PROPOSED PLAN FOR THE LAGARDE PARK SITE OF THE FORMER FORT MCCLELLAN ANNISTON, ALABAMA

May 2006

Submitted to:
U.S. Army Corps of Engineers
Mobile District
109 St. Joseph Street, P.O. Box 2288
Mobile, AL 36628-0001

Prepared by:
STEP, Inc.
1006 Floyd Culler Court
Oak Ridge, TN 37830
Contract No. DACA01-03-D-0010
Delivery Order No. 0003
Modification No. 0001

STEP Inc.
www.stepenv.com

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for the LaGarde Park Site
of the Former Fort McClellan,
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INTRODUCTION

This proposed plan presents the activities remaining for the final close-out of the LaGarde Park site in the northeast corner of LaGarde Park in Anniston, Alabama. The aerial photograph on page 2 shows the location of the area of investigation. This proposed plan summarizes the site history, current site conditions, previous actions taken to remove radioactive contaminated soils from the site, and the rationale for the determination that no further remediation is required.

This document is being issued by the United States (U.S.) Department of the Army, as represented by the U.S. Army Corps of Engineers (USACE), in partnership with the, the Alabama Department of Public Health (ADPH) (on behalf of the state of Alabama), and the U.S. Environmental Protection Agency (EPA). After all public comments have been reviewed, the USACE, ADPH, and EPA will select and present the final remedy for the site in a decision document.

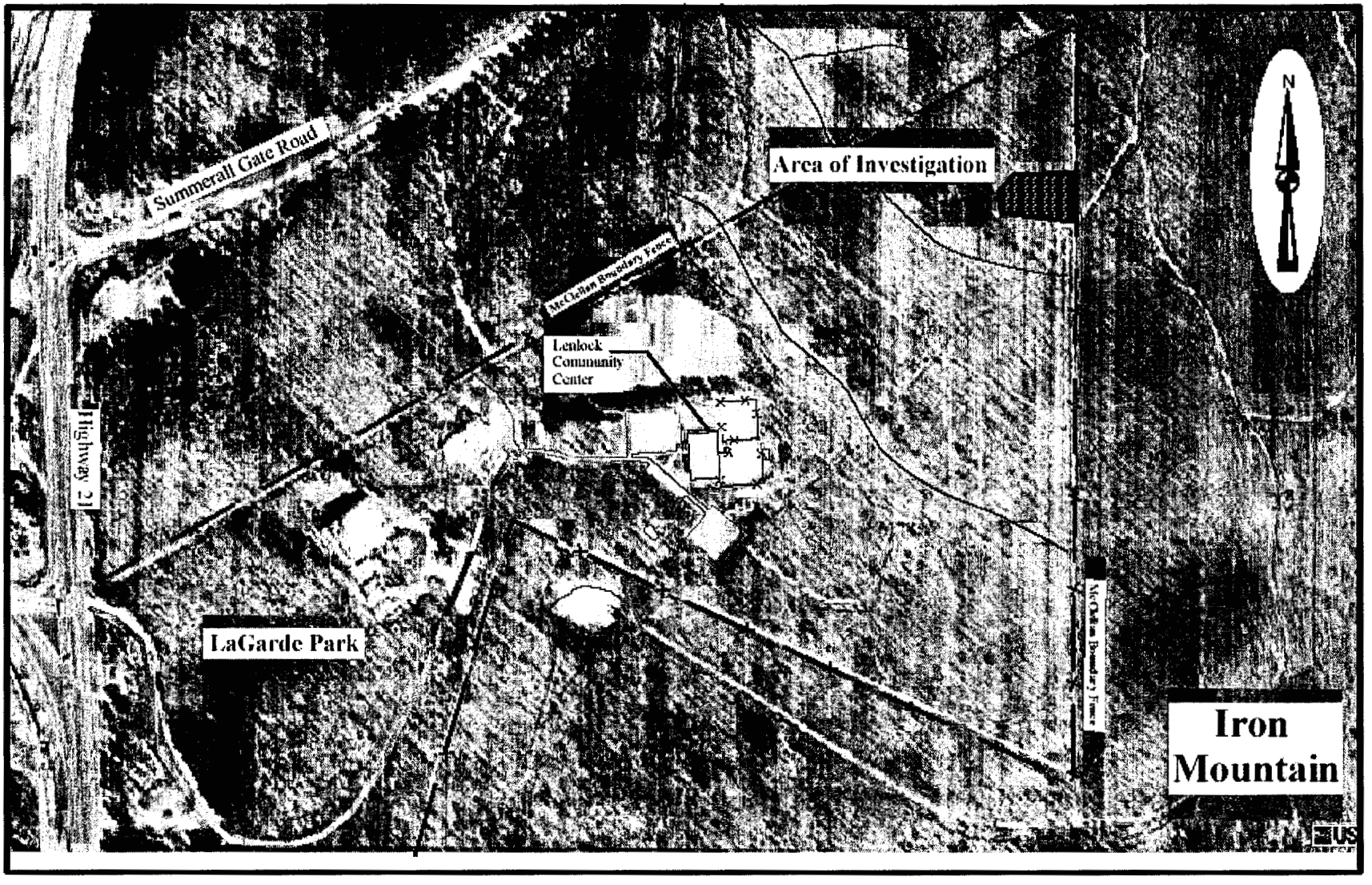
USACE is issuing this proposed plan in fulfillment of the requirements for public participation under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) (commonly referred to at the "Superfund Program"), and the National Environmental Policy Act (NEPA) of 1969.

SITE HISTORY

The John B. LaGarde Interpretive Park is located in Anniston, Alabama. The site is positioned on the northeast side of the park adjacent to the perimeter fence of the former Fort McClellan.

In the 1950s, the Department of Defense (DoD) consolidated training for all branches of the military service. Chemical officers and non-commissioned officers, military police, civilian law officers, and representatives of various government agencies were sent to Fort McClellan for training. The schools established at Fort McClellan included the U.S. Army Chemical School, where radiation survey training was conducted.

Interviews with personnel knowledgeable about operational and waste disposal activities at various sites at Fort McClellan indicated that radioactive wastes were deposited on Iron Mountain. It was also reported that a laboratory building, consisting of cinder blocks and sand bags, was located on the "northwest side of Iron Mountain" in "Rattlesnake Gulch." This laboratory was reportedly used to prepare training "sources" of cobalt-60 (Co^{60}) and cesium-137 (Cs^{137}). At some point in the late 1960s, the laboratory building was demolished, the surrounding barbed wire fence was removed, and the debris was deposited in a waste disposal area east of the building site and higher up on Iron Mountain. In 1971, a radiation survey was conducted on Iron Mountain and 22 contaminated spots were identified on the ground surface. In the summer of 1971, five containers of Co^{60} and Cs^{137} radioactive waste and 18 55-gallon drums of contaminated soils and debris were removed from the disposal area located approximately 400 feet southeast of the former laboratory site and were reportedly taken to Pelham Range for disposal. Anecdotal information indicates that building debris (i.e., concrete blocks and fencing) was included in the debris removed.



Legend

Area of Investigation — Boundary Fence

Source: U.S. Geological Survey
Project: Remedial Investigation at LaGarde Park, Anniston, Alabama

Location of LaGarde Park Site

The removal area was cleared for surface military use by the Fort McClellan Health Physics Office; however, no official closeout survey was found in the records. In 1974, approximately 185 acres (which included the former "Rattlesnake Gulch" laboratory site) were deeded as a public park to the City of Anniston. This acreage was subsequently named the John B. LaGarde Interpretive Park.

The Base Realignment and Closure Act of 1988 [(Public Law100-526, 102, Statute 2623) (BRAC 88)] and the Defense Base Realignment and Closure Act of 1990 [(Public Law101-510, 104 Statute 1808) (BRAC 91, 93, 95)] designated more than 100 Department of the Army facilities for closure and/or realignment. In 1995, the Base Realignment and Closure Commission (BRAC) voted to permanently close Fort McClellan. The DoD closed the base in October 1999, making 45,000 acres, building facilities, and fully infrastructured property available for private sector reuse and redevelopment. At the time of closure, Fort McClellan was home to the U.S. Army Chemical School, the U.S. Army Military Police School, the Training Brigade, and the Department of Defense Polygraph Institute.

In order to terminate the Chemical School Radioactive Materials License as part of the BRAC proceedings, the U.S. Nuclear Regulatory Commission (NRC) required assurances that no radioactive material was left behind. The Army performed an aerial survey in October 2001 that indicated the presence of a radioactive "hot spot" about 100 feet outside Fort McClellan's fence line on property formerly occupied by the training site, but now within the boundaries of LaGarde Park. On February 5, 2002, a team consisting of the Chemical School's radiation protection officer, the NRC, the ADPH Radiation Office, and EPA visited the "hot spot" to measure the radiation and determine the area involved. The analyses of soil samples collected by a representative of the ADPH showed elevated concentrations of Co^{60} and Cs^{137}. The reported dose rates did not present an immediate threat given that the site was in a relatively isolated portion of the park; however, the team recommended that excavation or removal of vegetation from the area should not be allowed to minimize the possibility of exposure to the public. Because this property was transferred from U.S. government control to the City of Anniston in the mid-1970s, the Army classified the site as a Formerly Used Defense Site (FUDS). The USACE, Mobile District took action in 2002 under the authority of the Defense Environmental Restoration Program (DERP)/FUDS and installed fencing around the site to prevent access to the area.

In February 2003, the USACE directed a site investigation that included surface radiation screening, vegetation sampling, and surface/subsurface soil sampling at several locations in and around the fenced perimeter. This investigation determined that the only zone of surface contamination was a relatively small area within the fenced perimeter that had Cs^{137} concentrations above the NRC screening levels. Based on the findings of the investigation, the removal of the Cs^{137} contaminated soils and associated vegetation was recommended.

In September 2003, a CERCLA Time Critical Removal Action (TCRA) was conducted to excavate and dispose of the Cs^{137} contaminated soil and debris. Based on the site investigation findings, the estimated volume of contaminated soil to be removed was approximately 30 cubic yards (yd^3); however, a total of 170 yd^3 (approximately 238 tons) of contaminated soil was ultimately removed and shipped off site for disposal. Due to the greater than anticipated volume of contaminated soil, the TCRA was halted and an Expanded Site Investigation (ESI) was recommended to fully define the lateral and vertical extent of contamination.

The ESI, conducted in July 2004, included a detailed surface radiation survey, collection of surface/subsurface soil samples from a regular grid array, and downhole (subsurface) radiation

scanning. The ESI identified two small isolated areas of subsurface contamination remaining. An additional interim remedial action (soil removal) was recommended to remove the last two areas of contamination.

In March 2005, the final interim remedial action (soil removal) was conducted to remove the two remaining areas of contamination identified in the ESI. As soil was removed from the excavations, it was scanned with radiation detection instruments. Any soils scanning higher than the background gamma radiation count of 7,000 counts per minute were placed in metal low-level radioactive waste containers for transport to an off-site disposal facility. When excavation was complete in each of the two areas, a radiological scan of the base and sidewalls of the excavation was conducted. Soil was removed from any part of an excavation that showed elevated gamma counts (i.e., at or above background), and the area was re-scanned until the entire floor and sidewalls of each excavation were below background. As a result of field radiation screening, approximately 4 yd^3 (approximately 6 tons) of additional soil and debris were removed and shipped off site for disposal.

As a result of the two removal actions, a total of 174 yd^3 (approximately 244 tons) of radioactive contaminated soil was removed from the site. After the radiation scans indicated that all contaminated material had been removed, confirmatory soil samples were collected from each excavation. One sample was collected from the base of the excavation at each of the four corners, and one sample was collected from the center of the excavation. A total of 11 soil samples were submitted for laboratory analyses for cesium and cobalt. The highest radioactive concentrations in the soil samples were 0.228 picoCuries per gram (pCi/g) for Co^{60} and 5.93 pCi/g for Cs^{137} which are below the established cleanup levels of 2.3 pCi/g for Co^{60} and 9.2 pCi/g for Cs^{137} established for unrestricted site use.

On September 27 and November 10 and 14-15, 2005, representatives of the NRC, the ADPH, and EPA conducted a confirmatory survey of the remediation work done at the LaGarde Park site. The inspection consisted of a surface radiation survey and the collection of surface soil samples for laboratory analyses. The ADPH representative took shallow soil samples at each location; one from the remediated area and two from the undisturbed area. The sample from the remediated area contained 0.441 pCi/g of Co^{60} and 3.29 pCi/g of Cs^{137}. The samples from the undisturbed area contained 0.284 and 0.162 pCi/g of Co^{60}, and 6.98 and 1.53 pCi/g of Cs^{137}. The conclusion from this inspection was, that although some areas of the LeGarde Park site had radiation scan readings above background counts, the laboratory analyses of the soil samples from these areas contained Co^{60} and Cs^{137} concentrations below the established cleanup limits and; therefore, the site could be released for unrestricted use.

SITE RISKS

The material from the Rattlesnake Gulch laboratory removed in 1971 was reportedly transported to the burial mound at Rideout Field, Pelham Range, Area 24C at Fort McClellan for disposal. Derived Concentration Guideline Levels (DCGLs) were developed during the remediation and decommissioning process for the Pelham Range Burial Mound. The DCGL process evaluated receptor exposures for different land use scenarios. The land use scenario that was judged to produce the greatest exposure potential was the residential scenario with backyard garden and cow. This scenario was used to evaluate the exposures from unrestricted release at the site. The computer code RESRAD 5.82 (Argonne National Laboratory, 1993) was used to evaluate the

potential dose and long term risk from the scenario activities to a resident adult and resident child, and comply with Title 10 *Code of Federal Regulations (CFR)* Part 20.1402.

Title 10 *CFR* Part 20 (*Standards for Protection Against Radiation*), Subpart E (*Radiological Criteria for License Termination*), Section 20.1402 (*Radiological criteria for unrestricted use*) states, *"A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE (total effective dose equivalent) to an average member of the critical group that does not exceed 25 mrem (millirem) [0.25 mSv (milliSievert)] per year, including that from groundwater sources of drinking water, and that the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA)."*

The maximum DCGLs for residual radioactive soil (i.e., Co^{60} and Cs^{137}) determined by the computer code RESRAD 5.82 which would not exceed the TEDE of 25 mrem per year allowable exposure limit were established as follows:

- **Resident Adult** –
  - Co^{60} 2.9 pCi/g (Resulting Risk 9 X 10^{-5})
  - Cs^{137} 12 pCi/g (Resulting Risk 3 X 10^{-4})

- **Resident Child** –
  - Co^{60} 2.3 pCi/g (Resulting Risk 6 X 10^{-5})
  - Cs^{137} 9.2 pCi/g (Resulting Risk 9 X 10^{-5})

Because the radioactive contaminants were identical and the same conservative exposure scenario applied to the LaGarde Park and Pelham Range sites, the DCGLs of 2.3 pCi/g for Co^{60} and 9.2 pCi/g for Cs^{137} developed for the Pelham Range Burial Mound were also selected for evaluating the radioactive soil concentrations at the LaGarde Park site.

The highest radioactive concentrations of Co^{60} (0.228 pCi/g) and Cs^{137} (5.93 pCi/g) remaining at the LaGarde Park site are below the conservative DCGLs for surface soils, are over 10 feet below ground surface, and are covered with clean backfill material to grade. Furthermore, results from verification surface surveying and sampling performed by ADPH, EPA, and the NRC, indicated that radiation levels were below the DCGLs established for the site. Therefore, Co^{60} and Cs^{137} do not present a current or future risk to human health or the environment, and no further remedial action is recommended for the site.

REMAINING SITE ACTIVITIES

No further remedial actions are necessary at the site. The disturbed areas of the site have been surface graded to promote drainage. The fence surrounding the site will be removed and the site will be revegetated with grasses.

COMMUNITY PARTICIPATION

In accordance with the National Contingency Plan (NCP) [40 CFR 300.805(a)], an administrative record file has been established for Fort McClellan. The contents of the file include a variety of written material, such as pieces of correspondence, data reports, assessments, plans, newspaper

articles, notices, and fact sheets. The administrative record file also includes, but is not limited to, archive search reports, site photographs and maps, site descriptions and chronologies, reference documents, sampling and analysis data and plans, work plans, site safety and health plans, applicable or relevant and appropriate requirements, engineering evaluation/cost analyses, remedial investigation/feasibility studies, health and endangerment assessments, proposed plans for remedial action, records of decision, community relations plans, public meeting minutes/transcripts, environmental baseline studies, and findings of suitability to transfer/lease documents. The administrative record file is located at the Environmental Office in Building 251 at Fort McClellan. Copies of the file are also available at:

Anniston Calhoun County Public Library
108 East 10th Street, 1st Floor
Anniston, Alabama 36201
Point of Contact: Sunny Gillespie
Telephone: (256) 237-8501, Extension 13

The USACE provides information regarding the cleanup of the LaGarde Park site through the administrative record and public notices published in the Anniston Star. The USACE, ADPH, and EPA are soliciting input from the community on this proposed plan for the site. The comment period will extend from **May 8, 2006** through **June 9, 2006**. The comment period may include a public meeting at which the USACE, ADPH, and EPA will discuss the proposed plan and will accept both oral and written comments. ***Written comments must be postmarked no later than the last day of the public comment period, which is June 9, 2006.***

At the conclusion of the comment period, the comments received on the proposed plan will be summarized and responses provided in the Responsiveness Summary section of the Decision Document. The Decision Document will present the final selected remedy for the site.

To send written comments or to obtain further information on the LaGarde Park site, please contact the following representative:

Melissa L. Shirley, P.E.
Melissa.l.shirley@us.army.mil
U.S. Army Corps of Engineers, Mobile District
Attn: EN-GE
P.O. Box 2288,
Mobile, AL 36628
109 St. Joseph Street, Mobile, AL 36602
(251) 690-2616 or 1-800-543-2010
fax: (251) 690-2030

ATTACHMENT A

GLOSSARY OF TERMS

Administrative Record – A file maintained by the lead agency containing all the information used to make its decision on the selection of a response action under CERCLA. This file is to be available for public review at or near the site.

As Low as Reasonably Achievable (ALARA) – A basic concept of radiation protection which specifies that exposure to ionizing radiation and releases of radioactive materials should be managed to reduce collective doses as far below regulatory limits as is reasonably achievable considering economic, technological, and societal factors, among others. Reducing exposure at a site to *ALARA* strikes a balance between what is possible through additional planning and management, remediation, and the use of additional resources to achieve a lower collective dose level. A determination of *ALARA* is a site-specific analysis that is open to interpretation, because it depends on approaches or circumstances that may differ between regulatory agencies. An *ALARA* recommendation should not be interpreted as a set limit or level.

Background Radiation – Radiation from cosmic sources, naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear material), and global fallout as it exists in the environment from the testing of nuclear explosive devices or from nuclear accidents which contribute to *background radiation* and are not under the control of the cognizant organization. *Background radiation* does not include radiation from *source*, *byproduct*, or *special nuclear materials* regulated by the cognizant Federal or State agency. Different definitions may exist for this term. The definition provided in regulations or regulatory program being used for a site release should always be used if it differs from the definition provided here.

Cesium-137 (Cs^{137}) – An isotope of the metal cesium that emits gamma radiation.

Cleanup – Actions taken to deal with a release or threatened release of hazardous substances that could affect public health or the environment. The term is often used broadly to describe various Superfund response actions or phases of remedial responses, such as remedial investigation/ feasibility study. Cleanup is sometimes used interchangeably with the terms *remedial action*, *response action*, or *corrective action*.

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) as amended – Also known as the "Superfund Program". A Federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). These Acts provide for the investigation and cleanup of abandoned or uncontrolled hazardous waste sites.

Cobalt-60 (Co^{60}) – An isotope of the metal cobalt that emits gamma radiation.

curie (Ci) – The customary unit of radioactivity. One *curie* (Ci) is equal to 37 billion disintegrations per second (3.7 x 1010 dps = 3.7 x 1010 *Bq*), which is approximately equal to the decay rate of one gram of 226Ra. Fractions of a *curie*, *e.g.* picocurie (pCi) or 10^{-12} Ci and microcurie (μCi) or 10^{-6} Ci, are levels typically encountered in *decommissioning*. The Becquerel (Bq) is the International System unit of activity equal to one nuclear transformation (disintegration) per second (i.e., 1 $Bq = 2.7 \times 10^{-11}$ $Ci = 27.03$ pCi).

Curie per gram (Ci/g) – A concentration unit for radioactive activity per mass of material. A picoCurie per gram (pCi/g) is equivalent to one trillionth ($1/1x10^{-12}$) of a Ci/g.

Decision Document (DD) – The term adopted by the Department of Defense for the documentation of remedial action (RA) decisions at non-National Priorities List (NPL) FUDS Properties.

Derived Concentration Guideline Level (DCGL) – A derived, *radionuclide*-specific activity concentration within a site corresponding to the *release criterion* (a regulatory limit expressed in terms of dose or risk). *DCGLs* are derived from activity/dose relationships through various *exposure pathway* scenarios.

exposure pathway – The route by which radioactivity travels through the environment to eventually cause radiation exposure to a person or group.

Formerly Used Defense Site (FUDS) – Defined as a facility or site (property) that was under the jurisdiction of the Secretary of Defense and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to contamination by hazardous substances. By Department of Defense Environmental Restoration Program (DERP) policy, the FUDS program is limited to those real properties that were transferred from DoD control prior to 17 October 1986. FUDS properties can be located within the 50 States, District of Columbia, Territories, Commonwealths, and possessions of the United States.

gamma radiation – Penetrating high-energy, short-wavelength electromagnetic radiation (similar to X-rays) emitted during *radioactive decay*. Gamma rays are very penetrating and require dense materials (such as lead or steel) for shielding.

National Environmental Policy Act (NEPA) – Federal legislation [42 USC 4331 et seq.] that established a national policy to protect and preserve the environment.

National Oil and Hazardous Substance Pollution Contingency Plan (NCP) – Revised in 1990, the NCP provides the regulatory framework for responses under CERCLA. The NCP designates the Department of Defense as the removal response authority for ordnance and explosive hazards.

Proposed Plan – In the first step in the remedy selection process, the lead agency identifies the alternative that best meets the requirements in CERCLA 300.430(f)(1) and presents that alternative to the public in a proposed plan. The purpose of the proposed plan is to supplement the Remedial Investigation/Feasibility Study (RI/FS) and provide the public with a reasonable opportunity to comment on the preferred alternative for remedial action at a site.

Roentgen Equivalent Man (rem) – The conventional unit of dose equivalent. The corresponding International System (SI) unit is the Sievert (Sv): 1 Sv = 100 rem. A millirem (mrem) is one thousandth (1/1,000) of a rem.

radioactive decay – The spontaneous transformation of an unstable atom into one or more different nuclides accompanied by either the emission of energy and/or particles from the nucleus, nuclear capture or ejection of orbital electrons, or fission. Unstable atoms decay into a more stable state, eventually reaching a form that does not decay further or has a very long *half-life*.

Radionuclide – An unstable nuclide that undergoes *radioactive decay*.

Radioactivity – The mean number of nuclear transformations occurring in a given quantity of radioactive material per unit time. The International System (SI) unit of radioactivity is the *Becquerel (Bq)*. The customary unit is the *Curie (Ci)*.

Removal or Removal Action – The cleanup or removal of released hazardous substances from the environment. Such actions may be taken in the event of the threat of release of hazardous substances into the environment, such actions may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances, the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other measures to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under section 9604(b), and any emergency assistance which may be provided under the *Disaster Relief and Emergency Assistance Act* [42 USC 5121 et seq.] The requirements for removal actions are addressed in 40 *CFR* 300.410 and 300.415. The three types of removals are emergency, time-critical, and non-time-critical removals.

Time-Critical Removal Action (TCRA) – A TCRA is a response to a release or threat of release that poses such a risk to public health (serious injury or death), or the environment, that clean up or stabilization actions must be initiated within 6 months.

USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Plan for the LaGarde Park site is important to the U.S. Army Corps of Engineers, the Alabama Department of Public Health, and the U.S. Environmental Protection Agency. Comments provided by the public are valuable in helping select a final cleanup remedy for the site.

You may use the space below to write your comments, then fold and mail to:

Melissa L. Shirley, P.E.
U.S. Army Corps of Engineers, Mobile District
Attn: EN-GE
P.O. Box 2288,
Mobile, AL 36628

Comments must be postmarked by **June 9, 2006.** If you have any questions about the comment period, please contact **Melissa Shirley at (251) 690-2616 or toll free 1-800-543-2010**. Those with electronic communication capabilities may submit their comments to the USACE via Internet at the following e-mail address: Melissa.l.shirley@us.army.mil

Name: _____

Address: _____

City: _____

State: _____ **Zip**_____