nuclear watch new mexico

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Dear Mr. Brinker,

Nuclear Watch New Mexico (NukeWatch) submits the following comments on the Draft Revised Environmental Assessment (EA) for The Proposed Biological Safety Level (BSL)-3 Laboratory at Lawrence Livermore National Laboratory (LLNL) (DOE/EA-1442R). Our Comments are in three parts: 1) General comments on the revised EA; 2) Specific comments on the revised EA; and 3) Our comments on the original draft dated September 7, 2002. We include our original comments in this revised EA because NNSA failed to include them in the legal record for the original EA, despite the fact that the NNSA Document Manager for the LLNL BSL-3 EA acknowledged receipt of our comments.

General Comments

This revised EA is a result of two Ninth Circuit Court decisions. In its October 16, 2006 decision on Tri-Valley CARES v. Department of Energy, to which Nuclear Watch is co-plaintiff, the Court ruled "Concerning the DOE's conclusion that consideration of the effects of a terrorist attack is not required in its Environmental Assessment, we recently held to the contrary in San Luis Obispo Mothers for Peace v. Nuclear Regulatory Commission, 449 F.3d 101 6 (9th Cir. 2006). In Mothers for Peace, we held that an Environmental Assessment that does not consider the possibility of a terrorist attack is inadequate. Id. At 1035. Similarly here, we remand for the DOE to consider whether the threat of terrorist activity necessitates the preparation of an Environmental Impact Statement."

Subsequently, DOE issued Department-wide guidance on December 1, 2006 entitled "Need to Consider Intentional Destructive Acts in NEPA Documents." We note first that DOE should do the right thing and issue final guidance (the final BSL-3 EA should state when), especially given the many NEPA processes, from nation-wide programmatic environmental impact statements to site-specific environmental assessments, that are now currently scheduled. In any event, the interim guidance states that, "DOE National Environmental Policy Act (NEPA) documents, including environmental impact statements (EISs) and environmental assessments (EAs),

should explicitly address potential environmental consequences of intentional destructive acts (i.e., acts of sabotage or terrorism)."

This revised Environmental Assessment, which is DOE's first NEPA document that responds to the Ninth Circuit Order and new DOE guidance, does a miserable job of analyzing intentional destructive acts. This does not bode well for all future DOE NEPA processes. We respectfully suggest that DOE could possibly save itself considerable trouble in the future by correcting the deficiencies in this revised EA so that it can be a useful model for future analyses of Intentional Destructive Acts in all future DOE NEPA processes.

This revised EA spends too much time analyzing the possibility and probability of intentional destructive acts and dismissing them and not enough time addressing the potentially all too real environmental consequences of intentional destructive acts. When the environmental consequences are looked at, they are done in a superficial way. For example, it too optimistically assumes that nearly all bioagents would be destroyed in a terrorist attack, and therefore too few would escape into the environment and pose a hazard to workers and the community. It makes this assumption without explaining any specific input parameters, such as velocity or weight. Because of these reasons, we believe that this revised EA should be withdrawn until the final guidance from DOE is released. This EA is obviously struggling from lack of guidance.

This revised EA references the U.S. Department of Energy's "Environmental Assessment for The Proposed Construction and Operation of a Biosafety Level 3 Facility at Los Alamos National Laboratory, Los Alamos, New Mexico," U.S. Department of Energy, National Nuclear Security Administration, Office of Los Alamos Site Operations, DOE/EA-1364 (February 26, 2002). This Los Alamos EA was withdrawn by NNSA in January 2004. NNSA should not rely upon this Los Alamos EA for both the original and the revised LLNL BSL-3 EA. The EA for the BSL-3 at Los Alamos was withdrawn because NNSA decided that a full EIS was needed. The full LANL BSL-3 EIS is due to be released in the summer of 2007 and renders the original LANL BSL-3 EA invalid. Please remove all references to the withdrawn LANL EA from this LLNL EA.

Moreover, in time NNSA agreed to prepare a more comprehensive environmental impact statement (EIS) for the LANL BSL-3. We submit that the same should be done for the LLNL BSL-3 given the Los Alamos example and the Ninth Circuit remand that DOE should consider an EIS. Additional reasons for an EIS are increasing indications of potentially greater seismic risks than previously acknowledged and the fact that the original and revised LLNL EA fails to disclose the true amounts of "Material at Risk" upon which risk calculations are predicated.

Advanced biodefense research (i.e., with bio-warfare agents like live anthrax and plague) should not be collocated with nuclear weapons research. If the U.S. mixes "bugs and bombs," it could complicate enforcement of the Biological Weapons Convention, the international treaty banning bioweapons. Please analyze the impacts of locating the biodefense research facility at a location other than at the Livermore Lab main site. The final EA should fully justify why DHS should not, or cannot, fulfill its needs at a non-nuclear weapons location. We formally state that we are not against enhanced national defenses against potential bioterrorism, which are regrettably necessary in today's world. However, we most seriously question whether a secret nuclear weapons site is an appropriate location for many reasons, foremost amongst them the possibly adverse international example it could set. Moreover, in light of the October 2001 anthrax attacks, we seriously question the ongoing proliferation of and increasing access to bioweapons agents. We hope to see those agents tightly controlled at a few consolidated sites, and again assert that DOE nuclear weapons sites are not suitable candidates.

The revised Environmental Assessment suggests that a potential terrorist would rather try to find dangerous pathogens in nature than attempt to steal them in larger, more concentrated quantities from the Livermore Lab BSL-3. Clearly the advantage of a person or persons with destructive intent that would want to obtain bio-

agents from the Lab is that these agents are pure, concentrated and in some cases already weaponized as an aerosol. Clearly the advantage is that they are pure, concentrated and in some cases already weaponized as an aerosol. These are exactly the steps one would need a biolab to perform. So it would be reasonable to try to obtain them after this work is already done at a lab.

Livermore Lab sits within a 50-mile radius of seven million people. This highly populated area is not an appropriate place to conduct experiments with some of the deadliest agents known. Please analyze the beneficial impacts of locating the biodefense research facility at a less populated area.

The revised Environmental Assessment does not analyze the environmental and health impacts of a release of the BSL-3's total inventory of up to 100 liters of bio-warfare agents. In fact, the revised EA fails to even disclose that other Livermore Lab and Department of Energy documents state the BSL-3 facility will house up 25,000 different samples of pathogens adding up to a total of 100 liters of bioagents at a time. Therefore, the hazard level posed by the Livermore Lab BSL-3 is far, far greater than the revised EA considers. All potential impacts should be calculated form the total amount of true Materials at Risk that could result from any catastrophic event, be it seismic or Intentional Destructive Acts.

Experiments will genetically modify bio-agents and aerosolize them (spray them) onto testing animals inside of special cabinets. The risks posed by genetically modified pathogens have never undergone a broad independent assessment. The lab will infect a maximum of 100 animals at a time, namely mice, rats and guinea pigs. Scientists and policy makers are concerned that genetic modifications could accidentally or intentionally create super-strains that have no known treatment or cure ultimately resulting in bio-weapons of the future. The environmental study conducted by the LLNL did not study the hazards of genetic modification.

The Department of Energy (DOE) should hold a public hearing so that the public can learn more about this plan and provide oral comments. So far, the number of public hearings that DOE has held on this important issue is ZERO. Please provide the opportunity for a public hearing and oral comment on the proposed LLNL BSL-3.

The 30-day written comment period (which ends May 11, 2007) is too short. Most area residents and other interested members of the public don't know about the comment period. It has not been widely publicized by the Department of Energy or Livermore Lab. Therefore, people are being deprived of their right to comment. The written comment deadline should be extended for a minimum of one additional month (to June 11). And, a public hearing (see above) should occur within the extended public comment deadline.

According to the DOE IG, the NNSA, a semi-autonomous agency within DOE, has made the decision to proceed with BSL-3 facilities at eight of its sites. Clearly, the potential risks are significant, given that theft of minute quantities can cause great public harm. In accordance with NEPA responsibilities and statutes, NNSA should and must prepare a Programmatic Environmental Impact Statement (PEIS) that collectively analyzes the cumulative impacts of its proposed BSL-3 facilities, with the Department of Homeland Security (DHS) as a cooperating agency. There is established precedence in that the U.S. Army completed an April 1989 final programmatic environmental impact statement on its Biological Defense Research Program. We believe that the NNSA and DHS as coordinating agency is under the same NEPA obligation to complete a PEIS, and should proceed to do so without delay. The LLNL BSL-3 EA should explain in detail the NNSA's and DHS' failure thus far to complete a PEIS, and how a continuing failure to do so would be justified.

Specific Comments
(Quotes from the revised LLNL BSL-3 revised EA are in italics.)

In response to this ruling and the guidance, NNSA has revised the 2002 EA to consider the potential impacts of terrorist activity. (Pg. ii)
Where is the final guidance? This revised EA should be withdrawn and re-revised when the final guidance is released.

Also since 2002, the proposed building has been constructed and all facility-related equipment installed. As such, NNSA acknowledges that the impacts related to construction that are discussed in this document have already occurred; these impacts were analyzed in the 2002 EA and considered in issuing the Finding of No Significant Impact (FONSI). (Pg. ii)
Please explain how the impacts of construction estimated in the 2002 EA compare to the actual impacts.

In accordance with the Ninth Circuit is remand, NNSA has reviewed the threat to the facility from terrorists and the potential environmental effects that might derive from various terrorist acts against the facility. Three terrorist acts were considered: 1) a terrorist attack resulting in facility damage; 2) a theft of pathogenic agent by a terrorist from outside of LLNL; 3) a theft of pathogenic agent by an insider. (Pg. v)
Why were these three terrorist acts chosen? Why only three?

NNSA believes that the probability of a successful terrorist attack on the BSL-3 facility is so uncertain that the possibility of such an event cannot be accurately quantified. (Pg. v)
DOE's interim guidance does not mention analyzing the probability of a terrorist act. This EA must analyze the consequences of accidents, not probability of accidents.

The EA concludes that the systems and technologies in the proposed facility would likely reduce the probability and consequence of a bio-terrorist act against the public in general. (Pg. v)
This is not the point. The idea that this BSL-3 may be making the world a safer place, or not, is not the purpose of this EA, or any EA.

Other minor changes have been made if guiding regulations or DOE policies have been updated since 2002. (Pg. v)
What are these?

The building would not be constructed over a known geologic fault or vertical displacement of a fault line, nor would it be sited within 50 feet of such a condition. (Pg. 11)

Accident scenarios usually envisioned for DOE facilities would normally be seen to exacerbate or enhance a release or spread of the hazardous materials, but for the BSL-3 facility would potentially render these materials innocuous (heat, fire, sunlight, and wind). These would be avoided when working with microorganisms and would usually result in microorganisms being killed. Consequently, catastrophic events such as earthquake, fire, explosions and airplane crashes, normally considered as initiating events in DOE radiological or chemical accident analyses, were viewed as having the potential to actually reduce the consequences of microbiological material releases. (Pg.52)
The use of the words "normally," "potentially," and "usually" is instructive. One of the key jobs of federal agencies under NEPA and under the DOE interim guidance is to analyze the risks of worse case scenarios and to analyze the explicit environmental consequences, which in this case should include physical breeches of facility containment and the prolonged loss of freezing capabilities. In a seemingly contradiction to the above categorical assertion, this revised EA notes how Coxiella burnetii (Q fever) is highly infectious and at the same time "remarkably resistant to drying and environmental conditions." (Pg. 54). This possible contradiction needs to be better explained to the public. The EIS must disclose all types and forms of microorganisms and infectious agents that might be present and the related risks of

handling each.

Moreover, the LLNL BSL-3 specifically acknowledges at page 23 that "some spores could be present in samples." Would there be spore forms of anthrax present at the facility, forms that are known to persistently survive in the open environment for decades at a time? There are also forms of tuberculosis in which the pathogens are known to survive in the open environment for extended periods of time. Would possible genetic modifications of pathogens and infectious agents at this BSL-3 facility possibly enhance their survival in the open environment? We find the 2002 environmental assessment's general assertion that catastrophic events would only serve to mitigate the risk to be far too quaint and self-serving. The risks of containment breeches need to be rigorously analyzed for all forms and types of pathogens and infectious agents that may be handled. It is not enough to simply wave away the potential risks by stating in effect that catastrophic events can only serve to lessen the threat.

Concerning the accident scenarios themselves, first, all risk analyses in the 2002 environmental assessment were essentially predicated upon the amounts of pathogens or infectious agents present during handling processes, an order of magnitude or more below what may actually be present at the facility. Risk analyses must be based on the total amount of inventory (which should be disclosed in the final EA), including storage. Frozen pathogens or infectious agents can obviously become Materials at Risk in the event of severe events, be they seismic or Intentional Destructive Acts, that cut off the electrical supply for extended periods of time (conceivably can even beyond the immediate diesel supply for emergency backup generators).

4.3 Analysis of Threat of Terrorist Activity

Environmental reviews prepared under CEQ implementing regulations and DOE NEPA regulations require a presentation of the environmental impacts of the proposed action and the alternatives in comparative form, thus defining the issues and providing a clear basis for choice among options by the decision-maker. With regard to intentional malicious acts, the assessment should compare potential impacts of acts by a terrorist that could derive from the proposed action, or that could occur with significantly greater probability as a result of the proposed action, to the potential impacts from those that could already occur if research with pathogenic agents requiring BSL-3 level containment is not conducted at LLNL (the "No Action" alternative). Pg. 57

The environmental effects of intentional destructive acts were not analyzed for the No Action Alternative, so no comparison was made. The environmental effects of intentional destructive acts must be analyzed for the No Action Alternative and a comparison of these effects must be compared to the Proposed Action.

Intentional malevolent acts, such as terrorist acts, do not lend themselves to the type of probability analysis conducted in NEPA documents for accidents (DOE 2002a). (Pg.58)

DOE 2002a refers to U.S. Department of Energy, "Recommendations for Analyzing Accidents under the National Environmental Policy Act", July 2002. This document states, "Analysis of such acts poses a challenge because the potential number of scenarios is limitless and the likelihood of attack is unknowable." (Pg. 20) This is the reason that DOE's interim guidance focuses on the environmental consequences and not on the probability of intentional destructive acts. This EA must do the same.

For a typical NEPA accident analysis, one would attempt to estimate the likelihood of a particular accident scenario. If it was high enough to warrant concern, one would then consider the potential consequences and analyze them accordingly. (Pg. 58)

Because the potential number of scenarios is limitless and the likelihood of attack is unknowable, DOE's interim guidance demands that this EA should examine the environmental consequences and not on the probability of intentional destructive acts. Intentional destructive acts do warrant concern and must be analyzed in detail.

Therefore in dealing with the potential for terrorism and its NEPA implications, NNSA has adopted an approach based on that which is used in designing security systems and protective strategies, where one begins with the assumption that a terrorist act will occur, regardless of the actual probability of such an act. Increasing levels of protective strategies are then put into place to reduce the risk of a successful terrorist attack to an acceptable level, and subsequently the potential for the facility to be an attractive target for terrorism. The conclusions of the NNSA in the analysis that follows reflect the influence of that approach. (Pg. 58)

One could postulate that catastrophic damage to the facility could be accomplished either by air or ground attack or by an individual gaining direct access to the building. (Pg. 58)
The environmental consequences of a ground attack should be analyzed in detail.

The potential impacts of these three scenarios were evaluated, including the potential impact that a successful terrorist attack would have. (Pg. 59)
The impacts of theft and release of pathogens was not explicitly analyzed.

For example, a suicidal plane crash could breach the facility's containment. Depending on the time of day and the type of research underway, a loss of containment could result in a release of pathogenic materials. It is probable that the organic biological material would be destroyed by any resulting fire (DOE 2002b). (Pg. 59)
DOE 2002b refers to the U.S. Department of Energy's "Environmental Assessment for The Proposed Construction and Operation of a Biosafety Level 3 Facility at Los Alamos National Laboratory, Los Alamos, New Mexico," U.S. Department of Energy, National Nuclear Security Administration, Office of Los Alamos Site Operations, DOE/EA-1364 (February 26, 2002). This Los Alamos EA was withdrawn by NNSA in January 2004. NNSA should not rely upon this Los Alamos EA for both the original and the revised LLNL BSL-3 EA. The EA for the BSL-3 at Los Alamos was withdrawn because NNSA decided that a full EIS was needed. The full LANL BSL-3 EIS is due to be released in the summer of 2007 and renders the original LANL BSL-3 EA invalid. Please remove all references to the withdrawn LANL EA from this LLNL EA.
The exact physics and input parameters of the plane crash analyzed must be stated. What type of plane? How much does it weigh? How much fuel was onboard? What was the speed of impact? What was the angle of impact? Was it a direct hit? Changes of any of these parameters would affect any loss of containment. Is NNSA implying that it does not need to mitigate the effects of a plane crash on this BSL-3 facility? NNSA has stated that this facility is a pre-manufactured building. This implies that it is probably a frame structure and not a masonry structure. Does a frame structure offer the best mitigation against a plane crash? A comparison of frame construction vs. masonry must be analyzed.

Similarly, an explosive device delivered by a vehicle or an individual on foot could breach facility containment with a subsequent partial release of the biological material. (Pg. 59)
Please explain in detail why this would only be a partial release. The exact physics and input parameters of the explosion analyzed must be stated. What type of explosive? How much explosive? What is the location of the explosion? Changes of any of these parameters would affect any loss of containment.

Impacts of a Release Following Loss of Containment. *Catastrophic events such as fire, explosions, and airplane crashes, normally considered as initiating events in NNSA radiological or chemical accidents, have the potential to actually reduce the consequences of microbiological material releases due to the heat produced by these events (DOE 2002b). (Pg. 59)*
This quote is a cut and paste from DOE's "Environmental Assessment for The Proposed Construction and Operation of a Biosafety Level 3 Facility at Los Alamos National Laboratory, Los Alamos, New Mexico," U.S. Department of Energy, National Nuclear Security Administration, Office of Los Alamos Site Operations, DOE/EA-1364 (February 26, 2002). The background reference for this assumption is not stated in DOE 2002b. This Los Alamos EA was withdrawn by NNSA in January 2004. NNSA should not rely upon this Los

Alamos EA for both the original and the revised LLNL BSL-3 EA. The EA for the BSL-3 at Los Alamos was withdrawn because NNSA decided that a full EIS was needed. The full LANL BSL-3 EIS is due to be released in the summer of 2007 and renders the original LANL BSL-3 EA invalid. Please remove all references to the withdrawn LANL EA from this LLNL EA.
Explosions differ from fires or airplane crashes. An explosion could breech containment without a resulting fire and should be analyzed separately. One of the key jobs of federal agencies under NEPA is to analyze the risks of worse case scenarios, which in this case should include physical breeches of facility containment and the prolonged loss of freezing capabilities. It is noted how Coxiella burnetii (Q fever) is highly infectious and at the same time "remarkably resistant to drying and environmental conditions." This possible contradiction needs to be better explained to the public. The EIS must disclose all types and forms of microorganisms and infectious agents that might be present and the related risks of handling each. Would there be spore forms of anthrax present at the facility, forms that are known to persistently survive in the open environment for decades at a time? There are also forms of tuberculosis in which the pathogens are known to survive in the open environment for extended periods of time. Would possible genetic modifications of pathogens and infectious agents at this BSL-3 facility possibly enhance their survival in the open environment? We find the environmental assessment's general assertion that catastrophic events would only serve to mitigate the risk to be far too quaint and self-serving. The risks of containment breeches need to be rigorously analyzed for all forms and types of pathogens and infectious agents that may be handled. It is not enough to simply wave away the potential risks by stating in effect that catastrophic events can only serve to lessen the threat.

The remaining material would be stored in freezers. (Pg. 59)
Freezers may pose a different type of environmental consequence and must be analyzed separately.

An explosion with a subsequent fire would result in a lower risk than without a fire because much of the biological material available for release would likely burn or be killed by heat rather than released to the environment (DOE 2002b). Breach of containment in the absence of an explosion is likely to rupture containers of disinfectant, such as bleach, which would also reduce the amount of viable agent expected to escape the facility following the attack. (Pg. 59)
Will bleach be keep in the freezers? Please explain in detail the physics involved of bleach and pathogens being in the same explosion.

Risk Group 2 and Risk Group 3 agents proposed for use in the facility cause human diseases for which preventive or therapeutic interventions may be available. (Pg. 60)
The environmental consequences of the release of Risk Group 1 agents and the release of Risk Group 2 and 3 agents for which there are no preventive or therapeutic interventions must be analyzed.

In general, considering the current levels of security awareness and response available, it is probable that if a successful terrorist attack on the facility resulted in the release of a biological agent to the environment, the effects of such a release would be localized in time (hours immediately following the terrorist act) and place (downwind from the BSL-3 facility). (Pg. 60)
What is the basis for these statements? Where is the detailed analysis? How many people live downwind? With respect to "localized in time," we again note that bioagents spores could be present in samples.

As noted, exposed individuals could be inoculated to prevent infection or treated to assist in recovery. For example, studies (DA 1989) reported that if a non-immunized person were exposed to defined aerosols of up to 150,000 pathogenic doses of virulent C. burnetii, the disease could be avoided by giving one milliliter of vaccine within 24 hours after exposure and by instituting antibiotic therapy. (Pg. 60)
Are vaccines for every pathogen proposed for this BSL-3 facility available? Are the local hospitals equipped? One of the purposes of this EA must be to consider measures to minimize the consequences of a potential terrorist attack.

Thus, a knowledgeable terrorist could collect environmental samples of many Risk Group-2 or Risk Group-3 microorganisms and grow large quantities of them for dissemination without attacking or stealing from a government or private BSL-3 facility. This is clearly different than the analogous risk to the security of high-level radioactive spent fuel rods at a nuclear power plant, as those "source materials" are uniquely concentrated radioisotopes that are not readily obtainable or producible and cannot be "grown" to larger volume from a minute sample. (Pg. 63)

This whole line of analysis is outside the bounds of explicitly addressing potential environmental consequences of intentional destructive acts required by the DOE interim guidance. As for the rationale for why a person or persons with destructive intent would want to obtain bioagents from the Lab, clearly the advantage is that they are purer, more concentrated and in some cases already semi-weaponized as an aerosol. These are exactly the steps one would need a biolab to perform. So it would be reasonable to try to obtain them after this work is already done at a lab. It is specious for NNSA to repeatedly claim that it would be more attractive to malefactors to collect bioagents from nature (sheep ranches, etc) than it would be to target advanced biolabs for illicit diversion. This claim would be amusing, were it not for the serious unresolved questions directly relevant to national security that remain after the October 2001 anthrax attacks.

And while the theft of pathogenic materials by an insider from any bio research facility could have very serious consequences, this scenario is not expected to occur at LLNL due to human reliability programs, security procedures, and management controls at the facility and the laboratory. (Pg. 66)

These very serious consequences must be analyzed and not so summarily dismissed. "Not expected" is not good enough when the seminal incident that prompted accelerated security concerns, i.e. 9.11, was not "expected" either. We point out that Livermore's sister laboratory Los Alamos, managed by the University of California as well, also has human reliability programs, security procedures, and management controls. Those programs and procedures didn't stop an archivist with a known association with a confessed methamphetamine addict from committing serious security infractions. The future good morale of employees at both labs can be questionable. We add again the unsolved October 2001 anthrax attacks. While the specific source of the anthrax strain used in those attacks remains unknown, it is a possibility that can't be dismissed that it came from the highly secure biological facilities at Ft. Dietrich. Potential "insider jobs" need to be treated with the utmost seriousness and rigor of analysis in order to nearly guarantee their prevention.

5.0 CUMULATIVE EFFECTS

Cumulative effects on the environment result from the incremental effect of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes them. These effects can result from individually minor, but collectively significant, actions taking place over a period of time (40 CFR 1508.7). This section considers the cumulative effects resulting from the implementation of the Proposed Action and reasonably foreseeable future actions in the Building 360 Complex Area and adjacent lands. Readers of this document should note that since this EA was originally issued, DOE has issued the Final Site-wide Environmental Impact Statement for Continued Operation of Lawrence Livermore National Laboratory and Supplemental Stockpile Stewardship and Management Programmatic Environmental Impact Statement (SWEIS, DOE/EIS-0348, DOE/EIS-0236-S3, DOE 2005). This document contains an extensive discussion of the cumulative effects of LLNL operations, which includes this facility.

LLNL Operations at the Building 360 Complex Area. *No new types of operations and very few, if any, new personnel would be introduced into LLNL as a result of the Proposed Action. Land use within the Building 360 Complex Area would remain unchanged. Local traffic congestion would be unaffected by the Proposed Action since there would be no net increase expected in the number of workers for the Complex Area. Pg. 68*

The cumulative effects of the environmental consequences of intentional destructive acts that release biological pathogens and radiological isotopes at the same time must be analyzed for this EA.

The first, scenario for a BSL-3 facility in Ohio (BMI 1993), involved an accident that resulted in a release of exotoxin from the common soil pathogen, Clostridium botulinum. Three different toxins were planned for use in the facility (botulinum, ricin, and Staphylococcal enterotoxin B), but botulinum toxin was chosen because it was determined to be the most toxic of the three. The scenario involved the release of an aerosol equivalent in amount to one of their standard tests in the interior of a Class III BSC followed by release through the cabinet filtration system. The BSC exhausts through two HEPA filters in series with each removing 99.97 percent of the aerosol. The EA analysis also considered an accident relating to microorganism handling in which the organisms were not contained within a BSC as not being a credible accident since the only open culture handling, including packaging and un-packaging, is done inside their BSCs. They similarly discounted fire, explosion, loss of ventilation control, airplane crash, earthquake, and flooding as also not being credible events to initiate accidents. They determined that there was no effect on humans due to the release which was several orders of magnitude lower than the no-effect dose (BMI 1993). (Pg. B-8)

First, in its 2004 report to Congress the Defense Nuclear Facilities Safety Board wrote (page 4-4) "The Board identified many weaknesses in DOE's program for the use of High Efficiency Particulate Air (HEPA) filters in safety applications." Thus, we are skeptical of the DOE's claimed HEPA efficiencies and which DOE needs to better support with updated tests that the Department promised DNFSB would be performed.

Sincerely,

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Scott Kovac
John Witham
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From: Mortensen, Rich <rich.mortensen@Oak.doe.gov>
To: 'Colin King' <colinking@nukewatch.org>
Date: Monday, September 9, 2002 10:34 AM
Subject: RE: NWNM Comments on LLNL BSL-3 EA

Dear Mr. King-

This is to acknowledge receipt of your comments regarding the proposed Biosafety Level 3 facility at Lawrence Livermore National Laboratory. Your concerns will be addressed as we finalize the Environmental Assessment for the facility and you will receive a written response addressing those concerns.

Richard Mortensen

DOE NEPA Document Manager

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September 7th, 2002

Mr. Richard Mortensen
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Dear Mr. Mortensen,

Nuclear Watch of New Mexico (NWNM) submits the following comments on the draft Environmental Assessment (EA) (DOE/EA-1442) for The Proposed Biological Safety Level (BSL)-3 Laboratory at Lawrence Livermore National Laboratory (LLNL).[1] NWNM greatly appreciated your consideration of a comment period time extension and then your rapid granting of that extension.

Purpose and Need Factually Misleading

The Purpose and Need for Agency Action is self serving and factually misleads members of the public and decision makers in such a manner that it completely fails to fulfill the National Nuclear Security Administration's (NNSA) obligations under the 1969 National Environmental Policy Act, 42 U.S.C. § 4321, et seq. (NEPA). NWNM asserts that the Purpose and Need for Agency Action is hinged upon "NNSA mission requirements" which have never undergone a NEPA review.[2] Until a complete NEPA review of the NNSA Chemical and Biological National Security Program (CBNP) is conducted, the proposed agency action at LLNL is without justification. The need for a Programmatic Environmental Impact Statement (PEIS) will be addressed further on in these comments. Furthermore, the Draft EA makes the claim that "The importance of work performed for NNSA in bioscience research and development in support of its national security WMD [weapons of mass destruction] non-proliferation mission is increasing."[3] The EA goes on to say that "DOE [Department of Energy] does not currently have under its administrative control within the DOE complex any microbiological laboratory facility capability beyond BSL-2, but BSL-3 laboratories are proposed at Los Alamos National Laboratory."[4,5] The Purpose and Need does not take into account the fact that the DOE willreportedly begin construction of the Los Alamos facility in October 2002. Furthermore, the only significant difference between the LLNL proposed action and the LANL action is LLNL's addition of a 3rd BSL-3 laboratory which will house rodent cages and the capability to conduct aerosol challenges on those rodents.[6] The LLNL Draft EA goes on to claim that "Work at each of the national laboratories is expected to compliment rather than be duplicated at each of three national laboratories."[7] If that is the case, why propose a facility that is in many respects duplicative of the LANL facility? Why not construct a facility with two BSL-3 laboratories, one for aerosol challenges (which does not duplicate capabilities at LANL) and another for non-aerosol related support work? Obviously, LLNL needs to further clarify why the proposed facility does not represent a duplicative action to LANL's action. Should LLNL fail to do, it would not have met the requirements promulgated under NEPA.

Facility Safety and Security

1. General Comment

NWNM finds the omission of preliminary safety and security plans and procedures as part of the NEPA review process a grave oversight. While we recognize that such documents are "living" and subject to change, preliminary plans should be included in the NEPA discussion for the very reason that LLNL will use these non-existent documents as basis for the determination of the Finding of No Significant Impact (FONSI). Basing a FONSI on non-existent safety plans avoids the "hard look" at socio-environmental impacts that NEPA requires. Furthermore, there is no evidence that LLNL has conducted a preliminary hazards analysis (PHA) for the proposed facility. Because of the precedence of the proposed facility, the omission of even a simple PHA is an egregious oversight that puts into question the entire NEPA process for the proposed LLNL action, particularly when these essential documents "would provide the key documentation framework for the operation of the BSL-3 facility."[8] Nor would it suffice for the agency to incorporate by reference, or any other method, the PHA prepared for the EA on the proposed BSL-3 facility at Los Alamos National Laboratory (LANL) because the proposed LLNL facility incorporates a single but substantial difference in facility design. Namely, one laboratory in the proposed LLNL facility is designed for aerosolization challenges and the LANL facility cannot conduct any type of work that would produce anything other than incidental aerosolization.[9,10]

2. Physical Security

The Draft EA states "Physical security of the facility building would be implemented commensurate with the level of work being performed. The facility safeguards would be based upon a security analysis conducted during the project planning stage."[11] The NEPA documentation (a significant aspect of all planning) for a facility such as the proposed, one that will conduct research on biological agents "historically used for bioweapons," should include more than a cursory discussion of the physical security safeguards that would be taken at the facility.[12] Additionally, a recent Congressional study found that the armed guard forces level for LLNL has dropped by 12 percent.[13] How will LLNL addresses these two issues, first that LLNL proposes to hold inventories of biological agents that have bioweapons applications which makes the proposed facility a desirable target for theft or even attack by terrorists (particularly given its proximity to high density populations), and secondly that the armed forces guarding LLNL have decreased over the past decade? This matter requires consideration, and though NWNM does not believe that specific details should be released that could conceivably jeopardize facility security, a general discussion of preliminary security measures must be included in the EA. The Draft EA fails to do this.

3. Catastrophic Events

Terrorism

Nowhere in the LLNL Draft EA is there is discussion of the risks associated with terrorism, or any possible method to mitigate such risks. Traditionally terrorist acts have not been considered as reasonably foreseeable events in DOE NEPA analyses. But in the post 9/11 world, that can no longer be claimed, and DOE and NNSA are themselves reluctantly admitting the security risks their activities face against this emerging threat.[14] As is stated above, the proposed biological agents to be studied at the LLNL BSL-3 facility are those that are historically used for bioweapons. This makes them of great potential interest to terrorists. Furthermore, given the proximity to the large population center of the Bay Area, the proposed LLNL BSL-3 is an even more desirable target for terrorists. Though recognizing that threats such as acts of terrorism are poorly defined, measures

must be taken in order to address the more plausible avenues of attack. A general description of these measures (while at the same time NWNM recognizes the need for caution when describing these measures) MUST be included in the NEPA analysis of this proposed facility. NNSA has fallen into the realm of complete irresponsibility by failing to address this grave danger.

Unlike the NNSA, the U.S. Department of the Army (DA) addresses this issue in a comprehensive manner, even though the DA asserts that the chance of terrorist attack is not "reasonably foreseeable." In its Final Environmental Impact Statement (FEIS) for the Life Sciences Test Facility (LSTF) at Dugway Proving Grounds, Utah, the DA did provide an analysis of the risks associated with terrorism, and discussed how the DA would minimize those risks.[15] The DA states that "The possibility exists that sabotage could be directed at the LSTF with intent to cause a release of biological materials. However, several factors prevent or mitigate the likelihood that a saboteur would gain access to the LSTF." Those factors, in summary, are:

LSTF is a great distance from the patrolled Dugway Proving Ground perimeter,
A manned guardhouse on the road at perimeter entrance,
A second guardhouse is located at the entrance to the technical area that is home to the LSTF,
A personal and vehicle checkpoint,
An intrusion detection system will surround LSTF,
Card reader devices for BSL-2 and BSL-3 areas,
Only 3 people will have direct access to biological material storage area.[16]

Furthermore, as was demonstrated by news headlines on www.msnbc.com, even the formidable security features of DPG can be breached. According to DPG and msnbc.com reports, a single man was able to gain access to the massive chemical weapons storage and disposal sites.

Internal Threats

As more evidence becomes available, it is clear that at least the *bacillus anthracis* used in the October 2001 anthrax attacks was cultured from the U.S. Ames Strain. Furthermore, evidence suggests that the *b. anthracis* was from a U.S. biological defense research laboratory, presumably one operated by the DA. In FEIS for the LSTF, the DA considered both acts of terrorism as well as internal employee sabotage and/or theft.[17] The point here is obvious for the careful reader. The DA considered terrorism and internal sabotage possible threats a decade before terrorists attacked on U.S. soil. Though the DA did not believe that such events were initiating, in terms of NEPA analyses, they did nevertheless provide a fairly detailed discussion of the methods that would be used to mitigate such risks. The DA states that "a disgruntled, emotionally distraught, or disloyal employee theoretically could gain the required confidence of coworkers to obtain and release materials maintained at the LSTF. Of primary public health and environmental concern is the possibility that an employee might secretly remove materials from the facilityand disseminate them in public places or the environment."[18] Clearly the stakes are greater in the post 9/11 world and after the October anthrax attacks, and consideration of both terrorism and internal threats must be considered in LLNL's NEPA analysis for the proposed BSL-3 facility.

Earthquakes

NWNM is not satisfied with the analysis given to the threat of earthquake damage to the facility. The Draft EA makes unsubstantiated claims and uses references (such as the DA) which upon more careful examination do not paint the picture as black and white as the Draft EA makes it out to be. LLNL's Draft EA asserts that "Accident scenarios usually envisioned for DOE facilities would normal-

ly be seen to exacrbate or enhance a release or spread of the hazardous materials, but for the BSL-3 facility would potentially render these materials innocuous (heat, fire, sunlight, and wind). These would be avoided when working with microorganisms and would usually result in microorganisms being killed. Consequently, catastrophic events such as earthquake, fire, explosions and airplane crashes, normally considered as initiating events in DOE radiological or chemical accident analyses, were viewed as having the potential to actually reduce the consequences of microbiological material releases."[19] Though portions of this statement ring true to the DA's findings, such as extreme fire and explosion, coupling this claim with the statement that "The probability of catastrophic events (due to earthquake) is already very low" grossly misrepresents the conclusions that the DA came to in their study of the Dugway Proving Ground (DPG), which is in a very seismically active area.

The DA found that DPG was at risk to a local ground motion at its LSTF of "5.6 to 6.9 on the Richter scale." The DA considered the chances of such an event has a probability of occurring once every 100 years, at a minimum.[20] In its Seismic Risk Analysis, the DA found that the most likely event would be from a distant fault with high attenuation in the direction of the LSTF. The DA stated that "Because the consequences of an LSTF facility failure related to a seismic event would be severe, the design parameters should reflect the worst event regardless of the probability of occurrence." The DA continued by stating that the distant Wasatch Fault has an acceleration attenuated to the site of between 0.35 and 0.45 g associated with a 250 year event and a velocity range between 35 and 45 cm/sec. From the implied Modified Mercalli Intensity Scale, it can be assumed that a velocity range between 0.35 and 0.45 g would result in an event between VIII and IX intensity at the LSTF site. Considerable damage to buildings and even ground cracking may be expected at these intensities." [21,22] These findings prompted the DA to conclude that LSTF must be constructed to the highest seismic building codes.

Arguably, the region surrounding the DPG complex is less seismically active than that surrounding the San Francisco Bay Area. According to a recent study conducted by the U.S. Geological Survey (USGS), the Bay Area has a "70 percent chance of an earthquake of 6.7 or greater" on the Richter scale from 2000 to 2030.**[23]** The Mount Diablo Thrust, Greenville, and Calaveras Faults have a combined probability of 37 percent chance of 6.7 or greater event (including a 9 percent chance of occurrence for unknown or unmapped faults in the region).[24] All these faults run in very near proximity to the LLNL. An event of such a magnitude would be at least a Modified Mercalli Intensity Scale IX, the highest probability considered by the DA. Furthermore, the chances are much greater that events of this magnitude will occur at the LLNL site than the DPG site. In 1980, a 5.9 event occurred on the Greenville fault that caused $10 million worth of damage to the LLNL, according to the USGS.[25] This event registered VII on the Modified Mercalli Intensity Scale, at least a magnitude smaller than the probable event forecasted to occur during the life-cycle of the proposed BSL-3. Yet, this event still caused substantial damage to LLNL and the surrounding region.

Given this evidence, it is inexcusable that LLNL does not provide a thorough seismic risk analysis for its proposed BSL-3 facility. Further, the DA's findings for potential aerosol release are not entirely applicable to the proposed LLNL BSL-3 facility. Though it would require a substantial amount of energy to aerosolize microorganisms in the proposed BSL-3 facility, conceivably an event of 6.7 magnitude (M) or greater could provide that energy. The Draft EA provides no explanation as to why this scenario (certainly a 37 percent chance over a 30 year period is a credible event) was not considered. Given the population density of the LLNL complex and its locale to the city of Livermore, there is a heightened risk of worker and public exposure resulting from a catastrophic event such as a 6.7M or

greater event. Aerosol clouds would not have to travel the great distances that were analyzed in the DA DPG FEIS, thus making it much more likely that the required human infectious dose (HID) would still exist when the aerosol cloud reached members of the populace.

HEPA Filters

Proper HEPA filtration is essential to the safe operation of the proposed LLNL BSL-3 facility. Yet, there is no description of how LLNL will ensure that HEPA filters are installed properly. Proper installation is vital to the effectiveness of HEPA filters. The DOE has been plagued by sloppy HEPA filter installation and maintenance as is evidenced by historical documents. It behooves LLNL to demonstrate an effective plan that will ensure that HEPA filters are installed properly, are functioning as designed, and furthermore, there should be some kind of warning system that would alert the BSL-3 personnel should the HEPA filter bank fail.

Additionally, what is the size range for the proposed microorganisms or related aerosol particles? Reportedly, HEPA filtration efficiency diminishes down to 90 percent when particles are 0.1 micron. Do any of the proposed microorganisms fall within that range?

4. Facility Size

The Draft EA states that "The BSL-3 facility would not be a large-scale research or production facility, which is defined as working with greater than 10 liters of culture quantities."[26] Yet, according to cited Centers for Disease Control (CDC) definitions, the proposed LLNL BSL-3 facility is certainly not a small facility.[27] The LLNL Draft EA states that only 6 workers occupying the facility.[28] How many of these workers would simultaneously act as principle investigators (PI)?

5. Biological Fermentor

What role, if any, will the Environmental Microbial Biotechnology Facility's 1500 liter biological fermentor play in microorganism research at the proposed BSL-3? Given the reportedly close proximity to the proposed BSL-3 facility, this could present a bad international example of U.S. commitment to the Biological and Toxin Weapons Convention. What assurances will LLNL give that this biological fermentor will not be used for industrial scale production of biological select agents or other types of genetically modified microorganisms that have potential weapons applications?

The Need for a Programmatic EIS For the NNSA's Chemical and Biological National Security Program

The National Nuclear Security Administration (NNSA), lead agency for the LLNL BSL-3 Draft EA, has already initiated a well defined program through its Chemical and Biological National Security Program (CBNP). The CBNP was created in 1996 when Congress passed the Defense Against Weapons of Mass Destruction Act, 50 U.S.C. § 2301, et seq. The CBNP is rapidly growing, for example: "Significant progress was made over the past year; partly because program funding was doubled from the FY99 level" [29] and the "CBNP budget increased from $18.5 M in FY 99 to $40.0 M in FY00 and retained that increase for FY01 ($42.1 M)."[30] Nor does the CBNP funding tally appear to capture the total cost for DOE activities with biological select agents. The DOE Office of Inspector General estimates that "the cost in FY 2000 of the Department's biological agent-related activities was in excess of $90 million."[31] In any event, total program funding will no doubt dramatically increase in FY02 following the recent terrorist and anthrax attacks.

This program is not new. As the NNSA states "The CBNP was initiated in 1997" with a clear "mission focus" for which "the development of requirements is a complex challenge involving governmental and non-governmental organizations at national, state and local levels."[32] The NNSA has developed a CBNP Strategic Plan [33] and recognizes that future "*programmatic* challenges" exist.[34] DOE Albuquerque officials have on at least one occasion undertaken "*programmatic* review of pertinent program documents." [35] (Emphases added.) The CBNP is multi-laboratory and spread across the nation. Those facilities identified by the DOE Office of Inspector General as having conducted biological experiments are the Brookhaven, Lawrence Berkeley, Lawrence Livermore, Los Alamos, Sandia-CA, Sandia-NM, Oak Ridge, Pacific Northwest and Idaho Engineering and Environmental National Laboratories.[36] Additionally, "Department laboratories are conducting Work-for-Others programs, Laboratory Directed Research and Development projects, and Cooperative Research and Development Agreement projects involving biological select agents and select agent materials." [37] As further indication of the reach of its potential impacts, the CBNP has already experimented on a large metropolitan and geographical area (Salt Lake City and the Great Salt Lake Basin).[38]

In sum, the CBNP is a large and rapidly growing program to which the NNSA has already committed "irretrievable resources." The program has numerous facilities located across the country that, by virtue of the materials that they work with, can have large potential impacts that could "significantly" affect the "human environment." [39] Yet, in what appears to be a clear violation of the National Environmental Policy Act (NEPA), the CBNP has not undergone public programmatic review. In these comments, NWNM attempts to make clear that that programmatic review is required.

In February 2001 the DOE Office of Inspector General released a report entitled "Inspection of Department of Energy Activities Involving Biological Select Agents." Under RESULTS OF INSPECTIONS, that office concluded:

> [T]he Department's biological select agent activities lacked organization, coordination, and direction. Specifically, the Department's activities lacked appropriate Federal oversight, consistent policy, and standardized implementing procedures, resulting in the potential for greater risk to workers and possibly others from exposure to biological select agents and select agent materials.[40]

As a result of its inspections the DOE IG Office made four primary recommendations to the DOE Under Secretary for Energy, Science, and Environment and the DOE Under Secretary for Nuclear Security [i.e., the NNSA]. The DOE IG Office recommended them to jointly:

1. Identify the types and locations of activities being conducted by the Department involving biological select agents and select agent materials.
2. Initiate actions to ensure: (a) appropriate federal oversight; (b) consistency in policy; and (c) standardization of implementing procedures for biological select agent activities being conducted by the Department. Actions, for example, could include encouraging more interagency cooperation in this area and, similar to the approach taken by the United States Army, supplementing CDC [Centers for Disease Control and Prevention] guidance regarding activities involving biological select agents and select agent materials to address situations unique to DOE.
3. Ensure that required NEPA reviews are conducted prior to the start of biological select agents and select agent materials and revised, as needed, when significant changes occur in the activities.

4. Initiate appropriate action to ensure the Department's laboratories, including those managed by the NNSA, receive timely and consistent information regarding CDC guidelines.[41]

The DOE IG report states that the Acting Director of the NNSA Chemical and Biological National Security Program generally concurred with all four recommendations. Specifically on the issue of NEPA compliance, the DOE IG report says that the "Acting Director stated that the Department is *required* to comply with NEPA. He stated that the Department will 'continue to address biological research within individual laboratory annual planning summaries and *otherwise according to Department requirements'* to ensure that that appropriate consideration is given to NEPA compliance *early in the planning process*." [42] (Emphases added.)

On the subject of "otherwise according to Department requirements," DOE NEPA Implementation Regulations, §1021.330, "Programmatic (including Site-wide) NEPA Documents," states:

(a) When required to support a DOE programmatic decision (40 CFR §1508.18 (b) (3)), DOE shall prepare a programmatic EIS or EA (40 CFR §1502.4). (Emphasis added.)

(b) A DOE programmatic NEPA document shall be prepared, issued, and circulated in accordance with the requirements for any other NEPA document, as established by the CEQ regulations and this part.

The above referenced 40 CFR §1508.18 (b) (3), "Major Federal action," states

(b) Federal actions tend to fall within one of the following categories: …

(3) Adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive.

The above referenced 40 CFR §1502.4, "Major Federal actions requiring the preparation of environmental impact statements," states

(a) Agencies shall make sure the proposal which is the subject of an environmental impact statement is properly defined. Agencies shall use the criteria for scope (§1508.25) to determine which proposal(s) shall be the subject of a particular statement. Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement.

(b) Environmental impact statements may be prepared, and *are sometimes required, for broad Federal actions such as the adoption of new agency programs* or regulations (§150.18). Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decision-making. (Emphasis added.)

The above referenced 40 CFR, §1508.25, "Scope," states

To determine the scope of environmental impact statements agencies shall consider 3 types of actions, 3 types of alternatives, and 3 types of impacts. They include:

1. Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:…

(iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

Under "Purpose and Need for Agency Action " the Draft LLNL BSL-3 EA says that "DOE con-

ducts bioscience work at LLNL in support of its national NNSA security and science missions and in support of the CBNP [Chemical and Biological National Security Program] … NNSA needs BSL-3 laboratory capability located at LLNL." Thus, it is self-evident that the proposed LLNL BSL-3 is an interdependent part of a larger federal action, which is the NNSA's Chemical and Biological National Security Program. In turn, the proposed LLNL BSL-3 laboratory depends upon that program for its justification. It is also self-evident that the CBNP is a major federal action that has the potential to significantly affect the human environment. Just because the CBNP is an ongoing program that has not yet been programmatically reviewed under NEPA does not excuse it now from review. As NEPA states: "Actions include the circumstance where the responsible officials fail to act and that failure is reviewable by courts or administrative tribunals under the Administrative Procedures Act or other applicable law as agency action." [43]

The Department of Energy declares that "It is DOE's policy to follow the letter and spirit of NEPA; comply fully with the CEQ [Council on Environmental Quality] regulations; and apply the NEPA review process early in the planning stages for DOE proposals."[44] In contradiction, DOE's NEPA history is replete with major violations and failures to act.[45] Our present concern is further heightened by revelations that the NNSA's Chemical and Biological National Security Program has already arguably violated NEPA procedures at two of its facilities, the Chem-Bio Facility under construction at the Oak Ridge National Laboratory (proposed as a BSL-3 facility but without an environmental assessment) and a facility at Sandia-NM (whose original scope of work had significantly changed without related NEPA review).[46]

DOE was forced by citizens to prepare a Stockpile Stewardship and Management (SSM) PEIS for public review of Departmental proposals to consolidate and revitalize its nuclear weapons complex. That 1996 document said:

> This PEIS has been prepared in accordance with section 102(2)(c) of the *National Environmental Policy Act* (NEPA) of 1969, as amended (42 U.S.C. 4321 et seq.), and implemented by regulations promulgated by the Council on Environmental Policy (CEQ) (40 CFR 1500-1508) and DOE regulations (10 CFR 1021). Under NEPA, Federal agencies, such as DOE, that propose major actions that could significantly affect the quality of the human environment are required to prepare an environmental impact statement (EIS) to ensure that environmental information is available to public officials and citizens before actions are taken. *For broad actions*, such as the Stockpile Stewardship and Management Program, *a PEIS is prepared*. [47] (Emphasis added.)

Under the same NEPA requirements it should be noted that the DOE has also prepared a Waste Management PEIS, a Storage and Disposition of Weapons-Usable Fissile Materials PEIS and a Tritium Supply and Recycling PEIS.

From the perspective of required programmatic review under NEPA, Nuclear Watch of New Mexico asserts that there is little difference between the Stockpile Stewardship and Management Program and the Chemical and Biological National Security Program. Both were explicitly new programs involving the significant commitment of irretrievable resources and potentially significantly affecting the human environment. Yet one received programmatic NEPA review and one still has not. We hereby make the claim that <u>the NNSA is required under NEPA to prepare a CBNP PEIS</u>, and the agency should act quickly to do so.

Despite what seem to be clear NEPA requirements, the NNSA may still be loath to undertake a CBNP PEIS. The NNSA should be aware that public comment can be of great direct benefit to the agency. One example is that when DOE prepared a draft Los Alamos National Laboratory (LANL) Site-Wide EIS in 1998, these writers commented that the risk of wildfire was completely omitted (an incredible omission!). DOE subsequently included in the 1999 Final LANL Site-Wide EIS a risk analysis of a model fire that eerily matched the all-too-real Cerro Grande Fire of 2000. As a result, the lab took some fire prevention measures that, among other things, helped to keep the waste dumps and storage areas at Technical Area-54 from burning. In the informal words of the director of the LANL's fire rehabilitation project, the existence of that wildfire risk analysis saved the lab three critical days in determining appropriate emergency response measures while the fire raged. That analysis would not have existed without the NEPA process and related public comment.

Should the NNSA amicably agree to prepare a CBNP PEIS, Nuclear Watch of New Mexico contends that the SSM PEIS can serve as a useful model in a number of ways. First of all, the SSM PEIS provided a forum in which DOE could lay out its rationale and justification for the SSM Program. This is of analogous importance to the CBNP in that one of the major concerns expressed by the public over the proposals DOE has put forth for BSL-3 facilities is the propriety of locating a biological research facility at an institution whose historic mission has been the research and development of deliverable nuclear weapons. At the same time this is an issue that the mere appearance of which can be of international significance. DOE has emphatically and repeatedly denied that its future BSL-3 facilities would ever be used for offensive purposes. A CBNP PEIS would help to lay the programmatic foundation for such assurances. Moreover, a CBNP PEIS could help build public and international confidence through discussion of the international treaty framework governing biological select agents and by institutionalizing transparency measures for the entire program under that framework.

Another way that the SSM PEIS can serve as a useful model is that that document served both as a programmatic review and facility-specific review. This is to suggest that in the course of a CBNP PEIS the NNSA could simultaneously prepare the programmatic review that we believe NEPA clearly requires and still move forward as appropriate in the NEPA process for both the LLNL and LANL BSL-3 facilities.

A CBNP PEIS can also serve to promote needed interagency cooperation. To again quote the DOE IG Office's second recommendation, the NNSA should:

> 2. Initiate actions to ensure: (a) appropriate federal oversight; (b) consistency in policy; and (c) standardization of implementing procedures for biological select agent activities being conducted by the Department. Actions, for example, could include encouraging more interagency cooperation in this area and, similar to the approach taken by the United States Army, supplementing CDC guidance regarding activities involving biological select agents and select agent materials to address situations unique to DOE.

In Nuclear Watch of New Mexico's view, the CDC should be designated as a "cooperating agency" in a CBNP PEIS and not merely as a "supporting agency." As the lead agency in this NEPA process, the NNSA should request that designation.[48] The NNSA should be advised that to have the CDC's active participation in these NEPA processes would undoubtedly go a long ways towards alleviating public concerns over safety and health issues. In addition, given that the CDC is reportedly chronically under-funded, the NNSA should help financially support the CDC in any role that it might play as a cooperating agency.

Again in reference to the DOE IG's second recommendation (specifically to the phrase "similar to the approach taken by the United States Army") it needs to be noted that the U.S. Army prepared and released in April 1989 a Final Programmatic Environmental Impact Statement on its Biological Defense Research Program (BDRP).[49] Under "Description of the BDRP," the Army states that the "objectives of the BDRP are to develop measures for detection, treatment, protection and decontamination of potential biological warfare threat agents."[50] In a broadly similar mission, the "DOE Chemical and Biological National Security Program (CBNP) was initiated in FY1997 to engage the DOE and its laboratories more fully in the development and demonstration of new technologies and systems to improve U.S. domestic preparedness and response capabilities to chemical and biological attacks."[51] Like the Army's program, the NNSA's Chemical and Biological National Security Program is multi-facility across the nation, with the potential for significant impacts on the human environment. The Army found its PEIS "an excellent approach for considering unscheduled, unidentified future implementing actions that may have environmental impact," [52] acknowledged that the "jurisdiction" of its PEIS was "[n]ationwide," [53] and fulfilled its statutory NEPA obligations through the completion of its PEIS. In Nuclear Watch of New Mexico's view the DOE is under the same NEPA obligation to prepare a PEIS on its Chemical and Biological National Security Program, and should proceed to do so without delay.

The NNSA may perhaps argue that the present national security climate following the September 11 and anthrax attacks does not allow for the "luxury" of a programmatic EIS on its Chemical and Biological National Security Program. Even though we too recognize the increasing need for enhanced national defenses against the threat of chemical or biological attack, Nuclear Watch of New Mexico would argue otherwise. Obviously other governmental programs now exist (even present day activities at LLNL) that are addressing current issues. Also obvious is the fact that all federal agencies, even in today's security climate, are still obliged to comply with NEPA. Moreover, as the SSM PEIS illustrates, programmatic review and facility review can still occur simultaneously. Therefore, the preparation of a PEIS is not an insurmountable obstacle to the NNSA's pursuit of a BSL-3 facility at LLNL. Further, we contend that NNSA preparation and completion of a CBNP PEIS, besides meeting legal obligations under NEPA, will serve to improve the program, specific facilities (such as the proposed LLNL BSL-3 facility), interagency cooperation and public relations. We again urge the NNSA to fulfill its NEPA obligations by preparing a programmatic EIS for its Chemical and Biological National Security Program in a timely manner.

-END OF COMMENTS-

Respectfully submitted,

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Research Director

Jay Coghlan
Director

1 Predecisional Draft Environmental Assessment for the Proposed Construction and Operation of a Biosafety Level 3 Facility at Lawrence Livermore National Laboratory, Livermore, California, DOE/EA-1442, July, 2002.

2 *Ibid*., p. 7.

3 *Ibid*., p. 6.

4 *Ibid*.

5 Environmental Assessment for the Proposed Construction and Operation of a Biosafety Level 3 Facility at Los Alamos National Laboratory, Los Alamos, New Mexico, DOE/EA-1364, February 26, 2002.

6 LLNL Draft EA, p. 26.

7 *Ibid*., p. 26.

8 *Ibid*., p. 18.

9 "Preliminary Hazards Analysis for the Biosafety Level-3 Laboratory at Los Alamos National Laboratory," Los Alamos National Laboratory, LA-UR-01-1337, February 15, 2000.

10 Environmental Assessment for the Proposed Construction and Operation of a Biosafety Level 3 Facility at Los Alamos National Laboratory, Los Alamos, New Mexico, DOE/EA-1364, February 26, 2002, p. 42.

11 LLNL Draft EA, p. 15.

12 LANL Final EA, p. vii.

13 Security Gaps at Department of Energy Nuclear Weapons Facilities, Representative Edward Markey, United States Congress.

14 "Los Alamos National Laboratory (LANL) agrees with NNSA that the best overall decision to meet the post September 11 challenges for the long-term security of nuclear activities associated with [Technical Area] –18 is to move the CAT I/II [nuclear] materials to the Nevada Test Site's Device Assembly Facility." Personal correspondence from John Browne, Director, LANL to Dr. Everet Beckner, Deputy Administrator, Defense Programs, NNSA, June 28th 2002.

15 The facility reviews in the DA's FEIS is very similar to LLNL's proposed facility. Though the DA designed the facility as a BSL-4, this was done only for added safety and security. The DA states that no BSL-4 work would ever be conducted in this facility, only BSL-3 work. Additionally, the DA facility is designed for small mammal aerosol challenges with the causative agents for anthrax, Q fever, etc, just as the LLNL proposed facility.

16 Final Environmental Impact Statement, Life Sciences Test Facility, Dugway Proving Ground, Utah, Department of the Army, March 1992, p. G-14-5.

17 *Ibid*., p. A-20.

18 *Ibid.*, p. G-15.

19 Draft EA, p. 47.

20 DA DPG FEIS, p. G-24.

21 *Ibid*., Appendix III, p. 3.

22 The Modified Mercalli Scale states for:

"Intensity VIII: Damage slight in specially designed structures; considerable in ordinary substantial buildings with partial collapse; great in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Disturbed persons in motor cars.
Intensity IX: Damage considerable in specially designed structures; well designed frame structures thrown out of plumb; great in substantial buildings, with partial collapse, Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken." *Ibid*., p. 4.

23 "Earthquake Probabilities in the San Francisco Bay Region: 2000-2030 – A Summary of Findings," Working Group on California Earthquake Probabilities, USGS, Report 99-517, 1999.

24 *Ibid*.

25 USGS Earthquake Hazards Program, North of Livermore Valley, California 1980 01 24 19:00:09.5 UTC, 5.9M, Intensity VII, neic.usgs.gov/neis/eqlists/USA/1980_01_24.html.

26 Draft EA, p. 19.

27 LANL Final EA, BSL-3, p. A2-1.

28 Draft EA, p. 8.

29 CBNP FY00 Annual Report, NNSA Office of Nonproliferation Research and Engineering, p. 1.

30 *Ibid*, p. 45.

[31] "Investigation of Department of Energy Activities Involving Biological Select Agents," DOE/IG-0492, February 2001, p. 4.

[32] The last three quotes are from the CBNP FY00 Annual Report, NNSA Office of Nonproliferation Research and Engineering, p. 5.

[33] *Ibid*, p. 11.

[34] *Ibid*, p. 48.

[35] "Investigation of Department of Energy Activities Involving Biological Select Agents," DOE/IG-0492, February 2001, p. E-17.

[36] *Ibid*, see pp. 16, 17 and 30.

[37] *Ibid*, p. 4.

[38] CBNP FY00 Annual Report, NNSA Office of Nonproliferation Research and Engineering, p. 167 - 170.

[39] The last three quotes are phrases repeatedly used in the National Environmental Policy Act (NEPA) and implementing regulations. NEPA requires federal agencies to evaluate the potential environmental consequences of any proposed "major federal action." NEPA may require the preparation of an environmental assessment or a more comprehensive environmental impact statement. In the case of a proposed program, a broad programmatic environmental impact state ment might be required (as Nuclear Watch of New Mexico argues in these comments).

[40] "Investigation of Department of Energy Activities Involving Biological Select Agents," DOE/IG-0492, February 2001, inspection transmittal letter to the DOE Secretary.

[41] *Ibid*, p. 25.

[42] *Ibid*, p. 27.

[43] 40 CFR §1508.18, "Major Federal action."

[44] 10 CFR, Chapter X, Part 1021 - "DOE NEPA Implementing Procedures," §1021.101 "Policy."

[45] This writer has intimate knowledge of 1) DOE's past failure to prepare a new LANL Site-Wide EIS, 2) DOE's past fail ure to produce a Stockpile Stewardship and Management PEIS, 3) DOE's failure to prepare an Environmental Restoration PEIS, and 4) DOE's past failure to prepare an EIS for LANL's Dual Axis Radiographic Hydrotest Facility. As a co-plaintiff he successfully litigated against DOE on the last two issues.

[46] "Investigation of Department of Energy Activities Involving Biological Select Agents," DOE/IG-0492, February 2001, p. 23.

[47] Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management, DOE, September 1996, p. S-5.

[48] As provided for by 10 CFR (DOE NEPA Implementing Regulations) Sec. 1021.342, "Interagency cooperation" and 40 CFR (CEQ Regulations for Implementing NEPA), Sec. 1506.6, "Cooperating agencies."

[49] Although it is not completely clear, apparently the Army's decision to prepare a PEIS was forced by citizen litigation under NEPA in Foundation on Economic Trends v. Weinberger. See Final PEIS on the Biological Defense Research Program, U.S. Army, April 1989, p. 1-7.

[50] *Ibid*, p.ES-1.

[51] Final LANL BSL-3 EA, p. 2.

[52] Final PEIS on the Biological Defense Research Program, U.S. Army, April 1989, p. ES-3. This is relevant to a future DOE CBNP PEIS because as the Draft LANL BSL-3 EA states "other [DOE] facilities [specifically Sandia and Lawrence Livermore National Laboratories] may consider the construction and operation of BSL-3 facilities in the future." (p. 35.)

[53] Final PEIS on the Biological Defense Research Program, U.S. Army, April 1989, cover sheet.