APPENDIX B:

MODELING GROUNDWATER IMPACTS FROM THE PCB CAPACITOR LANDFILL

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APPENDIX B:

MODELING GROUNDWATER IMPACTS FROM THE PCB CAPACITOR LANDFILL

B.1 INTRODUCTION

As discussed in the Action Memorandum (Bainer and Berg 1998), 112 capacitors containing polychlorinated biphenyls (PCBs) were unearthed at the NIF construction site located in the northeastern portion of the Livermore Site (Figures B.1 and B.2). The capacitors and about 694 metric tons (766 short tons) of PCB-contaminated soils were removed. An excavated trench about 6.1 m (20 ft) wide, 21 m (70 ft) long and 5.2 m (17 ft) deep was used for this removal operation. The highest concentration of PCBs in the removed soils was 66 ppm. After removal, residual PCB levels were less than 1 ppm, consistent with environmental regulations and cleanup levels established in coordination with the CERCLA Remedial Project Managers (RPMs), who represent the U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control, and the San Francisco Bay Region Water Quality Board. The purpose of this appendix is to estimate the effects of PCBs on groundwater beneath the extraction trench.

B.2 PHYSICAL PROPERTIES OF PCBs

To perform any analyses for the extraction trench, physical and chemical properties of the capacitor material is needed. As mentioned in the Action Memorandum (Bainer and Berg 1998), the material in the capacitors was identified as Diaclor, although soil analyses from around the capacitors was reported as Aroclor 1254. PCBs were sold under the trade name Aroclor, although companies that used PCBs in the manufacture of capacitors often used other trade names, such as Diaclor. PCBs are produced by the chlorination of biphenyl. One to 10 hydrogen atoms of biphenyl can be replaced with chlorine atoms. Given all of the possible arrangements of chlorine atoms, there are 209 compounds (congeners) that are classified as PCBs (Mackay et al. 1992). These compounds do not readily degrade in groundwater systems.

Commercial mixtures of PCBs were manufactured under the trade name Aroclor. Aroclors 1260, 1254, and 1242 were most frequently used in electrical equipment. Aroclor 1260 contains 60% by weight chlorine, Aroclor 1254 contains 54% by weight chlorine, etc. For the purposes of this appendix, the capacitor material will be assumed to have the properties of the Aroclor 1254, and the results of surveys were reported as Aroclor 1254.

For the following calculations, two properties are required. The first is the solubility of the Aroclor in water. The Aroclor with the highest solubility would contribute the most material

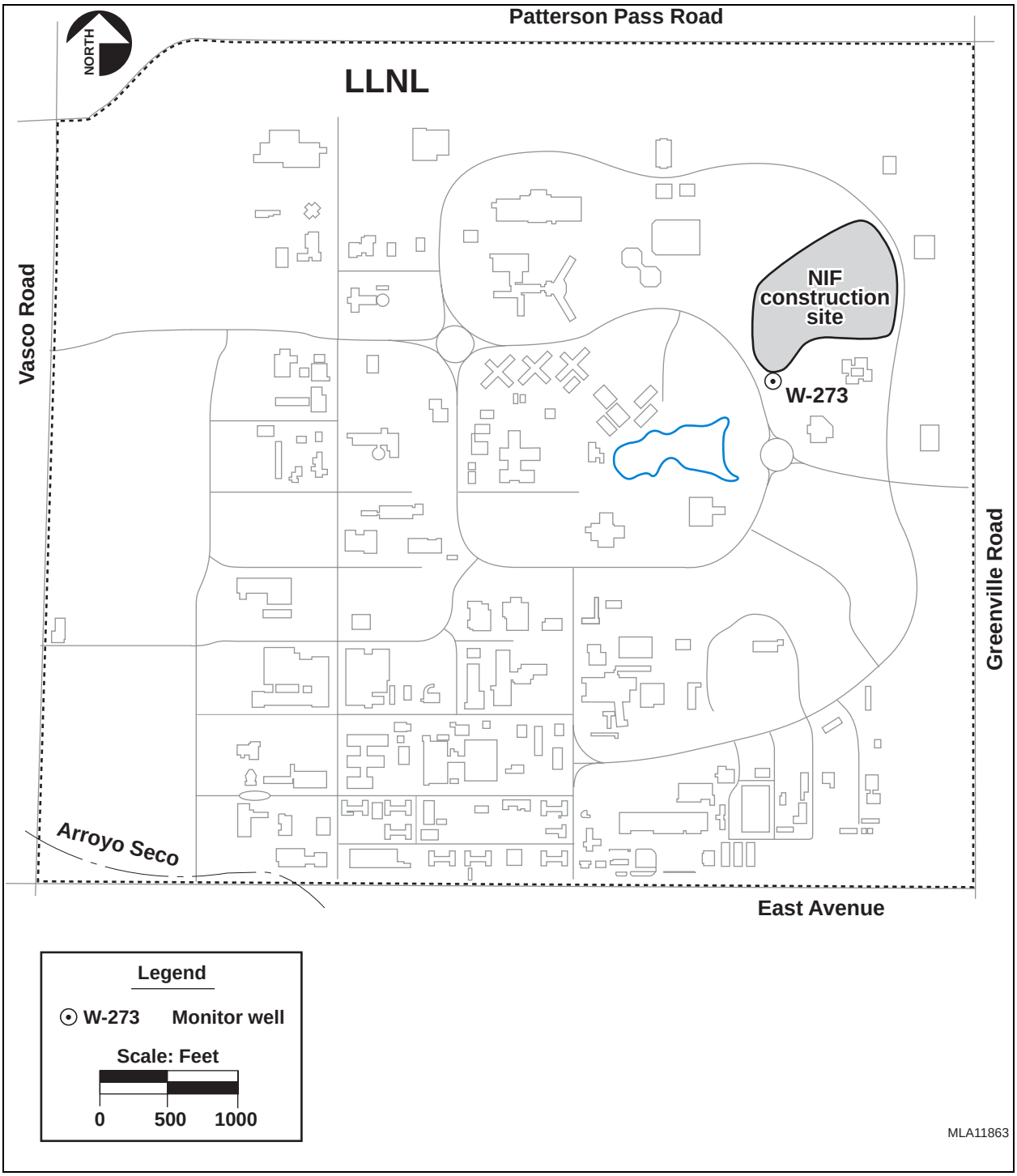

FIGURE B.1 Location of the NIF Construction Site at the LLNL Livermore Site (Source: Bainer and Berg 1998)

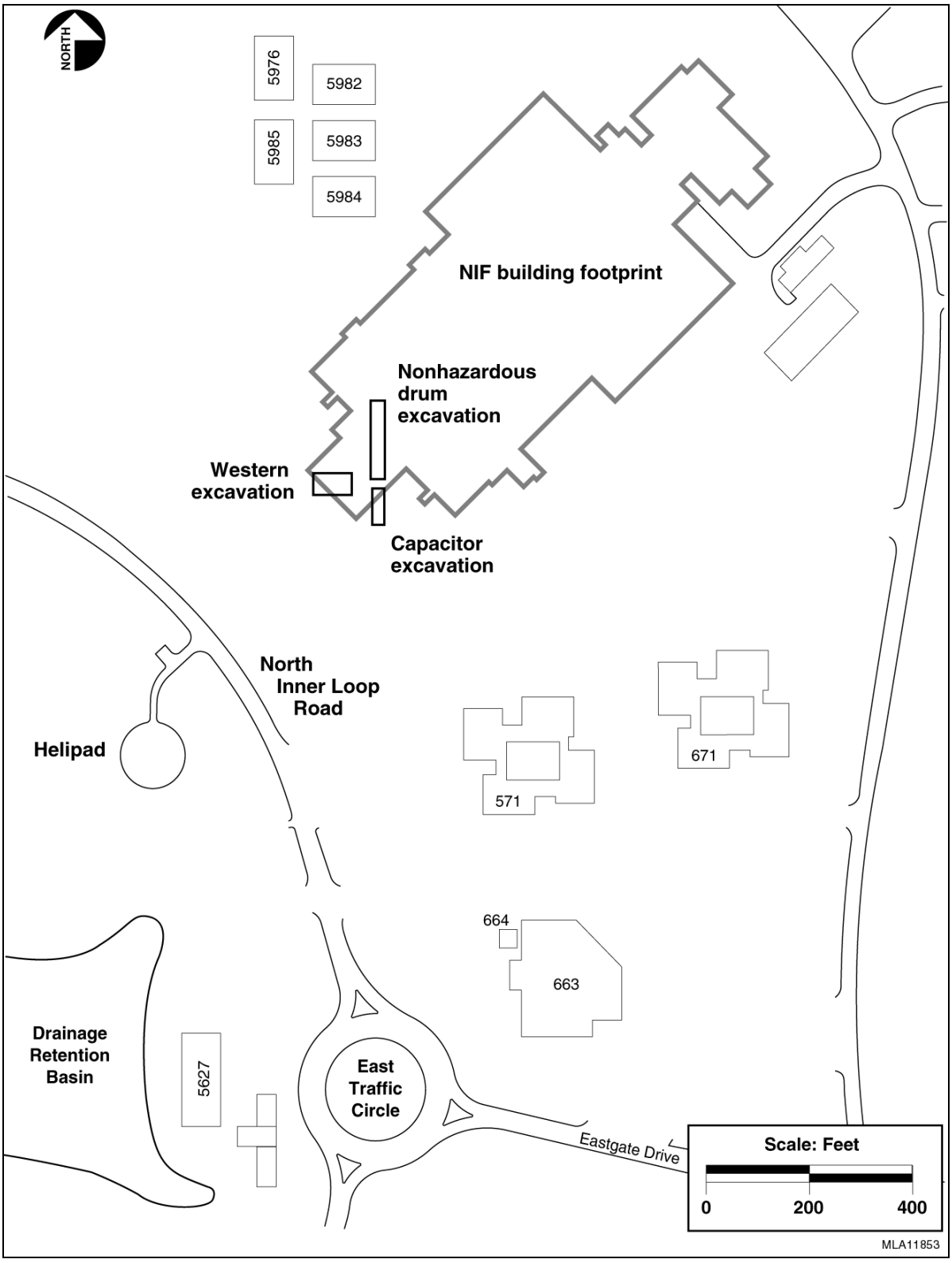

FIGURE B.2 Location of the Capacitor, Drum, and Western Excavations at the NIF Construction Area and Location of the East Traffic Circle Area (Source: Modified from Bainer and Berg 1998)

to the liquid phase and produce the greatest impact on the groundwater. The second property of interest is the partition coefficient (designated K_d) for the Aroclor. The partition coefficient defines the amount of material that would be in equilibrium between the sorbed and aqueous phase. That is, K_d is the mass of solute on the solid phase per unit mass of solid phase divided by the concentration of solute in solution (Freeze and Cherry 1979). When appropriately combined with soil properties, the distribution coefficient will provide an indication of how fast, relative to the groundwater velocity, the contaminant will move in the system. The higher the value of K_d, the slower the contaminant will move. Values for K_d are rarely available; however, a counterpart, K_{oc}, is available in the literature, where K_{oc} is the sorption coefficient normalized for organic carbon. K_d can be readily found given K_{oc} by using the following relation:

$$K_d = f_{oc} K_{oc} \ , \tag{B.1}$$

where f_{oc} is the fraction of organic material present in the soil. Table B.1 lists the solubilities and K_{oc} values from Montgomery and Welkom (1991). Of the potential Aroclors, 1242, with its high solubility and low K_{oc}, would produce the largest impacts to groundwater, and will, therefore, be used in the subsequent analyses.

B.3 FATE AND TRANSPORT

In its simplest form, contaminant transport through a porous material can be described by the following one-dimensional partial differential equation (Freeze and Cherry 1979):

$$\frac{\partial C}{\partial t} = -\frac{V}{R}\frac{\partial C}{\partial Z} + \frac{D}{R}\frac{\partial^2 C}{\partial Z^2} \ , \tag{B.2}$$

where:

C = contaminant concentration at time, t, depth Z;

D = dispersion coefficient;

R = retardation coefficient given by the expression $R = 1\ \rho_b K_d/\phi$, where ρ_b is the bulk density of the porous material and ϕ is its effective porosity;

t = time;

V = actual groundwater velocity; and

Z = vertical distance.

TABLE B.1 Aroclor Properties

Aroclor	Solubility (mg/L)	log K_{oc}	K_{oc} (mL/g)
1242	0.1	3.71	5,129
1254	0.057	5.61	407,400
1260	0.08	6.42	2,630,000

Source: Montgomery and Welkom (1991).

The dispersion coefficient, *D*, in Equation B.2 is assumed to follow the function form given by Bear (1972):

$$D = \alpha V \quad , \tag{B.3}$$

where α is the dispersivity of the medium. Diffusional effects are assumed to be negligible relative to advection.

Dispersivity in Equation B.3 is assumed to be scale-dependent (Lallemand-Barres and Peaudecerf 1978); that is:

$$\alpha = 0.1L, \tag{B.4}$$

where *L* is distance from the top of the soil column to the water table.

Use of Equation B.2 makes the following simplifying approximations:

- Lateral transport from the surface to the water table is small (most infiltration occurs vertically),
- The infiltration velocity is constant in time and space, approximate for scoping calculations where the distance between the soil surface and groundwater surface is long,
- The soil is homogeneous,
- The contaminant is conservative (i.e., it does not decay or degrade in any way along its flow path),

- Sorption processes can be represented with a linear isotherm (i.e., sorption processes are fast and reversible).

If the impacts calculated with the model described by Equation B.2 are large, additional, more detailed calculations would be required in accordance with NEPA guidance.

In order to solve Equation B.2, two boundary conditions are needed. The first assumes that the concentration of the Aroclor goes to zero as the vertical distance goes to infinity. The second boundary condition is applied at the ground surface ($Z = 0.0$). At this location, the Aroclor is assumed to behave as a unit square-wave source in time. That is, the concentration at $Z = 0$ is some initial value, C_0, and remains so until a time equal to Δt, when the concentration returns to zero. The initial concentration is simply equal to the solubility of Aroclor. This type of boundary can be described by the following equation:

$$\frac{C}{C_0} = U(t - 0.0) - U(t - \Delta t)\,, \tag{B.5}$$

where U is the unit function (Kreyszig 1967).

Equation B.2, subject to the above boundary conditions, was solved using the method of Laplace transforms. The solution is given by the following expression (Tomasko 1992):

$$\frac{C}{C_0} = \frac{1}{2}\left(\operatorname{erfc}\left(\frac{ZR - Vt}{2\sqrt{DRt}}\right) + e^{\frac{vz}{d}} \operatorname{erfc}\left(\frac{ZR + Vt}{2\sqrt{DRt}}\right)\right)$$

$$- \frac{1}{2} H(t - \Delta t)\left(\operatorname{erfc}\left(\frac{ZR - V(t - \Delta t)}{2\sqrt{DR(t - \Delta T)}}\right) + e^{\frac{VZ}{D}} \operatorname{erfc}\left(\frac{ZR + V(t - \Delta t)}{2\sqrt{DR(t - \Delta t)}}\right)\right)\,, \tag{B.6}$$

where H is the Heaviside function (Hildebrand 1976) such that:

$H(t - \Delta t) = 0$ for $t < \Delta t$,

and

$H(t - \Delta t) = 1$ for $t \geq \Delta t$, and

$$\operatorname{erf}(\gamma) = 1 - \operatorname{erf}(\gamma) = 1 - \frac{2}{\sqrt{\pi}} \int_o^y e^{-\lambda^2}\, d\lambda\,. \tag{B.7}$$

B.4 POROUS MEDIUM INPUT VALUES

To solve Equation B.6, a number of physical parameters are required. Many of these were discussed in the main text. The vertical distance from the ground surface to the water table is 13 m (43 ft) for a water table at a depth of 18 m (60 ft), and an excavation depth of 5.2 m (17 ft) for the capacitor trench. Retardation, R, for Aroclor 1242 is about 487 using a fraction of organic carbon in the soil of 1.7% (Maidment 1992), an average bulk density for the soil of 1.89 g/cm^3, and an average effective porosity of 0.339 derived from soil sample data at the NIF site (Stephens and Associates, Inc. 1996). The vertical groundwater velocity is assumed to be equal to the average annual recharge to HSU 1, 33 mm/yr (1.33 in./yr [0.11 ft/yr]) (Vogele et al. 1996). For this velocity and travel distance, the computed dispersion coefficient is 0.04 m^2/yr (0.47 ft^2/yr).

In addition to the above parameters, the duration of the Aroclor 1242 is needed for Equation B.6. This duration can be roughly approximated by assuming that the infiltrating precipitation dissolves the PCB from the soil at a solubility-limited concentration and then transports the solute vertically downwards to the water table. By mass conservation,

$$\Delta t = \frac{\rho_{1242} t_h}{VSol}, \tag{B.8}$$

where:

Sol = solubility of the Aroclor,

t = thickness of the residual contamination (about 0.3 m [1 ft]), and

ρ_{1242} = density of Aroclor 1242.

As specified in the Action Memorandum (Bainer and Berg 1998), the PCBs were cleaned up to a concentration of less than 1 ppm. For the soils at the NIF site (Stephens and Associates, Inc. 1996), the average dry density is about 1.75 g/cm^3, and, therefore, the concentration of Aroclor is 1.75×10^{-6} g/cm^3. The duration of residual Aroclor in the soil is thus about 160 years.

B.5 CALCULATIONS

Figure B.3 shows the normalized concentration (C/C_0) as a function of time (break-through curve) calculated with Equation B.6 and as many site-specific parameters as possible. For these conditions, Aroclor 1242 will attain a maximum concentration of about 0.001 after

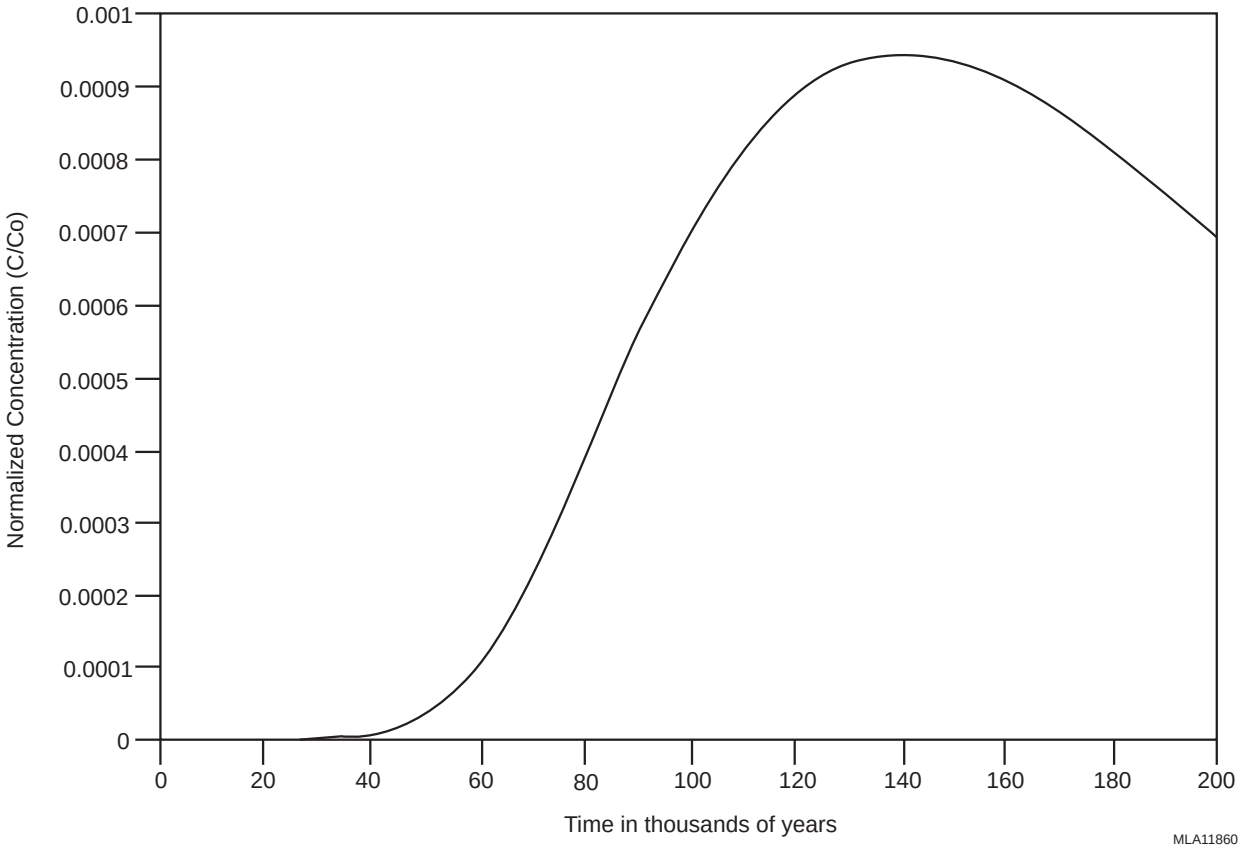

FIGURE B.3 Water Table Breakthrough Curve for PCB (Aroclor 1242) at the NIF Construction Area

approximately 140,000 years. This long breakthrough curve is primarily the result of the high degree of retardation and is not unexpected. To get an actual water concentration at the water table, the value 0.001 must be multiplied by the initial concentration at the ground surface (assumed to be equal to the solubility of Aroclor 1242 — 1.0×10^{-7} g/cm^3). The resulting maximum Aroclor concentration at the water table would, therefore, be about 1.0×10^{-10} g/cm^3. This value is about 20% of the EPA maximum contaminant level (MCL) for drinking water (EPA 1994).

Once the infiltrating water that contains Aroclor 1242 reaches the water table, mixing will occur. A simple mixing model (Tomasko 1992) was used, as found from the following expression:

$$d_f = \frac{V_d t_h}{I X_l \phi} + 1, \qquad \text{(B.9)}$$

where:

I = infiltration rate,

t_h = thickness of HSU 1 (9 m [30 ft]),

V_d = Darcy velocity in HSU 1 (about 0.34 m/yr [1.1 ft/yr]), and

X_l = width of contamination zone parallel to the direction of groundwater flow (assumed to be equal to the width of the excavation trench — 6 m [20 ft]).

The concentration of Aroclor 1242 in groundwater after mixing would, therefore, be about 2.5×10^{-12} g/cm^3 (0.0025 ppb), which is about 0.5% of the MCL for drinking water.

B.6 REFERENCES FOR APPENDIX B

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APPENDIX C:

CONTRACTOR DISCLOSURE STATEMENT

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Appendix C Contractor Disclosure Statement
NEPA Disclosure Statement for the Preparation of the National Ignition Facility Supplemental Environmental Impact Statement to the SSM PEIS

CEQ Regulations at 40 CFR 1506.5(c), which have been adopted by the DOE (10 CFR 1021), require contractors who will prepare an EIS to execute a disclosure specifying that they have no financial or other interest in the outcome of the project. The term "financial interest or other interest in the outcome of the project" for the purposes of this disclosure is defined in the March 23, 1981 guidance, "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18026-18038 at Question 17a and b.

"Financial or other interest in the outcome of the project 'includes' any financial benefits such as a promise of future construction or design work in the project, as well as indirect benefits the contractor is aware of (e.g., if the project would aid proposals sponsored by the firm's other clients)." 46 FR 18026-18038 at 18031.

In accordance with these requirements, the offeror and any proposed subcontractors hereby certify as follows: (check either (a) or (b) to assure consideration of your proposal).

(a) X Offeror/subcontractor have no financial interest in the outcome of the project.

(b) ___ Offeror and any proposed subcontractor have the following financial or other interest in the outcome of the project and hereby agree to divest themselves of such interest prior to award of this contact.

Financial or Other Interests:

1.
2.
3.

Certified by:

Anthony Dvorak
Signature

ANTHONY DVORAK
Name

Division Director, Environmental Assessment Division

August 16, 2000
Date

Argonne National Laboratory

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ATTACHMENT 1:

JOINT STIPULATION AND ORDER

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Noan 9

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

NATURAL RESOURCES DEFENSE COUNCIL, et al.,	)
Plaintiffs,	)
v.	) Civ. No. 97-936 (SS)
FEDERICO PEÑA, Secretary of Energy, et al.,	)
Defendants.	)

90-1-4-445

JOINT STIPULATION AND ORDER

WHEREAS, on April 30, 1997, Plaintiffs filed a complaint and motion for preliminary injunction in this action, alleging, *inter alia*, that Defendants failed to adequately analyze the environmental impacts of, and reasonable alternatives to, construction and operation of the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL), thus violating the requirements of the National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321 *et seq.*; the regulations of the Council on Environmental Quality, 40 C.F.R. Parts 1500 to 1508 (CEQ regulations); and the NEPA regulations of the Department of Energy (DOE), 10 C.F.R. Part 1021;

WHEREAS, on August 8, 1997, the Court denied Plaintiffs' motion in part and granted it in part, finding, *inter alia*, that Defendants had looked carefully at NIF;

1/6

WHEREAS, on September 3-12, 1997, after denial of Plaintiffs' motion for preliminary injunction directed towards construction of NIF, Defendants unearthed, removed from the NIF excavation pit, and disposed of 112 capacitors contaminated with toxic polychlorinated biphenyls (PCB's) and approximately 784 tons of PCB-contaminated soil, as well as 75 corroded waste drums;

WHEREAS, Defendants assert that they conducted the foregoing removal and disposal activities in accordance with applicable laws and regulations and in a manner that did not pose any threat to the public health and safety or to the environment;

WHEREAS, Plaintiffs contest this assertion;

WHEREAS, on September 22, 1997, Plaintiffs moved under Rule 60(b) of the Federal Rules of Civil Procedure for relief from that part of the Court's Order of August 8, 1997, denying Plaintiffs' motion for preliminary injunction of construction and excavation of the NIF pending a ruling on the merits of its claims under NEPA, alleging, *inter alia*, that Defendants previously knew but did not adequately analyze and disclose in the Programmatic Environmental Impact Statement for the Stockpile Stewardship and Management (SSM) Program (SSM PEIS) the risk of building the NIF in an area that may contain buried hazardous, toxic, and/or radioactive wastes;

WHEREAS, Defendants assert that the analysis in the SSM PEIS

regarding the environmental impacts of constructing and operating NIF was fully adequate and that the discovery of the hazardous materials at the NIF excavation site constituted new information;

WHEREAS, Plaintiffs contest this assertion;

WHEREAS, Defendants deny the allegations in Plaintiffs' Rule 60(b) motion, including the allegation that Defendants previously knew but did not adequately analyze and disclose in the SSM PEIS the risk of building the NIF in an area that may contain buried hazardous, toxic, and/or radioactive wastes;

WHEREAS, upon the Court's request, Plaintiffs filed a detailed proposed order on September 23, 1997, suggesting additional studies and analyses for Defendants to prepare regarding hazardous materials in the area in and around the NIF excavation site;

WHEREAS, on September 24, 1997, Defendants filed a response to Plaintiffs' proposed order of September 23, 1997, asserting, *inter alia*, that they have conducted, and plan to continue, detailed evaluations at and nearby the NIF construction site;

WHEREAS, Plaintiffs contest Defendants' assertion that their detailed evaluations are adequate;

WHEREAS, entry into this Joint Stipulation and Order is made in good faith in an effort to avoid further expensive and protracted litigation, without any admission by Defendants or any

concurrence by Plaintiffs as to whether Defendants have violated any applicable laws and regulations, including NEPA, the CEQ regulations or the DOE NEPA regulations, and without any admission by Defendants that they are obligated to prepare and circulate, for public review and comment, a supplement to the SSM PEIS, which evaluates the reasonably foreseeable significant adverse environmental impacts of continuing to construct and operating NIF at LLNL in an area that may be contaminated with hazardous, toxic, and/or radioactive substances;

WHEREAS, each undersigned representative of the parties certifies that he or she is fully authorized to enter into and execute this stipulation on behalf of each respective party and to legally bind such party to this stipulation;

NOW THEREFORE, the undersigned attorneys for the respective parties to this action hereby stipulate and agree as follows:

1. As specified in paragraphs 2-6 below, Defendants will conduct a full evaluation of any potential risks to the human environment resulting from continuing to construct and operating the NIF at LLNL in an area that may be contaminated with hazardous, toxic, and/or radioactive substances;

2. Beginning within 10 days of entry of this Joint Stipulation and Order, Defendants will review all available

reports, studies, maps, aerial photographs and other available records, and interview workers at LLNL who are reasonably known to have relevant knowledge, in order to determine as accurately as possible whether and where hazardous, toxic, and/or radioactive materials may be buried in the following areas, as further identified in the attached map:

a. Helipad Area (Area 1);

b. Building 571 Area (Area 2);

c. Northern Boundary Area (Area 3);

d. Building 490 Area (Area 5);

e. East Traffic Circle Area (unnumbered but marked; buried PCB-laden capacitors and other waste found in an undocumented dump in this area);

f. East Gate Drive Area (Area 15) (another undocumented hazardous waste dump found near this area);

g. The area extending from Areas 1, 2 and 5 to and including the NIF construction site, and beyond to the perimeter of the circular road immediately beyond the NIF construction site, as marked on the map.

3. In the event that the activities conducted under paragraph 2 reveal any areas where hazardous, toxic, and/or radioactive substances may be buried, Defendants will conduct additional surface geophysics analyses as reasonably necessary to obtain relevant information as to potential significant adverse impacts. In conducting such analyses, Defendants will use

appropriate technologies, in accordance with standard industry practice, such as electrical induction surveys, magnetometers, seismic refraction, and/or ground penetrating radar.

4. In the event that the investigation in paragraph 3 reveals or confirms areas where hazardous, toxic, and/or radioactive materials may be buried, Defendants will conduct whatever further analyses are reasonably necessary to evaluate potential risks, including, at a minimum, soil borings and/or soil vapor studies.

5. Defendants are currently drilling a groundwater monitoring well at the Helipad Area (Area 1), and, based on findings therefrom, they will drill one additional groundwater monitoring well within the next six months. Defendants will drill one or more additional groundwater monitoring wells in the area surrounding the NIF construction site, as reasonably necessary, to evaluate the potential impact of any dewatering activities that may be conducted to remove contaminated groundwater from the NIF construction site.

6. During performance of the above activities, Defendants shall provide Plaintiffs and the Court with a report every 90 days (a) summarizing the progress they have made in conducting the above analyses and in constructing the NIF, and (b) describing the analyses and NIF construction activities (including locations and

schedules) that are planned for the next 90-day period. Defendants shall file the first report on or before November 27, 1997. Defendants shall meet with Plaintiffs upon issuance of each report, and up to four additional times annually, if requested by Plaintiffs, to discuss these issues further.

7. Following completion of the above activities described in paragraph 2-5 of this Joint Stipulation and Order, Defendants will prepare and circulate for public review and comment in accordance with DOE NEPA regulation 10 C.F.R. § 1021.314(d), a supplement to the SSM PEIS, which evaluates the reasonably foreseeable significant adverse environmental impacts of continuing to construct and of operating NIF at LLNL with respect to any potential or confirmed contamination in the area by hazardous, toxic, and/or radioactive materials.

8. Pending completion of the above activities, Defendants will take no action with respect to construction of the National Ignition Facility that may threaten the public health, safety and/or the environment, with respect to the potential migration of hazardous, toxic, and/or radioactive materials or contaminated groundwater.

9. The Court may hold a hearing one year after the signing of this Joint Stipulation and Order to review Defendants' progress in

complying with its provisions.

10. Pending Defendants' completion of a supplement to the SSM PEIS and the issuance of a Record of Decision based thereon, the Court shall retain jurisdiction over this matter to enforce the terms of this Joint Stipulation and Order.

11. Defendants may consult with the United States Environmental Protection Agency, the California Department of Toxic Substances Control, and the California Regional Water Quality Control Board (the regulators) about the activities to be taken pursuant to this Joint Stipulation and Order. Nothing in this Joint Stipulation and Order shall require Defendants to conduct any of the foregoing activities in the event that any of the regulators determines that that activity may be detrimental to public health and safety or the environment. In the event that any of the regulators makes such a determination, Defendants shall immediately notify Plaintiffs and provide an opportunity for Plaintiffs and Defendants to meet to discuss these issues further.

12. This Joint Stipulation and Order settles all claims and requests for injunctive relief that have been raised in Plaintiffs' September 22, 1997 Rule 60(b) motion. With respect to claims other than those that have been raised in Plaintiffs' Rule 60(b) motion, Plaintiffs reserve all rights and claims, and Defendants reserve

all rights and defenses, including jurisdictional defenses. In any judicial action to enforce this Joint Stipulation and Order, Defendants reserve all rights and defenses, including jurisdictional defenses.

Respectfully submitted this 22nd day of October, 1997,

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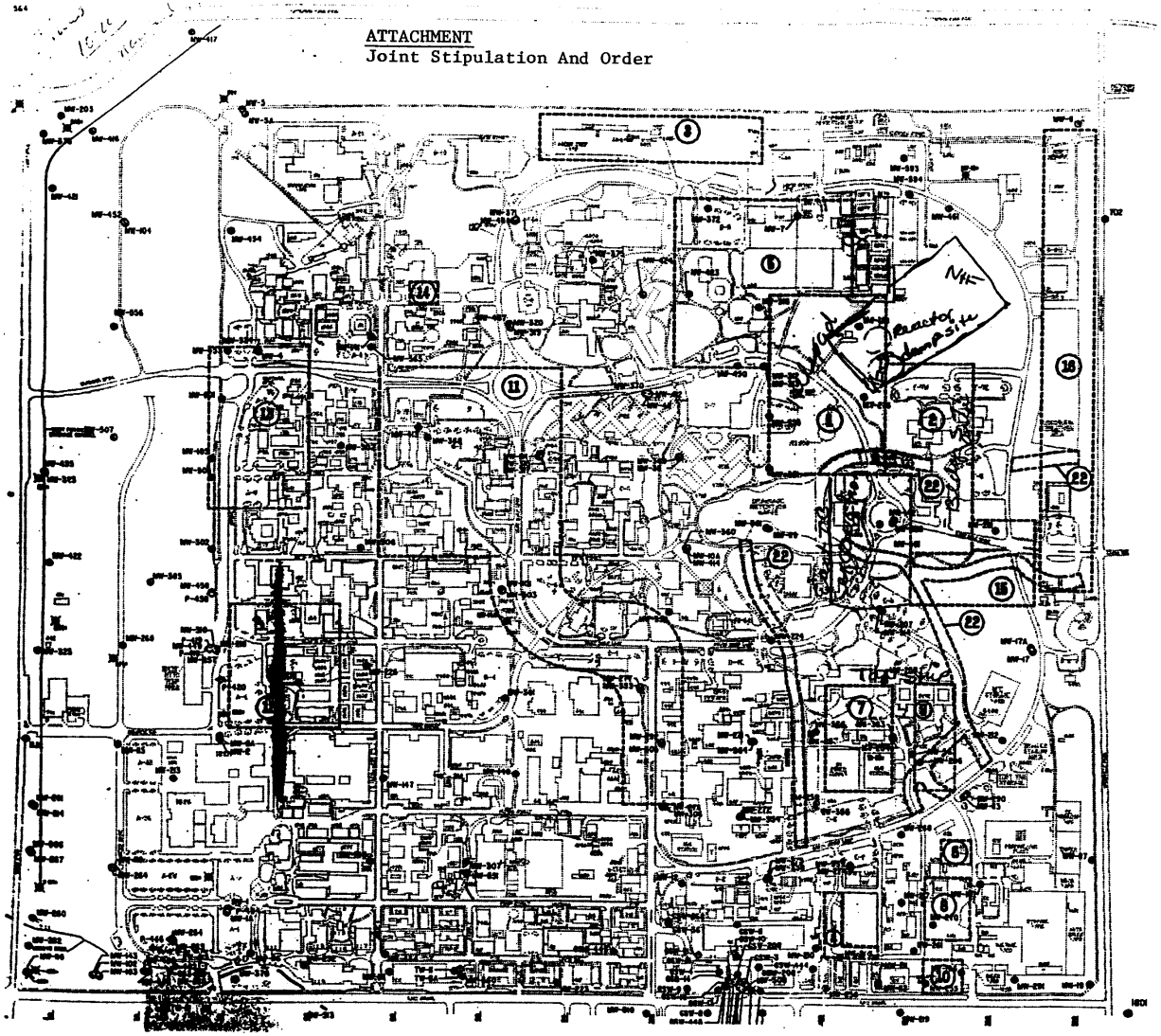
Attorneys for Defendants

ORDER

The foregoing Joint Stipulation is APPROVED and ENTERED as an Order of this Court on this 27 day of Oct, 1997.

HONORABLE STANLEY SPORKIN
United States District Judge

ATTACHMENT
Joint Stipulation And Order



Marylia Kelley Declaration
Attachment H

AREAS RECOMMENDED FOR ADDITIONAL STUDY 1990

1. Helipad Area
2. Building 571 Area
3. Northern Boundary Area
4. Building 511
5. Building 490 Area
6. Evaporation Pond
7. Building 543 Area
8. Building 612
9. Building 5475 Area
10. Building 518
11. Chromium Study
12. Building 141
13. MW-501 Area
14. Building 292
15. East Gate Drive Area
16. North East Boundry Area
17. Unlined Drainage Ditchs

NORTH

6-31-90 JNH

ATTACHMENT 2:

NOTICE OF INTENT

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[Federal Register: September 25, 1998 (Volume 63, Number 186)]
[Notices]
[Page 51341]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr25se98-47]

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DEPARTMENT OF ENERGY

Supplemental Environmental Impact Statement for the Programmatic Environmental Impact Statement for Stockpile Stewardship and Management

AGENCY: Department of Energy (DOE).

ACTION: Notice of intent.

SUMMARY: The Department of Energy announces its intent to prepare and issue a Supplemental Environmental Impact Statement (SEIS) for the National Ignition Facility (NIF) portion (Volume III, Appendix I) of the Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (DOE/EIS-0236; September, 1997). The SEIS is being prepared pursuant to a Joint Stipulation and Order approved and entered as an order of the Court on October 27, 1997, in partial settlement of the lawsuit NRDC v. Pena, Civ. No. 97-936 (SS) (D.D.C.). The scope of the SEIS was established by the Joint Stipulation and Order and will cover, ``the reasonably foreseeable significant adverse environmental impacts of continuing to construct and of operating NIF at LLNL with respect to any potential or confirmed contamination in the area by hazardous, toxic, and/or radioactive materials."

FOR FURTHER INFORMATION CONTACT: For further information about this SEIS or to be placed on the document distribution list, please call, toll-free, (877) 388-4930 or call or write Charles A. Taylor as indicated below: Charles A. Taylor, Document Manager, U.S. Department of Energy, L-293, 7000 East Avenue, P.O. Box 808, Livermore, CA 94550, Phone (925) 423-3022, Facsimile (925) 424-3755.

For information about the DOE National Environmental Policy Act (NEPA) process, please contact: Carol Borgstrom, Director, Office of NEPA Policy and Assistance (EH-42), U.S. Department of Energy, 1000 Independence Ave, SW, Washington, DC 20585-0119, Phone: (202) 586-4600, Messages: (800) 472-2756, Facsimile: (202) 586-7031.

SUPPLEMENTARY INFORMATION:

I. Background

The Lawrence Livermore National Laboratory (LLNL) was established in 1952 as a multi-disciplinary research and development center, operated by the University of California for the Department of Energy. LLNL is located in Livermore, California, about 40 miles southeast of San Francisco, California. LLNL consists of two portions, the main site in Livermore and the 300 Area near Tracy, California. The NIF is being constructed at the LLNL main site.

The National Ignition Facility is a part of the DOE's development of science-based, rather than underground nuclear test-based, stewardship of the nuclear weapons stockpile. In NIF, nuclear fusion of very small amounts of hydrogen isotopes is expected to be achieved using the energy inherent in laser light. The environmental consequences of construction and operation of NIF were addressed in detail in Appendix I of the Stockpile Stewardship and Management Programmatic EIS (SSM PEIS). The SSM PEIS addressed alternative plans for DOE's defense program activities related to nuclear weapons stockpile issues at several DOE laboratories, including LLNL. The Record of Decision (ROD) for the SSM PEIS was published in the Federal Register on December 26, 1996 (61 FR 68014). In the ROD, DOE announced a decision to proceed with construction and operation of NIF at LLNL. Ground-breaking for NIF occurred on May 29, 1997. Construction of the NIF is on-going and is expected to be completed by October 2003.

During site excavation for NIF in September 1997, buried electrical capacitors containing polychlorinated biphenyls and other items (buried drums that on analysis contained no hazardous, toxic and/or radioactive material) were discovered at the site. Several of the capacitors had leaked, contaminating surrounding soil. The capacitors and surrounding soil were cleaned up in accordance with State and Federal regulations. The possibility of such an event was unforeseen and therefore not addressed in the SSM PEIS. On September 22, 1997, the plaintiffs in NRDC v. Pena filed a motion under Rule 60(b) of the Federal Rules of Civil Procedure, in which they alleged that DOE knew but did not adequately analyze and disclose the risk of building NIF in an area that may contain buried hazardous, toxic, and/or radioactive waste. DOE denied the allegations in the plaintiffs' motion. In the Joint Stipulation and Order, which settled all claims in the plaintiffs' Rule 60(b) motion, DOE agreed to conduct a full evaluation of any potential risks to the human environment resulting from continuing to construct and operating the NIF at LLNL. Subsequent characterization activities that DOE conducted pursuant to the Joint Stipulation and Order, in order to determine if hazardous, toxic, and/or radioactive materials were buried in the northeast corner of LLNL, are complete. The results of these activities will be analyzed in the SEIS. Progress of the characterization activities was documented to the Court in the form of Quarterly Reports. These Quarterly Reports, along with a copy of the Joint Stipulation and Order is available at the LLNL Public Reading Room, East Gate Visitors Center, Greenville Road, Livermore, CA, or by calling Charles Taylor at the phone number provided at the beginning of this notice.

II. SEIS Schedule

In light of the Court's direction for the scope of this Supplemental EIS, no scoping meeting will be held. However, comments are welcome; please send comments to Charles

Taylor at the address above. DOE expects to publish a Notice of Availability for the Draft SEIS in the Federal Register in December 1998. Public comments on the Draft SEIS will be received during a comment period of at least 45 days following publication of the Notice of Availability. The Notice of Availability will provide dates for public meetings that will be held in Livermore, California and Washington, DC approximately 30 days after the Notice of Availability is published. The draft and final SEIS will not contain any classified data.

Issued in Washington, DC on September 21, 1998.
Peter N. Brush,
Acting Assistant Secretary, Environment, Safety and Health.
[FR Doc. 98-25718 Filed 9-24-98; 8:45 am]
BILLING CODE 6450-01-U

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ATTACHMENT 3:

AMENDED NOTICE OF INTENT

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[Federal Register: August 5, 1999 (Volume 64, Number 150)]
[Notices]
[Page 42681]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr05au99-74]

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DEPARTMENT OF ENERGY

Supplemental Environmental Impact Statement for the Programmatic Environmental Impact Statement for Stockpile Stewardship and Management

AGENCY: Department of Energy.

ACTION: Amended notice of intent.

SUMMARY: The Department of Energy (DOE) is announcing a revised schedule for its preparation of a Draft Supplemental Environmental Impact Statement (SEIS) for the National Ignition Facility portion (Volume III, Appendix I) of the Programmatic Environmental Impact Statement for Stockpile Stewardship and Management (DOE/EIS-0236; September, 1997). This Draft SEIS is being prepared pursuant to a Joint Stipulation and Order approved and entered as an order of the court on October 27, 1997, in partial settlement of the lawsuit NRDC v. Richardson, Civ. No. 97-936 (SS) (D.D.C.).

FOR FURTHER INFORMATION CONTACT: For further information about this SEIS or to be placed on the document distribution list, please call, toll-free, (877) 388-4930, or call or write to Richard A. Scott, Document Manager, U.S. Department of Energy, L-293, P.O. Box 808, Livermore, CA 94550, Phone (925) 423-3022, Facsimile (925) 424-3755. For information about the DOE National Environmental Policy Act (NEPA) process, please contact: Carol Borgstrom, Director, Office of NEPA Policy and Assistance (EH-42), U.S. Department of Energy, 1000 Independence Ave, SW, Washington, DC 20585-0119, Phone: (202) 586-4600, Messages: (800) 472-2756, Facsimile: (202) 586-7031.

SUPPLEMENTARY INFORMATION: In a September 25, 1998, Federal Register notice (63 FR 51341), DOE announced that it expected to publish a Notice of Availability for the Draft SEIS in the Federal Register in December 1998. DOE now intends to publish the Notice of Availability no later than November 30, 1999. DOE has delayed the issuance of the Draft SEIS pending completion of a new investigation that was initiated in December 1998, in response to the discovery of contamination by polychlorinated biphenyls (PCBs) in soil that had been excavated from the Lawrence Livermore National Laboratory's East Traffic Circle, which is one of the areas covered by the Joint Stipulation and Order. After the discovery of the contaminated soil,

DOE on December 23, 1998, notified the court and the plaintiffs in NRDC v. Richardson of the discovery; stated that the contaminated soil was being removed in accordance with applicable laws and regulations; and explained that a new investigation would be conducted into the extent of the contamination, and that DOE would delay issuance of the Draft SEIS pending the results of the new investigation.

Since then, DOE has filed two Quarterly Reports with the court, on March 24 and June 22, 1999, describing the progress that it has made in conducting the investigation and in analyzing its results for incorporation into the environmental impact analyses that will be included in the Draft SEIS. Copies of those Quarterly Reports, and of DOE's December 23, 1998 notice mentioned above, are available at the DOE Oakland Operations Office Public Reading Room on the first floor of the Federal Building, 1301 Clay Street, Oakland, CA; at the Lawrence Livermore National Laboratory Environmental Repository Public Reading Room, East Gate Visitors Center, Greenville Road, Livermore, CA; at the DOE Freedom of Information Act Public Reading Room, 1000 Independence Ave, SW, Washington, DC; or by calling Richard A. Scott at the telephone number provided above.

Issued in Washington, DC on July 30, 1999.
Jonathan S. Ventura,
Acting Executive Assistant, Office of Defense Programs.
[FR Doc. 99-20143 Filed 8-4-99; 8:45 am]
BILLING CODE 6450-01-P

ATTACHMENT 4

NOTICE OF AVAILABILITY

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[Federal Register: November 5, 1999 (Volume 64, Number 214)]
[Notices]
[Page 60430-60431]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr05no99-50]

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DEPARTMENT OF ENERGY

Draft Supplemental Environmental Impact Statement for the National Ignition Facility Project Specific Analysis Portion of the Stockpile Stewardship and Management Programmatic Environmental Impact Statement

AGENCY: Department of Energy.

ACTION: Notice of Availability and opportunity for public comment.

SUMMARY: The Department of Energy (DOE) announces the availability of the Draft Supplemental Environmental Impact Statement (SEIS) for the National Ignition Facility(NIF) Project Specific Analysis portion (Volume III, Appendix I) of the Stockpile Stewardship and Management Programmatic Environmental Impact Statement (SSM PEIS) DOE/EIS-0236-S1 for public review and comment.

DATES: Written comments on the Draft NIF SEIS are invited from the public during the comment period which ends December 20, 1999. Comments must be postmarked by December 20, 1999, to ensure consideration; late comments will be considered to the extent practicable. The DOE will use the comments received to help prepare the Final SEIS.

ADDRESSES: To submit comments in writing to DOE and for additional information contact: Richard Scott, Document Manager, U.S. Department of Energy, L-293, P.O. Box 808, Livermore, CA 94550. Mr. Scott may also be contacted by telephone (925) 423-3022, facsimile (925) 424-3755, or toll-free: (877) 388-4930. Comments may also be sent to the e-mail address richard.scott@oak.doe.gov.

Requests for copies of the Draft NIF SEIS should be addressed to the DOE Oakland Operations Office, Energy Information Center, 1st floor in the North Tower of the Federal Building at 1301 Clay Street in Oakland, CA, (510) 637-1762. The Draft NIF SEIS is available under the NEPA Analysis Module of the DOE NEPA Web Site at http://tis.eh.doe.gov/nepa/.

FOR FURTHER INFORMATION CONTACT: For general information on the DOE NEPA process, please contact: Ms. Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance,

EH-42, U.S. Department of Energy, 1000 Independence Ave., SW, Washington, DC 20585. Ms. Borgstrom may be contacted by calling (202) 586-4600 or by leaving a message at (800) 472-2756.

SUPPLEMENTARY INFORMATION: The Draft NIF SEIS was prepared pursuant to a Joint Stipulation and Order approved and entered as an order of the U.S. District Court for the District of Columbia on October 27, 1997, in partial settlement of the lawsuit, Natural Resources Defense Council [NRDC] v. Richardson, Civ. No. 97-936 (SS) (D.D.C.). In that Joint Stipulation and Order, DOE agreed to prepare an SEIS evaluating the reasonably foreseeable significant adverse environmental impacts of continuing to construct and of operating NIF at Lawrence Livermore National Laboratory (LLNL) with respect to any potential or confirmed contamination in the area by hazardous, toxic, and/or radioactive materials.

Availability of Draft SEIS

DOE has distributed copies of the Draft NIF SEIS to appropriate Congressional members and committees, the State of California, local governments, other federal agencies, and other interested parties. The Draft NIF SEIS is also available for public review and copying at the following locations: DOE Oakland Operations Office, Energy Information Center, 1st floor in the North Tower of the Federal Building at 1301 Clay Street in Oakland, CA, (510) 637-1762; Lawrence Livermore National Laboratory, East Gate Visitors Center on Greenville Road in Livermore CA, (925) 424-4026; and DOE's Freedom of Information Reading Room, Rm. 1E-190, 1000 Independence Avenue, SW, Washington, DC, (202) 586-3142.

DOE will hold several public meetings to discuss the Draft NIF SEIS, as well as for submitting prepared statements on the Draft NIF SEIS: Wednesday, December 1, 1999, at 2:00 p.m. at the U.S. Department of Energy, 1000 Independence Avenue, SW, Room 6E-069, Washington, DC; and Wednesday, December 8, 1999, at 3:00 p.m. and 6:30 p.m. at LLNL, 7000 East Avenue, Building 312, South Cafeteria Multi-Purpose Room, (located off East Avenue at the intersection of South Gate Drive), Livermore CA. After the public comment period, which ends December 20, 1999, the Department will consider and respond to the comments received, revise the Draft NIF SEIS as appropriate, and issue a Final NIF SEIS. The Department will consider the analyses in the Final NIF SEIS in making a final Record of Decision.

Issued in Washington, DC on October 25, 1999.
Jonathan S. Ventura,
Acting Executive Assistant, Office of Defense Programs.
[FR Doc. 99-29016 Filed 11-4-99; 8:45 am]
BILLING CODE 6450-01-P

ATTACHMENT 5

AMENDED NOTICE OF AVAILABILITY

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[Federal Register: November 12, 1999 (Volume 64, Number 218)]
[Notices]
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From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr12no99-84]

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ENVIRONMENTAL PROTECTION AGENCY

[ER-FRL-6247-9]

Environmental Impact Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564-7167 OR www.epa.gov/oeca/ofa. Weekly receipt of Environmental Impact Statements Filed November 01, 1999 Through November 05, 1999Pursuant to 40 CFR 1506.9.

EIS No. 990418, FINAL EIS, JUS, AL, Center for Domestic Preparedness (CDP), Expand Training for State and Local Emergency First Responders, Located at Fort McClellan, Calhoun, Cleburne, Randolph, Clay, Talladega, St. Clair, Etowah and Cherokee Counties, AL, Due: December 06, 1999, Contact: LZ Johnson (256) 847-2112.

The above JUS EIS should have appeared in the 11/05/99 Federal Register. The 30-day Comment Period is Calculated from 11/05/99.

EIS No. 990419, FINAL EIS, USA, AR, Fort Chaffee Disposal and Reuse, Implementation, Ozark Mountains, Sebastian, Crawford, Franklin, Smith, Barling and Greenwood Counties, AR, Due: December 13, 1999, Contact: Richard Proietto (703) 693-7554.

EIS No. 990420, DRAFT EIS, TVA, TN, Tim Ford Reservoir Land Management and Disposition Plan, Implementation, Tim Ford Reservoir, Franklin and Moore Counties, TN, Due: December 27, 1999, Contact: Harold M. Draper (423) 632-6889.

EIS No. 990421, DRAFT EIS, BLM, WY, Horse Creek Coal Lease Application (Federal Coal Lease Application WYW-141435), Implementation, Campbell and Converse Counties, WY, Due: January 11, 2000, Contact: Jon Johnson (307) 775-6116.

EIS No. 990422, DRAFT SUPPLEMENT, UAF, FL, CA, Evolved Expendable Launch Vehicle Program, Updated Information, To Allow the Addition of up to Five Strap-on Solid Rocket Motors (SRM) to the Atlas V and Delta IV Lift Vehicle, Launch Locations are Cape Canaveral

Air Station, Brevard County, FL and Vandenberg Air Force Base (AFB), Santa Barbara County, CA, Due: December 27, 1999, Contact: Jonathan D. Farthing (210) 536-3668.

Amended Notices

EIS No. 990229, DRAFT EIS, AFS, MT, NB, WY, ND, SD, Dakota Prairie Grasslands, Nebraska National Forest Units and Thunder Basin National Grassland, Land and Resource Management Plans 1999 Revisions, Implementation, MT, NB, WY, ND and SD, Due: November 29, 1999, Contact: Pam Gardner (308) 432-0300.

Published FR 10-01-99--Review Period Extended from 11-15-99 to 01-13-2000.

EIS No. 990410, DRAFT EIS, DOE, CA, National Ignition Facility Project Specific Analysis, Construction and Operation at the Lawrence Livermore National Laboratory, Livermore, CA, Due: December 20, 1999, Contact: Richard Scott (925) 423-3022.

Published FR 11-05-99--Correction to Title.

EIS No. 990414, DRAFT EIS, NPS, AZ, Chiricahua National Monument, General Management Plan, To Protect Certain National Formations, Known as ``the Pinnacles', AZ, Due: January 30, 2000, Contact: Chris Marvel (303) 969-2840.

Published FR 11-05-99--Correction to Contact Person Name and Telephone.

Dated: November 9, 1999.
William D. Dickerson,
Director, Office of Federal Activities.
[FR Doc. 99-29707 Filed 11-10-99; 8:45 am]
BILLING CODE 6560-50-U