during the planning stages” or for “[d]efendants to make an informed decision”); *Foundation for North American Wild Sheep*, 681 F.2d at 1178 (9th Cir. 1982) (“The omission of any meaningful

on the sidelines during public review and comment directly undercuts NEPA's public disclosure and information-solicitation mandates. Likewise, providing the agency's analysis only *after* the public comment period has closed thwarts NEPA's public review process.

In sum, the EA fails to address the foreseeable impacts of operating the accelerator under abnormal or catastrophic circumstances and thereby ignores all probability of an accidental release. These potentialities, however, should have been addressed in the EA. And, because they pose potentially significant impacts, an EIS should have been prepared.

b. Sabotage

The EA's attempt to comply with DOE guidance by addressing "[i]ntentional destructive acts such as sabotage and terrorism from internal and external sources" likewise falls far short of analyzing this category of impact. ER3:0124. The short section in the EA that addressed "intentional destructive acts" provides a cursory review of LBNL's current security protocols, including a discussion of the protection of laser facilities "by a combination key and keypad access controller that only allows entry by personnel with laser safety training."

consideration of . . . fundamental factors precludes the type of informed decision-making mandated by NEPA.").

Id. It goes on to explain that if the laser room is breached “without the appropriate key inserted or the correct access code being entered, the laser system within the room is shut down immediately.” *Id.* The discussion concludes that “the Proposed Action would present no change to the potential for intentional destructive acts.” *Id.*

The EA’s analysis, however, only addresses half of the threat, *i.e.* attacks from *outsiders* trying to get *in* to the laser accelerator. It does not address “sabotage” from “internal . . . sources.” ER3:0124. DOE’s guidance and common sense both dictate that the EA must also evaluate the possibility that *insiders* who have access to the proper keys and codes (or outsiders who obtain this information) will use the facility for destructive purposes. The danger posed by such an occurrence is illustrated by the fact that the project involves the installation of an extremely powerful laser “at or beyond state-of-the-art” ER9:0337) with a “peak power level” of 1 petawatt (1PW = 10¹⁵W). ER3:0086.⁷ What would be the consequences of an intentional destructive act by a saboteur? The EA does not even ask the question, much less provide an answer, and therefore fails as an informational document.

⁷According to DOE’s Lawrence Livermore National Laboratory website, 1 petawatt is about *960 times the entire electrical generating capacity of the U.S.*

c. Radiation Hazard Reports Not Yet Prepared

Instead of tackling the radiation impacts head on, the EA defers evaluation of potential exposure to the public to the future preparation of a “Safety Analysis Document (SAD) and [an] Acceleration Safety Envelope (ASE).” ER3:0095.

These two documents will, according to the EA, “ensure the facility’s safe operation.” *Id.* Yet, as discussed above, NEPA requires such information to be included in the environmental review process, not deferred to some later report that will not be subject to public notice or review.⁸

The whole point of conducting environmental review for this project was to specifically address the “exceptionally large amount of energy” and associated “radiation that must be shielded from other users of the building.” ER16:0611; *see also*, ER12:0460-461 (EA required based on “the electron beam energy”). DOE states in its Response to Comments that the SAD report will identify the “Maximally Exposed Individual” and base the “exposure calculation” on “the largest event that could occur once the accelerator is operational.” ER3:0245.

This information is critical to understanding the risks of installing the project in an

⁸ *Alaska Center*, 189 F.3d at 859 (an EIS is required unless the EA “suppl[ies] a convincing statement of reasons why [the] potential effects” of the proposed project “are insignificant,” quoting *The Steamboaters v. FERC*, 759 F.2d 1382, 1393 (9th Cir. 1985) (emphasis added)); *see also*, authorities cited in footnote 6, *supra*.

area surrounded by neighborhoods and a children's museum and therefore *should have been included in the EA*, not deferred to some future report. DOE must complete the "Maximally Exposed Individual" calculations and related analysis prior to any reconsideration of the project to "ensure that federal agencies are informed of environmental consequences before making decisions and that the information is available to the public." *Citizens for Better Forestry*, 341 F.3d at 970-71, citation omitted.

d. Radiation from Normal Operations

In response to concerns from the public that normal operations of the facility will have deleterious radiation effects on residents in the area, the EA states repeatedly that "accelerator systems are not new" and that "their impacts are therefore known, radiation categorized and quantified, and documented." ER3:0237, 0253. The EA's explanation fails for two reasons. First, if indeed the radiation impacts could be easily ascertained, quantified, and documented, then *why were those calculations omitted from the EA?* This information is obviously important for consideration of whether the project will have a negative impact on workers and the neighbors, but no calculations were provided in the EA. Indeed, internal comments on DOE's 1st Administrative Draft state that the EA "need[s] details of the radiation studies and health concerns" and that the internal draft

reviewer “would like to summarize” the impacts in the body of the EA and then “include more detail, if available, in an appendix.” ER16:0642. It appears that some of this technical information was already available at the time the Draft EA was released for comment. In an email sent on March 22, 2009, approximately three months before the completion of the Draft EA, an LBNL employee states: “We are on a very tight schedule for NEPA/CEQA and *the rad calcs [radiation calculations] are a crucial element.*” ER19:0678, emphasis added. This email spurred the finalization of a formal memorandum one month later (two months prior to the Draft EA’s release for public comment) entitled “BELLA Shielding Estimates.” ER18:0675. This memorandum explains the bases on which the shielding and exposure conclusions were reached. *Id.*

Yet the final EA omits these admittedly “crucial” calculations of the project’s radiation from its body and appendices. *See, e.g.*, ER3:0103-105. Nothing in the record indicates why such highly relevant, technical information was not included in the EA. *Id.* The preparers of the EA may have determined that such information would be addressed in the SAD report, but, as discussed above, deferral of such critical information to a non-NEPA, post-approval document violates NEPA’s public disclosure mandate. The EA should have included the available details regarding the potential exposure of workers and the

public to radiation from the normal operations of the facility. Because it failed to do so, it violated NEPA. *Blue Mountains*, 161 F.3d at 1212.

Second, the facility is admittedly “experimental.” ER9:0337. As such, contrary to the EA’s assurances, the radiation that may be emitted by the project may *not* be “known,” “categorized,” “quantified,” or “documented.” ER3:0237, 0253. More explanation of the experimental nature of the facility and the potential for increased radiation from its operations due to its experimental nature should have been included in the EA,⁹ and because the project poses potentially significant impacts on the environment, an EIS is required.

e. Radionuclide Emissions

The EA does not mention radionuclide emissions resulting from the project. ER3:0117-119. Yet it is apparent from DOE’s email communications that the project is likely to result in such emissions. ER13:0544. In response to an inquiry from the Environmental Protection Agency (“EPA”), an LBNL employee admitted

⁹ In Response to Comment AM-3, DOE attempts to explain that the “uncommon” feature of this project, the size and intensity of the laser, is not the “part of the system” that “generate[s] radiation” or “mixed radioactive and chemical hazards.” ER3:0237. This statement lacks any evidentiary support and therefore fails to adequately address the potential for increased radiation due to the experimental nature of the project. 40 C.F.R. § 1508.9(a)(1) (an EA must “provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact”).

that the facility will “[p]robably” produce such emissions. *Id.* But then, echoing the hide-the-ball strategy that DOE consistently used throughout preparation of the EA, the NEPA Document Manager ignored this impact, stating that “[i]f EPA submits this as a comment from their review of the EA we can answer it in the reply to comments.” *Id.* NEPA does not, however, allow agencies to exclude relevant information from their Draft EAs and then hope that no one thinks to raise such concerns on their own in comments on the project. As the oft-quoted case of *Save Our Ten Acres v. Kreger* explains,

[t]he spirit of [NEPA] would die aborning if a facile, *ex parte* decision that the project was minor or did not significantly affect the environment were too well shielded from impartial review. Every such decision pretermits all consideration of that which Congress has directed be considered ‘to the fullest extent possible.’ The primary decision to give or bypass the consideration required by [NEPA] must be subject to inspection under a more searching standard.

472 F.2d 463, 466 (5th Cir. 1973), quoted in *Foundation for North American Wild Sheep v. U.S. Department of Agriculture*, 681 F.2d 1172, 1182-1183 (9th Cir. 1982). Accordingly, a Draft EA must include all information on the project that may significantly contribute to an understanding of its impacts; such information must not be preemptively filtered out of the environmental review, leaving the public in the dark.

f. Cumulative Impacts

NEPA requires consideration of a project's cumulative impacts on the environment. "Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. . . ." 40 C.F.R. § 1508.7. The EA's deficient consideration of the project's incremental effects violated NEPA in several respects.

First, the EA fails to assess the cumulative radiation emissions of BELLA taken together with LBNL's other operations. The entirety of the EA's analysis of cumulative radiation impacts is as follows:

Because of the protection provided by each cave, the impact of operating all the accelerators at once would be indistinguishable from operating the accelerators separately. It is anticipated that BELLA would contribute no measurable radiation at the LBNL property boundaries, whether specifically or cumulatively with all other LBNL activities. . . .

ER3:0132. There is no support for this conclusion, which can only be accurate if *all* of LBNL's accelerators emit *no* radiation. As discussed above, the EA failed to quantify BELLA's radiation emissions. It also failed to quantify LBNL's other radioactive facilities' radiation emissions.

In sum, DOE asks the public to trust the agency's statement that no

radiation will ever reach LBNL's property boundaries without providing a shred of evidence to support its dangerous invitation. But NEPA's core purpose is to compel agencies to disclose their analysis of potential environmental impacts for public review and comment. *See* cases cited in footnote 6, *supra*. Courts have repeatedly rejected agency attempts to sidestep this duty. *Barnes, supra*, 2011 WL 3715694, 11 (declining invitation to "take [the agencies'] word for it and not question their conclusory assertions in the EA").

Additionally, the EA fails to address the cumulative radiological impacts of a catastrophic event such as a large scale earthquake and landslide, which could result in a series of accidental releases of radiation to neighborhoods that border LBNL. ER3:0131-32. The EA reveals that other sources of radiation exist in the proximate vicinity of the project site, but does not explain the cumulative severity of a release of these combined radiation sources under such circumstances. *Id.*

Because the EA fails to substantively assess the project's cumulative impacts, there are "substantial questions" whether the project's cumulative impacts "'may have a significant effect' on the environment." *Blue Mountains, supra*, 161 F.3d at 1212. Therefore an EIS must be prepared.

2. Hazardous Waste

The EA fails to adequately explain how the agency will dispose of the

radioactive, hazardous materials that will be created during the demolition and decommissioning phases of the project. First, the EA explains that the project site currently contains asbestos, lead, beryllium, poly-chlorinated biphenyls, radioactive materials, Americium-241, Cesium-137, and Curium-244. ER3:0102-103. Demolition activities will require the separation, removal and disposal of 60 to 100 tons of “reinforced concrete, structural steel, mechanical and electrical equipment, roofing, other building material, and soil.” ER3:0094. About ten percent of this debris, or approximately 6-10 tons, will consist of hazardous waste. *Id.* The EA simplistically states that its disposal plan includes “one anticipated truck trip to a licensed hazardous waste disposal facility.” *Id.*

The EA does not explain how the hazardous waste will be identified, separated from the other waste, and safely removed from the site. This information is essential to explain to an understandably concerned public how it will be protected from exposure to these hazardous waste materials both during demolition and subsequent removal and transport elsewhere, notwithstanding wind, rain, traffic jams or labor strife. Instead of providing this necessary information, the EA lists various regulations affecting aspects of the disposal. ER3:0094. This tells the public nothing about the actual disposal plan and its environmental risks and impacts.

DOE's severely truncated treatment of this vital issue violates NEPA: "A 'perfunctory description,' or 'mere listing of mitigation measures, without supporting analytical data,' is insufficient to support a finding of no significant impact." *Nat'l Parks, supra*, 241 F.3d at 734, quoting *Okanogan Highlands Alliance*, 236 F.3d at 473 (citations omitted). Further,

[i]n evaluating the sufficiency of mitigation measures, we consider whether they constitute an adequate buffer against the negative impacts that may result from the authorized activity. Specifically, we examine whether the mitigation measures will render such impacts so minor as to not warrant an EIS.

Id., citing *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir.1992).

Here, the EA provided no analysis of whether or how its compliance with the regulations will "constitute an adequate buffer against the negative impacts" of the project. *Id.*

C. The EA Fails to Analyze an Adequate Range of Alternatives

NEPA requires environmental assessments to "include brief discussions of . . . alternatives as required by [42 U.S.C. § 433]2(2)(E)." 40 C.F.R. § 1508.9(b). That section of NEPA states that "all agencies of the Federal Government shall . . . study, develop, and describe appropriate alternatives to recommended courses of action" 42 U.S.C. § 4332(2)(E). As this Court recently observed,

Agencies are required to consider alternatives *in both EISs and EAs*

and must give full and meaningful consideration to all reasonable alternatives. *Native Ecosystems Council v. U.S. Forest Service*, 428 F.3d 1233, 1245 (9th Cir. 2005); *see also* 40 C.F.R. § 1508.9(b). “The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992) (*quoting Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)).

Te-Moak Tribe of Western Shoshone of Nevada v. U.S. Dept. of Interior, 608 F.3d 592, 601-602 (9th Cir. 2010) (emphasis added). In sum, agencies “must ‘rigorously explore and objectively evaluate all reasonable alternatives’ to” the proposed action. *Center for Biological Diversity v. United States Dept. of Interior*, 623 F.3d 633, 642 (9th Cir. 2010) (brackets omitted), *citing* 40 C.F.R. § 1502.14(a).

Here, however, the EA completely fails to discuss the option of locating the facility at another DOE laboratory, such as one that is not adjacent to residential neighborhoods or located on an unstable slope in a seismically active, wildfire-prone area. ER3:0097.

The EA justifies its refusal to consider off-site alternatives on the dual grounds that “[1] vacant accelerator facilities in the area are uncommon, and [2] a large perimeter around the building might have to be leased and secured to provide an equivalent amount of protection from potential risk of radiation exposure to the

public.” ER3:0097. Both excuses are plainly specious.

First, the EA does not address whether other industrial buildings could be modified to house the new accelerator. *Id.* It thus fails to explain why it limited its search of offsite alternatives only to “vacant accelerator facilities.” *Id.* Given the amount of demolition, retrofitting, and new construction contemplated as part of the Project (*see* ER3:0082-085, 0092-94), many large industrial buildings could easily serve as an alternate location. Nothing in the EA or the record indicates that the project would have to be located in an abandoned accelerator facility or explains why Building 71 is a particularly more suitable project location than any other large offsite building. The “shielding” that will be used to absorb some of the Project’s radiation is part of the Project’s new construction and could just as easily take place at any other industrial building in the area. *See* ER3:0104.

Similarly inaccurate is the EA’s ominous statement that offsite alternatives are impractical due to the asserted need for a “large perimeter around the building” to protect the public from radiation impacts. ER3:0097. The EA contradicts this statement in its Responses to Comments, where it notes that “[a] large perimeter is *not* required around Building 71 because adequate protection is provided by the shielding from the cave and beam dump.” ER3:0245, emphasis added. These conflicting statements undercut DOE’s “perimeter” rationale for excluding offsite

alternatives.

That DOE felt it needed to make these specious excuses about why offsite alternatives were infeasible simply illustrates that offsite alternatives *are* feasible but were never considered. DOE's misleading pretexts for eliminating offsite alternatives are false; DOE violated NEPA's call to "[r]igorously explore and objectively evaluate all reasonable alternatives" to the proposed project. *Center for Biological Diversity, supra*, 623 F.3d at 642, *citing* 40 C.F.R. § 1502.14(a).

D. The EA Fails to Respond to Comments

"NEPA's public comment procedures are at the heart of the NEPA review process." *State of California v. Block, supra*, 690 F.2d at 770. "Agencies are . . . obligated to provide a meaningful reference to all responsible opposing viewpoints concerning the agency's proposed decision. . . . Moreover, there must be good faith, reasoned analysis in response." *Id.* at 773 (internal brackets and citations omitted). NEPA additionally requires agencies to "acknowledge and respond to comments by outside parties that raise significant scientific uncertainties and reasonably support that such uncertainties exist." *The Lands Council v. McNair*, 537 F.3d 981, 1001 (9th Cir. 2008). The EA here fails to adequately respond to comments that raised scientific uncertainties about the Project's impacts.

Most significantly, the EA does not provide "reasoned analysis in response"

to multiple comments addressing the public's long-term exposure to the project's radiation emissions. For example, two sets of public comments referenced a recent report from the National Academy of Sciences (the "BEIR Report") that concludes that "even very low doses of radiation pose a risk of cancer or other health problems and there is no threshold below which exposure can be viewed as harmless." ER3:0184, 189, 223. The EA's response to these comments reads: "Please see response to comment AM-3." ER3:0250, 0268. "Response to comment AM-3" does not acknowledge or mention the National Academy's findings. It instead comes to the unexplained and inexplicable conclusion that compliance with regulatory "standards and requirements" would "protect LBNL workers and the public," thereby implying that radiation below these regulatory limits is not harmful. ER3:0237-0239.

This direct conflict with the BEIR Report's conclusion that "there is no threshold below which exposure [to radiation] can be viewed as harmless" is neither acknowledged nor explained. The EA therefore unlawfully failed to "acknowledge and respond to comments by outside parties that raise significant scientific uncertainties and reasonably support that such uncertainties exist."

Lands Council, 537 F.3d at 1001.

The EA also fails to respond to other public comments about the project's

radiation emissions. Plaintiff implored DOE to

[p]lease clarify the basis for estimates of radioactive emissions. Please provide evidence of the documents and reports which are the basis for estimated radioactive emissions. Furthermore, please provide empirical evidence which shows that the three feet concrete wall . . . suffice[s] to absorb the radiation to the level estimated.

ER3:0230. Indeed, even *DOE's own staff* realized that it “need[ed]” to provide “details of the radiation studies and health concerns. [LBNL] would like [the EA] to summarize . . . and include more details, if available, in an appendix.”

ER16:0642.

But instead of responding to such comments and providing the further detail requested, DOE ignored the comments and internally decided that the radiation analysis supporting the EA was not reliable enough to present to the public. *See* ER8:0306 (“I do not advise providing our current [radiation] calculations because . . . the shielding calcs currently are at the conceptual design phase and certainly far from finalized and . . . to my knowledge those calcs have not been independently verified/checked yet”). DOE violated NEPA by failing to provide “good faith, reasoned analysis in response” to these comments requesting additional information. *State of California v. Block, supra*, 690 F.2d at 773. And, because “there is a substantial question whether [the project] ‘may have a significant effect’ on the environment, . . . [DOE] must prepare an EIS.” *Center*

for Biological Diversity v. National Highway Traffic Safety Admin., supra, 538 F.3d at 1185 (citations omitted).

E. The EA Improperly Defers Formulation of Mitigation Measures

In following NEPA, an agency “may not ‘act first and study later.’” *Western Land Exchange Project v. United States Bureau of Land Mgmt.*, 315 F.Supp.2d 1068, 1092 (D. Nev. 2004), quoting *Nat’l Parks & Conserv. Ass’n v. Babbitt*, 241 F.3d 722, 734 (9th Cir. 2001). This Court has consistently held that a mere listing of mitigation measures cannot support a finding of no significant impact:

While the agency is not required to develop a complete mitigation plan detailing the precise nature of the mitigation measures, the proposed mitigation measures must be developed to a reasonable degree. A perfunctory description, or mere listing of mitigation measures, without supporting analytical data, is insufficient to support a finding of no significant impact. In evaluating the sufficiency of mitigation measures, we consider whether they constitute an adequate buffer against the negative impacts that may result from the authorized activity. Specifically, we examine whether the mitigation measures will render such impacts so minor as to not warrant an EIS.

National Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 734 (9th Cir. 2001) (quotations and citations omitted).

Here, the EA’s conclusions are based on yet-to-be developed information that will purportedly ensure that the project will not have significant impacts.

Specifically, DOE’s EA relies on three future documents to mitigate the effects of

the project on the health and safety of the public: (1) the Safety Analysis Document (SAD); (2) the Acceleration Safety Envelope (ASE); and (3) the Soil Management Plan. ER3:0095, 0092. For example, the EA states that “prior to operations, LBNL will prepare, and DOE will review and approve, a [SAD] and [ASE] . . . to ensure the facility’s safe operation.” ER3:0095. In other words, the public is being asked to take DOE’s word that it will conduct safety analyses and create adequate safety protocols related to the operations of the facility prior to operation.

Yet NEPA requires that such analysis and formulation of mitigation measures take place *prior to project approval* and *within the NEPA analysis*. *Barnes, supra*, 2011 WL 3715694, 11 (courts should refuse to take an agency’s “word for it and not question their conclusory assertions in the EA”). Therefore, DOE was required to “develop[,] to a reasonable degree,” the SAD, ASE, and Soil Management Plan, and describe in the EA the mitigation measures developed therein, prior to approving the project. *Id.* Again, agencies “may not ‘act first and study later.’” *Western Land Exchange*, 315 F.Supp.2d at 1092, quoting *Nat’l Parks*, 241 F.3d at 734. Relying on documents that will be created months – if not years – in the future to mitigate potential environmental impacts violates this requirement.

DOE argued below that the above-listed measures do not constitute mitigation measures. Wrong. Under the pertinent regulation, 40 C.F.R. section 1508.20, the three plans are “mitigation measures” because they seek either to “avoid[] the [Project’s] impact[s] altogether” (subsection (a)) or to “minimize[] impacts by limiting the degree or magnitude of the action and its implementation” (subsection (b)). The EA states that the SAD and ASE will calculate maximum radiation exposures and implement measures based thereon (ER3:0245) to “ensure the facility’s safe operation.” ER3:0095. As for the Soil Management Plan, the EA explains that it will “prescribe soil handling and sample collection procedures.” ER3:0092. Because these measures are intended to “avoid[]” or “minimize[]” the Project’s impacts, they are “mitigation measures” that must be “developed to a reasonable degree” in accordance with settled law. 40 C.F.R. § 1508.20(a), (b); *National Parks*, 241 F.3d at 734.

DOE also argued below that, even if the future reports do constitute mitigation measures, NEPA does not require them to be contained in the EA. Wrong again. The cases cited by DOE are inapposite and actually support plaintiff. For example, in *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989), the court held that NEPA contains “a requirement that mitigation be discussed in sufficient detail to ensure that environmental consequences have

been fairly evaluated.” Here, DOE has provided no detail at all, because neither the SAD nor the ASE exists in even conceptual form. *E.g.*, ER3:0095 (“[p]rior to operations, LBNL will review and approve a [SAD] and [ASE]” “to ensure the facility’s safe operation”) (emphasis added).

Similarly, in *Environmental Prot. Info. Ctr. v. U.S. Forest Serv.*, 451 F.3d 1005, 1015-16 (9th Cir. 2006), the court upheld an EA’s mitigation measures *only* because the “EA contain[ed] very specific and detailed information on the ways . . . [a] timber harvest would be conducted in order to minimize [its] effects.” Here, no “very specific and detailed information” exists. *Id.* NEPA simply does not allow agencies to hide the ball by deferring environmental analysis until after project approval. Because its mitigation measures are not “developed to a reasonable degree” in the EA, DOE violated NEPA. *National Parks*, 241 F.3d at 734. And, because “there is a substantial question whether [the project] ‘may have a significant effect’ on the environment, . . . [DOE] must prepare an . . . EIS.” *Center for Biological Diversity v. National Highway Traffic Safety Admin.*, *supra*, 538 F.3d at 1185 (citations omitted).

F. The EA Improperly Incorporates Documents by Reference

Defendants’ EA violates NEPA because it repeatedly relies on unstated portions of other documents to support its findings of no significant impact, and

thereby improperly incorporates by reference these documents. NEPA does not allow incorporation of documents by reference in an EA.

1. The EA Unreasonably Incorporates Voluminous Documents by Reference, but Incorporation by Reference May Not Be Used in an EA

DOE's EA relies upon the *unstated portions* of other documents to describe the project and support its findings of no significant impact. For example, the reader cannot locate a map of the project's radiation monitoring system, or ascertain the fire safety procedures that will be used by the project, without consulting a series of two-to-three volume reports. *E.g.*, ER3:0104 n. 9, 0105-06 n. 12, 0131 n. 27. As another example of the EA's improper reliance upon referenced documents to cure its informational voids, the EA refers to unstated "significance thresholds" that were used to determine the significance of the Project's traffic impacts. ER3:0088 n. 4, 0122 n. 22, 0061 n. 31. Additional incorporations by reference include, but are not limited to: (1) *three different* Long Range Development Plans [LRDPs] and associated Environmental Impact Reports [EIRs], relied upon for fire safety measures (ER3:0105-06);¹⁰ (2) a truck

¹⁰ The EA asks the reader to "please refer to . . . the LBNL 2006 Long Range Development Plan EIR" "[f]or further details" about how LBNL's fire management procedures will "minimize the risks associated with wildland fire" and thereby ensure that the project "does not increase the likelihood . . . of a potential wildland fire at LBNL." ER3:0105-06. The referenced portion of the

traffic engineering analysis intended to demonstrate the project's lack of traffic and air quality impacts (ER3:0088 n. 4; 0122 n. 22; 0061 n. 31); and (3) a report of the historical qualities of Building 71, used to determine the project's cultural impacts (ER3:0123-24).

But incorporation by reference may not properly be used in connection with an EA. "There is no apparent reason to believe that an incorporation process is appropriate relative to an EA," because, "although the CEQ regulations permit . . . incorporation by reference in an EIS, 40 C.F.R. § 1502.21, no such provision is made for an EA." *Natural Resources Defense Council v. Duvall*, 777 F.Supp. 1533, 1538 (E.D. Cal. 1991); *accord*, *Sierra Club v. Babbitt*, 69 F.Supp.2d 1202, 1218 (E.D. Cal. 1999). Incorporation is impermissible in an EA because

the threshold for requiring an EIS is quite low. Thus only in those obvious circumstances where no effect on the environment is possible, will an EA be sufficient for the environmental review required under NEPA. Under such circumstances, the conclusion reached must be close to self-evident and would not require an extended document incorporating other studies.

Duvall, *supra*, 777 F.Supp. at 1538-39.

Subsequent cases have agreed with *Duvall*'s holding that incorporation by reference into an EA is *per se* impermissible. In *Sierra Club v. Babbitt*, *supra*, the

Long Range Development Plan EIR was *not* included in DOE's Administrative Record.

court “f[ou]nd[ed]” *Duvall* “to be persuasive, and therefore reject[ed] Defendants’ argument that” certain putatively incorporated documents could properly “be considered in tandem with the EA in determining whether the EA provided the public with an adequate description of the Project.” 69 F.Supp.2d at 1218.

Another case, *Siskiyou Regional Educ. Proj. v. Rose*, repeatedly cited *Duvall* with approval and adopted its analytical framework to adjudicate an incorporation-by-reference dispute. 87 F.Supp.2d 1074, 1097, 1098 (D. Or. 1999).

In the proceedings below, DOE argued that, pursuant to the Council on Environmental Quality’s “Forty Questions” document, incorporation by reference into an EA is permissible. “But, [DOE’s] reliance on this document is misplaced because courts uniformly have held that the CEQ forty questions document is not a regulation, but [is] merely an informal statement and is not controlling authority.” *Friends of the Earth v. Hintz*, 800 F.2d 822, 837 n. 15 (9th Cir. 1986). No deference is owed because the Forty Questions document “was not the product of notice and comment procedures and does not impose a mandatory obligation on all federal agencies.” *Cabinet Mountains Wilderness v. Peterson*, 685 F.2d 678, 682 (D.C. Cir. 1982); *see also Abenaki Nation of Mississquoi v. Hughes*, 805 F.Supp. 234, 244 (D.Vt. 1992) (collecting cases). Although some “circuits . . . have referenced the memorandum in reaching a decision [citations], none have held that

the memorandum is binding or entitled to substantial deference as CEQ [NEPA] regulations are.” *Id.*

In sum, DOE’s EA violated NEPA by incorporating by reference the unstated conclusions of numerous documents that were neither included with the EA nor otherwise made available for public review in connection with this Project. *Id.*

2. Assuming *Arguendo* that the EIS Incorporation Requirements Apply to EAs, DOE Fails to Satisfy These Requirements

Even assuming, solely for the sake of argument, that the requirements applicable to incorporation by reference also apply to an EA, DOE’s EA nonetheless fails to meet these requirements. To satisfy the incorporation requirements for an EIS, which are found at 40 C.F.R. section 1502.21, an incorporated document must satisfy “three standards: 1) the material is reasonably available; 2) the statement is understandable without undue cross reference; and 3) the incorporation by reference meets a general standard of reasonableness.” *Duvall, supra*, 777 F.Supp. at 1539. DOE’s references fail this test.

For example, footnote 9 of the EA attempts to incorporate by reference a map of the Project’s radiation monitoring system. (As mentioned above, no map was included in the EA. *See* ER3:0104.) This reference fails the test referenced

above, because (1) footnote 9 is not “understandable without undue cross reference” and (2) its incorporation does not “meet[] a general standard of reasonableness,” as discussed below. *Duvall, supra*, 777 F.Supp. at 1539.

First, the EA “does not . . . specifically cite to which . . . portions of the[]” Site Environmental Reports contain the map in question. *Rose, supra*, 87 F.Supp.2d at 1098. “This requires undue cross-referencing.” *Id.* Readers of the EA should not have to attempt to ascertain which portion of the multi-volume Site Environmental Reports contains a critical map of the Project. Nor does such incorporation “meet[] a general standard of reasonableness.” *Duvall, supra*, 777 F.Supp. at 1539. Instead of foisting unnecessarily daunting multi-stage research tasks upon members of the public solely to eliminate one or two pages from the EA, DOE should have included a map in that document.

Furthermore, the EA’s other references also fail to satisfy the incorporation by reference test. For example, the referenced truck traffic engineering analysis, relied upon to demonstrate the Project’s lack of air quality and traffic impacts (ER3:0088 n. 4; 0122 n. 22; 0137 n. 31), is a “confidential” memorandum that therefore was not “publicly available,” as required. ER15:1087.

Similarly, the EA’s reference to LBNL’s “Publication-3000,” which supposedly guarantees that the Project will not have various health and safety

impacts, requires undue cross-reference, because the EA repeatedly fails to direct the reader to the pertinent provisions within this gargantuan publication – and even in the few instances where *chapter* direction is given, the reader is left wondering where in the document’s massive chapters the particular provisions guaranteeing the project’s safe operation are located. *See* ER3:0101, 0102, 0106, 0122.

Overall, the aggregate amount of incorporation by reference fails to “meet[] a general standard of reasonableness,” as required. *Duvall, supra*, 777 F.Supp. at 1539. The incorporated documents amount to over 1,000 pages, *excluding* a number of lengthy documents that DOE omitted from its Administrative Record. Trying to track down each of these cross-referenced documents – some of which, like pertinent portions of the 2006 LBNL LRDP, were not even included in the Administrative Record – would be a vexatious and futile exercise.

Because DOE incorporated voluminous documents into its EA, but EAs may not incorporate material by reference (and even if they could, DOE’s incorporation would not satisfy the applicable legal requirements), this Court must disregard the putatively incorporated material in evaluating the adequacy of the EA. Because “there is a substantial question whether [the project] ‘may have a significant effect’ on the environment, . . . [DOE] must prepare an EIS.” *Center*

for Biological Diversity v. National Highway Traffic Safety Admin., supra, 538 F.3d at 1185 (citations omitted).

VII. CONCLUSION

For each of these reasons, DOE's approval of the BELLA project violated NEPA. Accordingly, this Court should reverse the judgment below and direct DOE to set aside its approval of the project and prepare an EIS before considering whether to approve the project.

Dated: September 21, 2011

Respectfully submitted,

/s/ Stephan C. Volker
STEPHAN C. VOLKER
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SAVE STRAWBERRY CANYON

STATEMENT OF RELATED CASES

There are no related cases pending in this Court.

/s/ Stephan C. Volker
STEPHAN C. VOLKER

CERTIFICATE OF COMPLIANCE

Pursuant to Federal Rule of Appellate Procedure 32(a)(7)(C), Appellants' Opening Brief is in at least 14-point proportional type and contains 12,010 words.

Dated: September 21, 2011

Respectfully submitted,

/s/ Stephan C. Volker
STEPHAN C. VOLKER

CERTIFICATE OF SERVICE

I hereby certify that on September 21, 2011, I electronically filed the foregoing **APPELLANT'S OPENING BRIEF** with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system.

I further certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

Dated: September 21, 2011

/s/ Stephan C. Volker
STEPHAN C. VOLKER