10/19/84

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	
UNITED STATES DEPARTMENT OF ENERGY PROJECT MANAGEMENT CORPORATION TENNESSEE VALLEY AUTHORITY	Docket No. 50-537CP
(Clinch River Breeder Reactor Plant)	

APPLICANTS' MOTION TO DISMISS PROCEEDING

The United States Department of Energy (DOE) and Project Management Corporation (PMC), for themselves and on behalf of the Tennessee Valley Authority (the Applicants), hereby file this Motion to Dismiss Proceeding. In support thereof, the Applicants state the following:

1. On January 20, 1984, the Atomic Safety and Licensing Board (the Board) issued a Notice of Conference with Parties to address the subject of revocation of the LWA, and to determine if any conditions to ameliorate the environmental impact of site preparation activities are needed. See ALAB-755, Slip Opinion at 3-4. Former intervenors, such as NRDC and the Sierra Club, were permitted to participate in the conference by way of limited appearance. (Notice of Conference, January 20, 1984 at 2.) All filings to be considered at the conference were required to be received by the Board not later than 3:00 P.M., March 8, 1984. In response to circumstances which made it impossible for all Board

members to participate in the conference, and counsel for PMC's March 8, 1984 letter indicating that all documents pertaining to site redress were not completed prior to March 8, 1984, the Board issued its March 8, 1984 Order which vacated the conference and indicated that the date and place of further proceedings would be announced at a later date.

2. On February 29, 1984, the Appeal Board issued a Memorandum and Order, which inter alia, allowed former intervenors to participate as full parties in the Conference. ALAB-761, Slip Opinion (February 29, 1984). On March 5, 1984, DOE and PMC filed with the Commission itself a Petition for Review of February 29, 1984 Appeal Board Memorandum and Order Readmitting Intervenors to the Proceedings. On June 18, 1984 the Commission declined review.

3. On March 5, 1984, the Applicants submitted their final redress plan for NRC Staff review and approval (Attachment A). The approach and schedules discussed in the plan have been previously endorsed by the City of Oak Ridge, the State of Tennessee, and the United States Enviornmental Protection Agency (Attachments B, C, and D, respectively). The NRC Staff has reviewed and approved the plan under the conditions of and as indicated in their letter dated June 6, 1984 (Attachment E).

4. DOE and TVA have executed a Supplemental Agreement under which DOE agreed to redress the site and obligated the funding necessary to effectuate redress (Attachment F).

5. The NRC Staff has been notified that the Clinch River Breeder Reactor Plant project wishes to withdraw the application, and the project has requested that the limited work authorization

be revoked (Attachment G). In view of that, and the matters set forth in paragraph 3 above, the Applicants hereby move that Board authorize revocation of the LWA, and the proceedings be dismissed without prejudice, subject to the conditions set forth in the redress plan and the Staff's letter approving that plan (Attachments A and E hereto).

6. Good cause exists for grant of the Motion. The project will not be completed. Pending completion of redress activities the applicable conditions of the existing Federal water permit (including the sediments and erosion control plan) and State substantive water quality requirements will remain in effect, and thus site environmental protection activities will be maintained. Consistent with the longstanding dedication of the site to industrial use, those portions of the site not devoted to industrial use prior to the Spring of 1985 will be redressed according to the plan. Under these circumstances and in light of Applicant's withdrawal of the license application, the Board is requested to authorize revocation of the LWA and dismiss the proceedings without prejudice, subject to the conditions of Attachments A and E. Public Service of Oklahoma (Black Fox Station Units 1 and 2), LBP-83-10, 17 NCR 410 (1983); Tennessee Valley Authority (Hartsville Nuclear Plant Units 1A and 2A), ALAB-783, __ NRC __, slip op. (September 11, 1984); Tennessee Valley Authority (Hartsville Nuclear Plant Units 1B and 2B), ALAB-760, 19 NRC 26 (1984).

Respectfully Submitted,

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Dated: October 19, 1984

Department of Energy
Washington, D.C. 20545
Docket No. 50-537
HQ:S:84:001

MAR 05 1984

Mr. Thomas King, Acting Director
CRBR Program Office
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. King:

SUBJECT: CLINCH RIVER BREEDER REACTOR PLANT (CRBRP) SITE REDRESS PLAN

On February 27, 1984, we submitted a draft CRBRP redress plan for your review. We have made some minor clarifications and corrections to the draft plan in response to your comments and consider it final. It is hereby submitted for final review and approval.

Sincerely,

Francis X. Gavigan

Francis X. Gavigan
Director, Office of Breeder
Demonstration Projects
Office of Nuclear Energy

Enclosure

cc: Service List
Standard Distribution
Licensing Distribution

CLINCH RIVER BREEDER REACTOR PLANT PROJECT

SITE REDRESS PLAN

MARCH 1984

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1.0 INTRODUCTION

1.1 Purpose and Objectives

The purpose of this report is to provide a description of the redress plan and the conceptual alternative developed by the CRBRP Project and TVA.

In December 1983, the CRBRP Project Director established a Redress Planning Task Force to initiate the planning effort for site redress activities. The conclusions from this planning task force were used as a starting point for the work completed by the Project presented in this report. The objectives of the Project evaluation are as follows:

A. Develop a plan to redress the site in accordance with NRC requirements or, in lieu of such specific requirements, in a manner determined by DOE and TVA to account for the site's potential industrial use wherever feasible.

B. Identify and account for environmental requirements that must be met in developing the final site redress plan.

C. Include the preferred preliminary conceptual alternative provided by the Redress Planning Task Force as an input in the development of the final redress plan.

D. Obtain local input from the City of Oak Ridge, Roane County, and other local community leaders.

E. Finalize the site redress plan incorporating input from other organizations and the local community that achieves an appropriate balance between environmental requirements and concerns and physical land characteristics consistent with the potential for industrial use.

In order to provide sufficient time to identify any alternate use for the site, full scale site redress activities are not planned to commence until in May 1985 as described in section 5.6.

2.0 SITE HISTORY AND DESCRIPTION

2.1 Project Status

The Applicants in this proceeding are the United States Department of Energy (DOE), Project Management Corporation (PMC), and the Tennessee Valley Authority (TVA). The Clinch River Breeder Reactor Plant (CRBRP) was intended to be a Liquid Metal Fast Breeder Reactor (LMFBR) demonstration plant with a rated

output of approximately 350 megawatts of net electrical power, proposed to be located on the Clinch River in Oak Ridge, Tennessee. The land on which the site is located has previously been dedicated to industrial use.

On January 11, 1982, the Applicants filed a motion to lift the suspension of licensing hearings, which the Atomic Safety and Licensing Board granted. The Board entered an Order on February 11, 1982, establishing a schedule for the commencement of evidentiary hearings concerning LWA matters. Site suitability hearings were conducted August 23-27, 1982. The ASLB then reopened discovery on all environmental issues, and conducted environmental hearings November 16-19, 1982, and December 13-17, 1982. The ASLB Partial Initial Decision was published February 28, 1983. The NRC granted a Limited Work Authorization on May 19, 1983. The CRBRP Project had previously been granted authorization to conduct site preparation activities under 10 CFR 50.12 on August 17, 1982, and actual on-site construction commenced September 22, 1982.

The U.S. Senate voted on October 26, 1983, to table its Appropriations Committee amendment containing a multi-year appropriation for the CRBRP. The result of this action was to provide no Fiscal Year 1984 funds necessary to continue construction of the CRBRP.[1] The Applicants then concluded that there appeared no substantial likelihood that such funds will be appropriated. As a result, the Clinch River Breeder Reactor Plant Project has been terminated and the plant will not be built.

2.2 Site History

The CRBRP site is located on a peninsula formed by the Clinch River approximately two miles upstream of the Highway 58 crossing of the river (Gallaher Bridge) within the city limits of Oak Ridge, and in Roane County, Tennessee. The site is on a 1,346 acre tract of land owned by the Federal Government in the custody of TVA. The site area is typical East Tennessee ridges and valleys. TVA granted a right of entry in August 1982 to DOE-CRBRP to about 600 acres of the tract to begin site preparation activities authorized by the Nuclear Regulatory Commission (NRC).

The Constructor for the CRBRP, Stone & Webster Engineering Corporation (SWEC), started site preparation and excavation work

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1 129 Cong. Rec. S14611-S14644 (October 26, 1983). Congress completed action on the Fiscal Year 1984 Supplemental Appropriations Bill on November 18, 1983 (129 Cong. Rec. H10529, Nov. 18, 1983). See also 129 Cong. Rec. H9875 (Nov. 15, 1983) and 129 Cong. Rec. S16588 (Nov. 17, 1983).

in September 1982. Work authorized by the NRC included:

- Excavation and backfill
- Non-safety related permanent improvements including a site access road, railroad spur to site, barge unloading facility, sewage treatment plant, and water line
- Construction support facilities including roads, parking areas, quarry, buildings, fire protection system, electric power, and concrete batch plant.

Site preparation and excavation and the start of the construction support facilities were curtailed on October 28, 1983. During the thirteen months of work, the following was accomplished:

- About 240 acres of the site were cleared and grubbed. This includes not only the main plant area and contiguous laydown areas but also the access road, areas for spoil, and a portion of the remote quarry area.
- Of the 240 acres cleared and grubbed, approximately 95 acres have siltstone or soil surfaces, and approximately 55 acres have been stabilized with limestone. 33 acres of the Quarry, 23 acres of the access road, and 10 acres of slopes and treatment pond areas have been seeded. The remaining 24 acres include the major excavation.
- Runoff from the 95 acres of non-stabilized land is directed to the 5 runoff treatment ponds on-site as required by the NPDES permit. Discharges from these ponds are well within the limitations specified by the NPDES permit.
- About 1.5 million cubic yards of overburden were excavated. The overburden, a cohesive soil, were placed in structural fill, designated random fill, or was spoiled due to organic content, high moisture content or other unsuitable conditions.
- About 1.5 million cubic yards of rock were excavated in the Nuclear Island (NI) excavation and from two main ridges. Most of the rock (limestone and siltstone) was crushed to a three inch maximum size and placed in Class B structural fills.
- The permanent access road was completed through the top of subgrade. Subsequent to curtailment of construction, twelve inches of crushed liemstone aggregate was placed on the access road to provide an all-weather surface for continuing access to the site.
- The on-site portion of the railroad embankment,

contiguous to the access road, was completed.

- An eight-inch water line from DOE's Bear Creek Filtration Plant off-site was completed to road station 50+00 (approximately 6450 feet).

- A construction power substation was completed by TVA taking power from the Ft. Loudon - K31 161 KV transmission line and providing 25 MVA of 13.8 KV power. Approximately 2,000 feet of underground distribution to two construction substations was completed.

- Four pre-engineered metal buildings from 4,000-5,000 square feet were erected.

- A concrete ringer crane pad, approximately 80 feet by 80 feet, was constructed on the east side of the NI excavation at elevation 814.

- A dual concrete batch plant capable of producing 250 cubic yards per hour was erected and put into operation.

The full scope of authorized site preparation activities was not initiated because of funding limitations.

During the entire period of site preparation, the Project has complied with the requirements of the National Pollution Discharge Elimination System Permit from the Environmental Protection Agency, including preparation and implementation of an Erosion Control Plan.

2.3 Site Description

The site includes an all-weather access road of approximately 6500 feet from a public road (Bear Creek Road) to the plant area and the following relatively level, stabilized areas:

The craft parking lot at average elevation of 836 (14 acres) (Note: all elevations are given in feet above mean sea level)

Plant and laydown areas at average elevation of 810 (41 acres)

Other level areas at lower elevations (13 acres)

Within and contiguous to the plant area are the Nuclear Island (NI) excavation, the normal cooling tower (NCT) excavation and the emergency cooling tower (ECT) excavation which, with their side slopes projected to plant area elevations of 810, total 24 acres. See attached Sketch 1.

Non-topographic features of the site, besides the all-weather

access road, include the 8-inch water line to road station 50+00, approximately 2000 feet of underground power distribution, four pre-engineered metal buildings, concrete batch plant, construction power substation, and the concrete ringer crane pad.

3.0 ENVIRONMENTAL AND REGULATORY REQUIREMENTS

3.1 Background

On November 30, 1981, the Applicants (DOE, PMC, and TVA) submitted a request to the Nuclear Regulatory Commission (NRC) for authorization under 10 CFR 50.12 to conduct site preparation activities prior to issuance of a Limited Work Authorization. In response to questions contained in an NRC Commission Order of December 24, 1981, the Applicants committed to redress impacts resulting from site preparation if a construction permit was not granted.[2] The Applicants' redress approach contemplated backfilling and compacting the excavations for permanent plant facilities and other depressions within the construction area.[3] Grading to facilitate drainage would leave the site in a condition compatible with its previous dedication to industrial use.[4]

In its Memorandum in Support of Request to Conduct Site Preparation Activities the Applicants restated their commitment to redress the environmental impact resulting from site preparation activities if required.[5] A description of Site redressibility was provided in section 5.0 of the CRBRP Site Preparation Activities Report, June 1982.[6]

The Commission's authorization acknowledged that the site could be substantially returned to its original condition, but indicated that the site is set aside for industrial use and that redress to the original condition may not be necessary to

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2 Letter, Gordon L. Chipmman to Nunzio J. Palladino, "Clinch River Breeder Reactor Plant Docket No. 50-537 (Section 50.12 Request)," dated January 18, 1982, (pages 11, 12).

3 Ibid. (pages 81-83).

4 Ibid. (page 84).

5 Docket 50-537, Applicants' Memorandum in Support of Request to Conduct Site Preparation Activities, dated July 1, 1982 (pages 26, 27).

6 Letter, W. Kenneth Davis to Nunzio J. Palladino, Clinch River Breeder Reactor Plant Docket No. 50-537 (section 50.12 Request), dated July 1, 1982.

minimize environmental impact.[7] The Applicants have committed to develop an appropriate plan for site redress and seek review and approval from the NRC Staff.[8]

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7 Docket 50-537, CLI-82-23, Commission Memorandum and Order, dated August 17, 1982, (Pages 20, 21), 16 NRC at 427-28.

8 Docket 50-537, Applicants Response to Motion of Natural Resources Defense Council, Inc., to Intervene, dated December 5, 1983, (page 6).

3.2 Applicable Permit and Regulatory Approvals

Termination of the CRBRP Project has effectively eliminated the need for non-NRC permits and approvals as identified in Appendix A. Most discharges permitted under the EPA NPDES Permit and State of Tennessee Clean Water Act Section 401 Certification no longer apply. The Applicants have requested the EPA and State of Tennessee for modification to their respective authorizations.[9]

The requested modifications would eliminate the waste treatment facility discharge, thermal discharge, and studies relating to reactor facility operations, but retain the discharge permit for runoff treatment ponds and overall site erosion control. Until completion of site redress and environmental stabilization of the site, the existing conditions of the NPDES effluent limitation for runoff treatment and overall site erosion control will remain in effect. During that period the Project will continue to monitor and report in accordance with already established frequencies of the EPA and State of Tennessee. The Federal Aviation Administration permit for structures over 200 feet in height will terminate once the on-site meteorological tower is dismantled.

As discussed in section 5.6 areas that were cleared during site preparation which will not be disturbed during site redress have either been seeded or will be seeded during the spring of 1984.

The permit and approval matrix (Appendix A, enclosed) provides a status report for the permits and approvals which will not be required for site redress.

Prior to commencement of site redress activities environmental control of water quality, air quality, liquid waste, solid waste, and protection of critical ecological elements will be maintained in accordance with the Environmental Control Plan for Maintenance and Redress of the CRBRP Site (Appendix B, enclosed). Tasks to assure environmental control include the following:

a. Monitor existing erosion and sediment control through regular inspections and specific inspections as required by the Environmental Control Plan.

b. Repair, replace or establish new barriers, such as straw bales and silt screens, to prevent discharge of sediments from the site.

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9 Letter CR-783:VF:83-807, P. J. Gross to A. D. McKinney and A. G. Linton, "CRBRP Project - Request for Modification on NPDES Permit No. TN0028801 and CWA Section, 401 Certification," dated December 14, 1983.

c. Clean ditches, establish berms and take other needed actions to direct runoff water to site runoff treatment ponds with minimum erosion and transport of sediments.

d. Control water level in the five runoff treatment ponds (A, B, C, D and E) to prevent overflowing, including pumping from one pond to another.

e. Sample effluent from the runoff treatment ponds and perform analyses as required in the Environmental Control Plan.

f. Repair and/or clean sand filters at the runoff treatment ponds, if necessary, to maintain capabilities of the filter systems.

g. Maintain signs and marking ribbons designating fragile ecosystems.

h. Maintain the Access Road and River Road.

i. During the 1984 growing season seed and mulch non-vegetated areas which will not be disturbed during redress, and take other remedial actions as necessary to maintain erosion control.

j. If any depressed areas collect stagnent water, ensure all local health regulations are met.

3.3 NRC Environmental Measures and Controls

The NRC environmental requirements during CRBRP construction are contained in NUREG-0139, "Supplement to Final Environmental Statement" (SFES).[10] The environmental control measures contained in the SFES primarily restate criteria contained in non-NRC permits and approvals identified in Appendix A. Specific NRC criteria contained in the SFES Section 4.6.1.1 which address additional conditions which could be affected by site redress and will require consideration during site restoration are as follows:

- Blasting restrictions (should rock removal be required) — Par. 3
- Access and encroachment on the Hensley Cemetery — Par. 4

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10 NUREG-0139, "Supplement to Final Environmental Statement Related to Construction and Operation of Clinch River Breeder Reactor Plant, Docket No. 50-537," October 1982.

• Site access road control	Par. 10, 12
• Transmission line maintenance	Par. 13
• Protection of critical ecological elements	Par. 16
• Fire prevention control	Par. 19

4.0 POTENTIAL USES FOR THE CRBRP SITE

The site was dedicated to industrial use even before it was proposed for the location of the CRBRP.[11] A subgroup of the CRBRP Site Redress Planning Task Force investigated numerous potential uses for the site. The goal of the subgroup was to provide information regarding future uses of importance to the site redress plan. Near term uses which could use some or all of the current excavation were considered, but none were identified as likely in the FY 84-85 time frame. Other specific alternative uses assumed filling in the major NI excavation but were not based on any specific redress options such as grading elevations, etc. Again, no near term uses were identified. The following list was compiled based on limited data regarding the possibility of relocating a planned project (e.g., coal gasification) or matching a potential project to the site (e.g., a DOE experimental reactor).

1. TVA power plant inventory site
2. Atmospheric fluidized bed combustion demonstration plant site
3. Coal gasification site
4. Private sector fusion experiment
5. Welding research institute
6. Low level radwaste facility
7. Spent fuel storage and/or disposal
8. Industrial hazardous waste management facility
9. Experimental use by University of Tennessee
10. Oak Ridge airport
11. Experimental use by other Federal Agencies
12. DOE fusion demonstration
13. DOE experimental reactor
14. Military reactor projects
15. DOE waste repository
16. HTGR demonstration plant

Although any one of the specific uses listed above could emerge as a development option, it was concluded that generalized

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11 Docket 50-537, CLI-82-23, Commission Memorandum and Order, dated August 17, 1982, pages 19 and 20, 16 NRC at 427.

industrial development is considered the type of use most likely to occur in the future. Although no immediate uses of this kind have been identified, it was concluded that if redress commenced after the spring of 1985, such options would not be forclosed and, in view of the continuing maintenance of environmental controls at the site (see Sections 3.2 and 3.3) no significant adverse environmental impacts would occur.

5.0 SITE REDRESS PLAN

5.1 General

The overall objective of the plan is to reconfigure and redress the site to provide an environmentally stable, self-draining, self-maintaining and aesthetically acceptable site that can be left unattended.

In planning for site redress, two general categories of conceptual options were considered:

- Topographic approaches which accomplish the objectives noted above and which preserve the potential of the site consistent with its previous dedication to future industrial use.
- Completion or addition of site development features such as a railroad spur, a barge facility, sewage treatment plant, or a water line to enhance the value of the site for potential industrial uses.

5.2 Site Redress Criteria

In addressing redress alternatives, the following criteria were assumed to apply:

- Excavations will be filled at least to minimum elevations sufficient to provide self-drainage to the Clinch River.
- No area outside the present cleared area will be disturbed.
- Borrow materials to be used in backfilling excavations and topographic reconfigurations will be taken from locations on the site which are within the present cleared area.
- Surface stabilization to assure erosion control.
- The area identified on plant construction drawings as the Craft Parking Lot, about 14 acres, with an average elevation of 836 will remain "as is." The area is

currently environmentally stable and would be useful for any future industrial development.

- Pre-engineered metal buildings and the dual batch plant will be removed while the substation will be de-energized.

- On-site meteorological station will be de-energized and removed.

5.3 Conceptual Redress Alternatives

Two conceptual schemes for accomplishing redress of the CRBRP Site were considered.

The two alternative approaches for site redress which appeared most feasible for further refinement and assessment are:

- Alternate 1 - Backfill the NI excavation, the NCT excavation and trench, and the ECT excavation to the general plant grade of 810. Material to fill excavations would be taken from Spoil Areas 2, 3 and 6, the East Laydown Area, the CBI Area, and the South Plant Area. This would provide a site with two major usable areas--the Craft Parking Lot (14± acres) and the general plant area at an average elevation of 810 (47± acres). See Sketch 2.

- Alternate 2 - Backfill the NI excavation, the NCT excavation and trench, and the ECT excavation to about elevation 780. Establish a drainage "spine" from the excavations in a plant south direction to the Clinch River. Material would be taken from Spoil Areas 2, 3 and 6, the East Laydown Area and the CBI Area. This would provide a site with three major usable areas--the Craft Parking Lot (14± acres), the West Area (29± acres) and the East Area (25± acres). The excavation and redress activities would result in a perimeter road along the north side of the plant area which would provide additional access to the lower portion of the peninsula. The Bear Creek water line would be completed from the present terminus of road station 50+00 to 71+30 (approximately 2,000 feet). See Sketch 3.

5.4 Advantages and Disadvantages of Alternatives 1 and 2

Both alternatives meet all environmental requirements. The principal advantage of Alternative 1 is that it provides the most flexibility for future use. Except for the Craft Parking Lot, the site is left at one general elevation, about 810.

The disadvantages of Alternative 1 are the higher cost and longer construction schedule and less net usable acreage for industrial

use. To backfill the excavations with material to support industrial structures will require borrowing from and eliminating some presently stabilized fills.

A preliminary estimate indicates that as much as 1.3 million cubic yards of material may have to be moved at a cost of about $6 million. Optimistically, this work might be completed in seven months. However, the schedule is sensitive to the final determination of the stability required in the excavation backfills.

The principal advantage of Alternative 2, other than lower cost and schedule considerations, is that it provides the most net usable, stabilized area to support industrial structures. Since the excavations will be part of a drainage "spine," requirements for backfill will be less than in alternative 1 and material can be borrowed from spoil areas and other non-stabilized areas. In addition, Alternative 2 includes the completed water line and additional access to the lower portion of the peninsula, both important development parameters for the potential development of the site for industrial purposes.

The disadvantage of Alternative 2 is the less flexible site topography. The reconfigured site will have three areas--the Craft Parking Lot (14 acres), a West Area (29 acres), and an East Area (25 acres). This will not provide as much flexibility in locating future site improvements.

A preliminary estimate for Alternative 2 indicates that about 750 thousand cubic yards of material may have to be moved at a cost of $3-4 million. A schedule of six months for accomplishment should be readily achievable.

5.5 Completion or Addition of Non-Topographic Features

The completion of the following non-topographic improvements which were planned, designed, and approved for construction by NRC in the authorization permit, were not completed during site preparation. They would, if completed, enhance the value of the site for future use, but were rejected from consideration during redress due to the extreme high cost, environmental disturbance to areas currently undisturbed and the negative effect on the redress construction schedule of about seven months.

The barge unloading facility adjacent to the access road at about road station 22+00. It is estimated to cost about $1.2 million.

The railroad spur from the K-25 spur to the site. It is estimated to cost about $1.8 million. If completed as planned, it would have limited value since it would be subject to severe security restrictions where it passes through K-25.

The sewage treatment plants on-site. The designed plants would have a capacity of 65,000 gpd and are estimated to cost about $600 thousand to complete.

The addition of the following improvements would enhance the value of the site for industrial use:

Construction of a railroad spur to the site outside of the K-25 security fence (present design utilizes existing track through K-25). An estimate has not been made for this routing, but it would be about 14,000 feet longer than the present design, would require bridges over two roads and one creek, and thus cost considerably more than present design.

Upgrading the existing gravel road that connects with State Highway 95 and the intersection of Bethel Valley Road which serves the National Laboratory. This would provide a more direct route to the Pellissippi Parkway and to East I-40 via Route 95. This would be a major and costly construction task.

None of the additional improvements considered in this subsection were incorporated into either alternative due to their high cost, potential environmental impacts, and negative effect on the redress construction schedule.

5.6 Conclusion

Because of its lower cost, larger usable land area, and schedular advantage Alternative 2 was selected as the preferred approach to redressing the site. Modifications to Alternative 2 have been made to provide an approximate 6 additional acres thereby maximizing usable land area.

The site will be reworked to leave it in a condition that is both environmentally and aesthetically acceptable; that is, self-maintaining and suitable for future use. This work will include excavation of borrow material from the site to fill or partially fill the existing excavations for the Nuclear Island, Normal Cooling Tower and Emergency Cooling Tower. The site will also be re-graded and seeded in order that erosion and transport of sediment into the Clinch River can be kept within acceptable limits. The design of new grades and the finish grading of the site will provide access to stabilized surface areas suitable for future industrial use.

The redress activities will comply with all applicable permits issued to the CRBRP and applicable requirements. Access to the Hensley Cemetery, will be maintained during redress of the site and remain after redress. No area outside the present cleared and grubbed area will be disturbed during site redress work.

A plan of the proposed Modifications to Alternative 2 is shown on Sketch 4. The major features of this scheme are: (1) fill the Nuclear Island and Emergency Cooling Tower excavations to an elevation which will facilitate natural drainage to the Clinch River and (2) fill the Normal Cooling Tower excavation to surrounding grade elevation. Materials to be used in backfilling these excavations will be taken from locations on the site which are within the present approved clearing and grubbing limits. Selection of borrow areas will give priority to areas where borrow will have the least impact on future industrial use of the site. Excavation of materials from the borrow areas will be performed by methods which will prevent run-off directly into the river. In order to assure adequate stability of filled areas intended for future industrial use, placement of fill will be controlled by specifying suitable lift thickness, compactive equipment and compactive methods.

In addition to re-grading the site, several non-topographic improvements are planned. Temporary buildings and the Concrete Batch Plant will be removed from the site. The foundations for these structures, the aggregate storage bins, the truck wash facility, and miscellaneous equipment footings and pads will be demolished. The 8" Bear Creek Water Line along the Access Road was terminated at WM Station 50+00. This line will be extended approximately 2,000 feet along the continuation of the Access Road to a point south of the N.I. Excavation.

After the site has been re-graded the area will be stabilized by seeding or surfacing with aggregate. Areas currently stabilized and surfaced with aggregate will remain as is. All other areas, except for access roads, will be seeded. After planted material and slopes have been established and stabilized, the treatment ponds will be removed (in accordance with state of Tennessee requirements) allowing the site to drain naturally to the Clinch River. The land will be included as an integral part of the forestry management program conducted by the DOE in this area. Seedlings will be planted as a part of that forestry management program. It should be noted that areas that were cleared during site preparation and which will not be disturbed during the redress construction either have been seeded or will be seeded in the spring of 1984. Included in this effort are the quarry area, slopes along the site access road and peripheral areas around the plant area. Planting of pine seedlings in the quarry area and along the access road has started and will be completed in the spring of 1984.

Redress activities would be scheduled to commence during the spring of 1985. Before commencement and during redress, all applicable environmental controls will be maintained (see sections 3.2 and 3.3). If prior to commencement industrial uses for the site are identified and committed which are consistent with the longstanding development plan for the site, then redress

would be implemented by the Project in accordance with this plan on those areas of the site not committed to industrial use. The site would then be returned to TVA for industrial development. Should such an industrial use be identified, or should the Project's plans or schedules change to any significant extent the NRC will be informed. This plan will assure that the environment of the site is protected, consistent with preserving its previously dedicated potential for industrial use.

The Project met with EPA Region IV on Februry 22, 1984 in Atlanta, Georgia to present this approach and schedule for site redress. EPA stated, "We concur with your conceptual approach and agree that one year is a reasonable time to develop a final site redress plan, and to investigate potential use for the site."[12] The Project also met with the State of Tennessee, Division of Water Management, on February 24, 1984 in Oak Ridge, Tennessee for the same purpose. The State water management people informally stated their concurrence with the proposed approach. The Project is also working with the local community governments and leaders to factor in any comments from a land use planning and industrial development standpoint. To date the Project has met with the Oak Ridge City Council (February 21, 1984) and the Roane - Anderson Economic Council (March 2, 1984) and is scheduled to meet with the Roane County Commission on March 12, 1984. These community leaders have also expressed their concurrence for the redress approach and schedule. The CRBRP Project will continue to involve the community in the redress planning activities.

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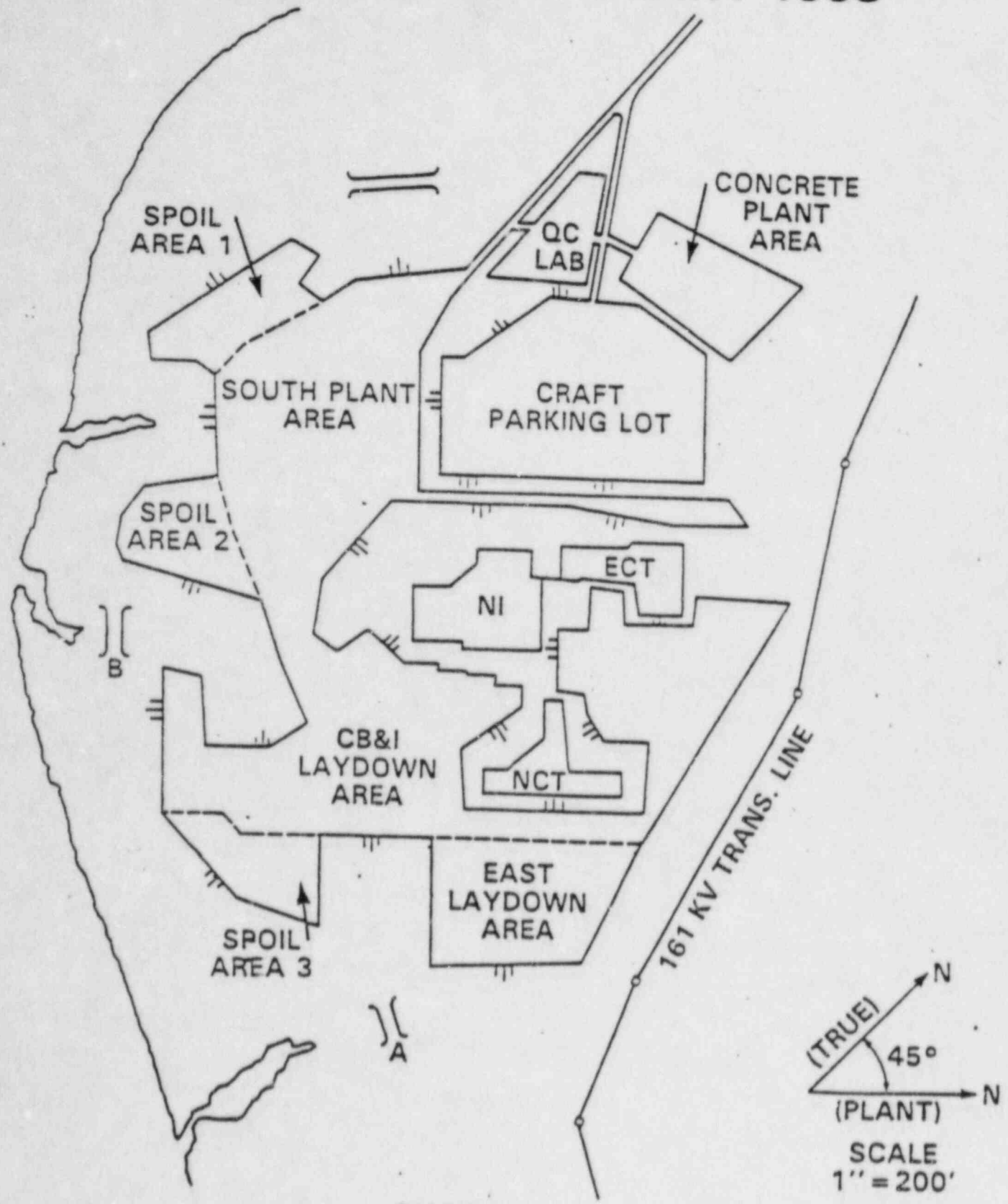
12 Letter, Howard D. Zeller to Peter J. Gross, dated February 29, 1984.

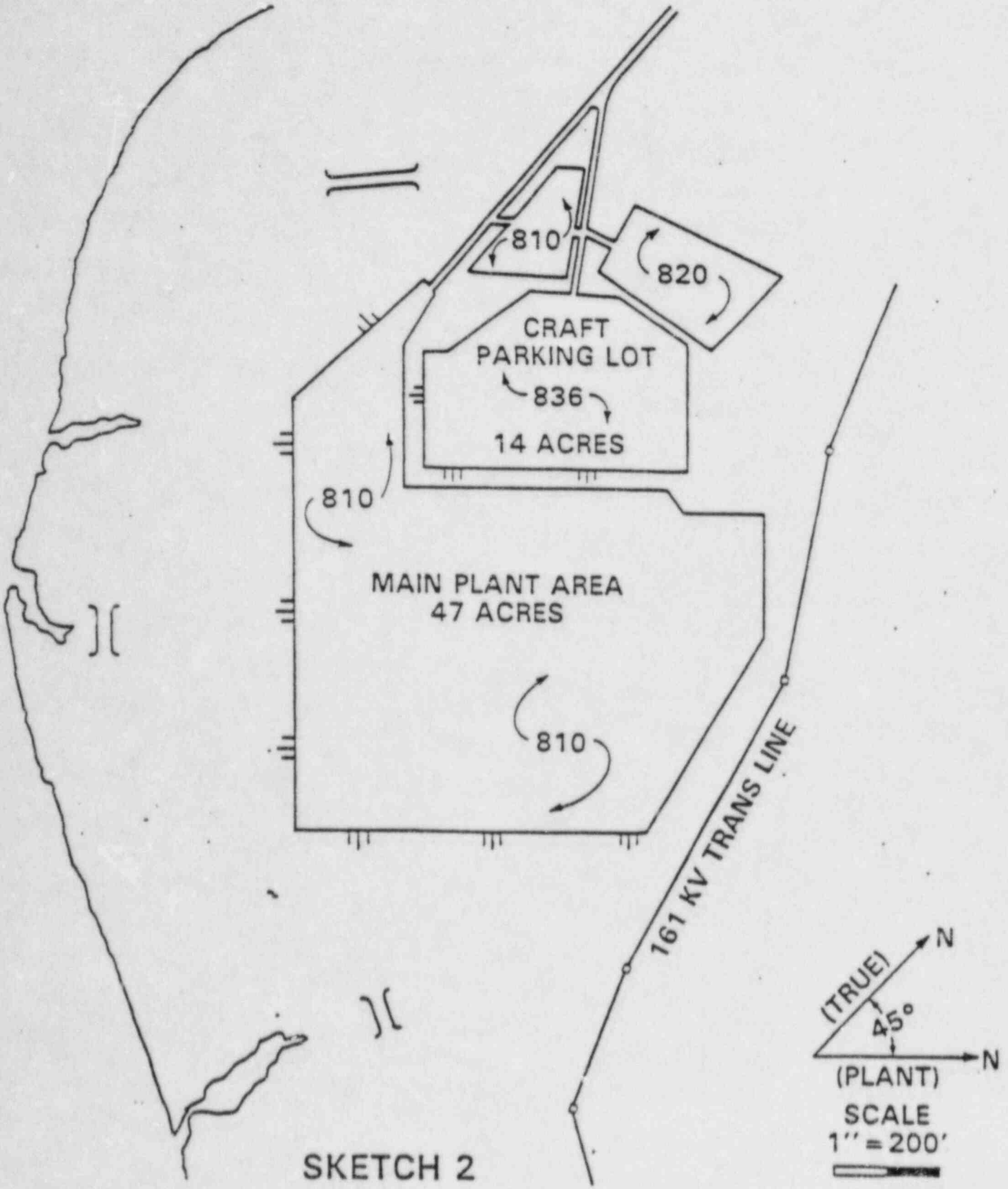
CRBRP SITE OCTOBER 1983



SKETCH 1

1-84 3643 16 1

ALTERNATE 1



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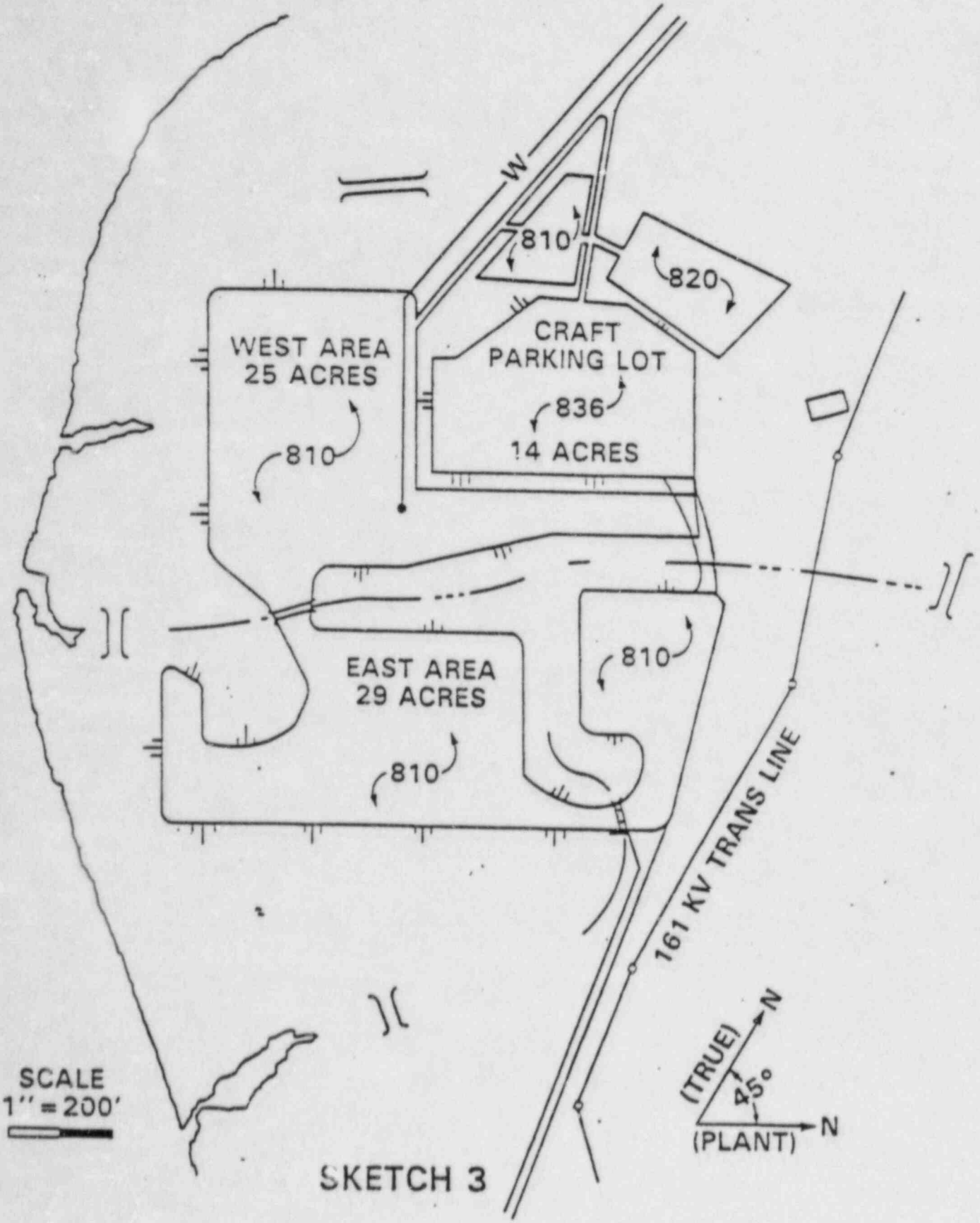
ALTERNATE 2



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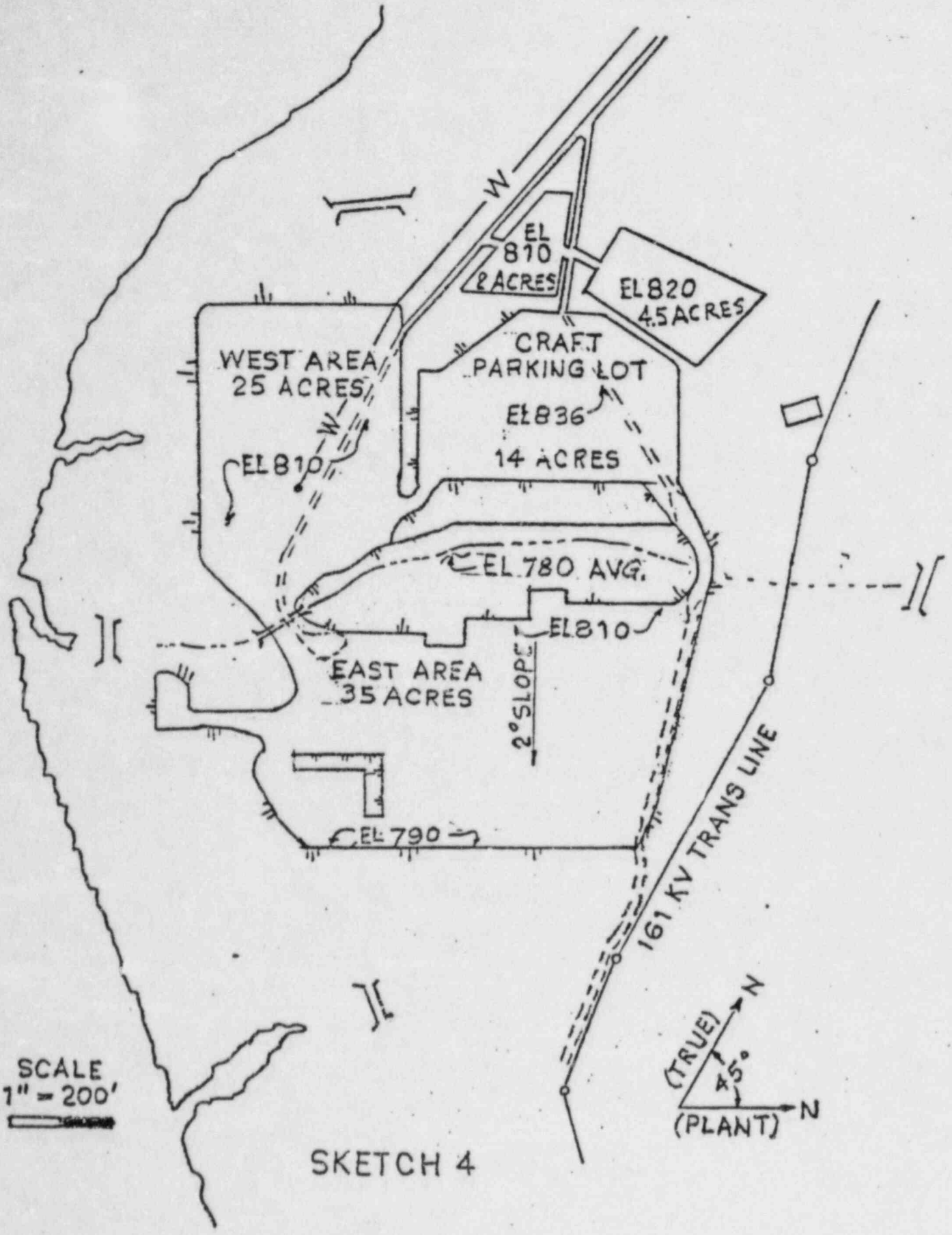
W
EL 810
8 ACRES
EL 820
4.5 ACRES
CRAFT PARKING LOT
EL 836
14 ACRES
WEST AREA
25 ACRES
EL 810
EL 780 AVG.
EL 810
EAST AREA
35 ACRES
2° SLOPE
EL 790
161 KV TRANS LINE
(TRUE) N
45°
(PLANT) N
SCALE
1" = 200'

SKETCH 4

Appendix A

Clinch River Breeder Reactor Plant Project's
Non-NRC Approvals Listing

	Agency	Type of Approval(s) or License(s)	Issue/ Effective Date	Need for Site Address	Expiration Date	Status	Method of Termination	Reporting Requirements	Comments
Federal									
1	Department of Transportation, U.S. Coast Guard	Navigational Aids Assessment	11-30-81	No	None	No private aids for navigational markings are required	None	None	Terminated on 12/7/83 by telephone call
2	Department of Army, Corps of Engineers	Permit No. 42,362, Barge facility, Intake and Outfall Structures & Fills (main site)	05-06-77	No	05-06-84	Partial completion of activities covered by this permit	Cease all activities covered by this permit	None	Terminated by CR-783:VF:84-021 (2/3/84)
3		Permit A42,362, Turn & Acceleration Lane	10-19-83	No	10-19-86	Work covered by this permit has not commenced	Do not begin this work	Notify agency when the work is begun and completed	Terminated by CR-783:VF:83-827 (1/3/84)
4	U.S. Environmental Protection Agency, Water Management Division	Authorization to discharge under the National Pollution Discharge Elimina- System Permit No. TN0028801	02-01-83	Yes	01-31-88	The conditions of the permit are in effect	Formal notification of EPA to terminate	As listed in the permit	Terminate with a letter by 6/1/86
5	Tennessee Valley Authority, Division of Land and Forest Resources	Section 26A permit Approval of Plans- for the main site activities	04-19-77	No	None	Partial completion of activities covered by this approval	Inform TVA of completed activities & other proposed activities	None	Terminated by CR-783:VF:84-021 (2/3/84)
6		Section 26A permit Approval of Plans- modification to include additional activities	02-18-83	No	None	Activities covered by this approval have been completed	Inform TVA of completed activities	None	Terminated by CR-784:VF:84-021 (2/3/84)

Appendix A

Clinch River Breeder Reactor Plant's
Non-NRC Approvals Listing

	Agency	Type of Approval(s) or License(s)	Issue/ Effective Date	Need for Site Redress	Expiration Date	Status	Method of Termination	Reporting Requirements	Comments
7		Section 26A permit-approval of plans for offsite storage area No. 1	06-24-81	Maybe	None	Activities covered by this approval have been completed	Inform TVA of status	None	Terminate with a letter by 3/15/84
8		Section 26A permit-approval of plans for the turn and acceleration lane	10-26-83	No	None	Work covered by this approval will not be performed	Inform TVA of intentions	None	Terminated by CR-783:VF:83-827 (1/3/84)
9	Federal Aviation Administration Air Space & Procedures Branch	Permits for structures 200 ft. or more above the ground	11-24-76	until towers are removed	Yes,				Permits are held by TVA Request TVA to terminate permit when towers are sold.
10	Federal Communications Commission, National Telecommunication and Information Agewncy	Assignment of frequency authorization for construction phase radios operational phase receives/transmitters	07-08-83	Yes	None	Construction phase authorizations obtained only	Request DOE-ORO to have authorizations invalidated	None	Authorizations are held by DOE-ORO, operational phase authorizations were never obtained. Terminate with a letter by 12/1/84
	State								
11	State of Tennessee, Division of Air Pollution Control	The determination that a Prevention of Significant Deteriation review was not required	03-18-82	No	None	In effect, the PO agreed to limit emissions	Inform TN to mutually invalidated agreement	None	Terminated by CR-783:VF:84-017 (1/30/84)
12		Three construction permits for two concrete batch plants and one boiler using No. 2 diesel fuel	04-25-83	No	09-01-83	Invalid	Not applicable	None	Expired 9/1/83

Appendix A

Clinch River Breeder Reactor Plant's
Non-NRC Approvals Listing

	Agency	Type of Approval(s) or Licensee(s)	Issue/ Effective Date	Need for Site Redress	Expiration Date	Status	Method of Termination	Reporting Requirements	Comments
13		Three operating permits two concrete batch plants & one boiler using No. 2 diesel fuel	11-15-83	No	None	The units will no longer be operated	Inform TN that the activity will not be conducted	None	Terminated by CR-783:VF:84-017 (1/30/84).
14		Authorization to open burn		Maybe		As needed	Formal notification not required		See TN statutes and regulations for open burning
15	Division of Water Management	CWA Section 401 Certification of the NPDES permit	07-15-82	Yes	01-31-88	Partially satisfied	Request TN to terminate requirements	None	Terminate with a letter by 6/1/86
16		Approval to Construct Sewage Treatment Plants	06-30-83	No	06-30-84	Sewage treatment plants will not be constructed	Inform TN that the plants will not be constructed	None	Terminated by CR-783:VF:84-015 (1/26/84)
17		Approval to Construct Potable Water Main	06-30-83	NO	06-30-84	Water main is being constructed	Inform TN of status & completion of water main	None	Terminated by CR-783:VF:83-828 (1/3/84)
18		CWA Section 401 Certification of the Corps of Engineers Permit No. A42,362, Turn & Acceleration Lane	09-22-83	No	10-19-86	Work covered by this certification will not be performed	Inform TN of status	None	Terminated by CR-783:VF:83-827 (1/3/84)

ENVIRONMENTAL CONTROL PLAN FOR MAINTENANCE AND REDRESS OF THE CRBRP SITE

1.0 PURPOSE

The purpose of this plan is to establish and describe the environmental controls to be used during maintenance of CRBRP Site and then during redress of the site. Maintenance of the site and redress of the site are further described below.

This plan has been developed from the pertinent requirements affecting the CRBRP Site, including but not limited to the Project's NPDES Permit Number TN0028801 and the Project's Erosion and Sediment Control Plan prepared by Stone and Webster Engineering Corporation (SWEC).

This plan is to be continuously implemented from the time the Constructor for the CRBRP (SWEC) is relieved of responsibility for the site and another organization assumes responsibility for the site, by contract or agreement with DOE-CRBRP, until site redress has been completed and adequate vegetation has grown to make the site environmentally stable.

2.0 DEFINITIONS

2.1 Maintenance of the Site - Maintenance of CRBRP Site during the period from relief of the Constructor of site responsibility until the start of redress construction.

Activities at the Site during this period will be limited to control of runoff and sediments, removal of construction materials and equipment, removal of superstructures of buildings and removal of the concrete batch plant.

2.2 Redress of the Site - Redress of the site to make it environmentally stable and aesthetically acceptable for return to TVA control.

Activities to be conducted will be primarily movement of soil and rock within the site to reconfigure the topography to make the site self-draining and, to the extent deemed prudent, provide stabilized areas for future use. Standard earth moving and placing equipment will be used. Incidental blasting of rock and concrete slabs/footings is anticipated. Some drainage structures (culverts) may be required.

3.0 PLAN COVERAGE

Included in this Environmental Control Plan are measures to be taken to satisfy existing project commitments.

Measures required by the Project's NPDES Permit, number TN0028801 and the Erosion and Sediment Control Plan are covered in the section Water Quality Control.

Control of fugitive dust from unpaved roads and limitations on open burning of wood products are detailed in the section Air Quality Control.

Measures for controlling oil and oil spills are provided in the section Liquid Waste Control.

Measures for disposing of solid wastes from the site are provided in the section Solid Waste Control.

Measures for protecting rare and unusual plant species on the site are described in the section Rare and Unusual Plant Species.

Activities which are conducted at the site during either maintenance or redress and, one, not covered by this plan and, two, regulated by Federal or State Agencies, will be controlled by separate plans. Any permits required for such activities are to be obtained by the organization conducting the activity and copies of plans and permits are to be provided to the DOE-CRBRP.

4.0 DESIGNATION OF RESPONSIBLE INDIVIDUAL FOR ENVIRONMENTAL CONTROL

The organization responsible for environmental control of the site shall designate an individual to oversee environmental control activities. DOE-CRBRP shall be advised in writing of the name and qualifications of the individual so designated and that he has the authority to require implementation of environmental control measures.

The individual designated shall plan for environmental control measures for specific activities and shall insure their proper implementation.

5.0 WATER QUALITY CONTROL

5.1 Erosion and Sediment Control During Site Maintenance

During the maintenance period of the CRBRP Site erosion and sediment control will consist of maintaining the effectiveness of existing control measures. The site is to be inspected regularly for evidences of erosion and deterioration of existing control features. If problem areas are identified actions are to be implemented promptly to correct them.

Effluent samples from the runoff treatment ponds A through E are to be collected and analysed according to the limitations and monitoring requirements of the Project's NPDES permit. An extract of the pertinent requirements is at Attachment 1. Sample analyses, results and inspection findings are to be reported to DOE-CRBRP promptly.

In the event that effluent concentrations exceed 50 mg/l, the contractor shall evaluate system performance to assure that the system is operating as designed and that on-site controls are effective. Contractor shall take appropriate corrective action as required.

The water level in the runoff treatment ponds is to be controlled to prevent them from overflowing. To accomplish this it may be necessary to pump water from one pond to another that has sufficient capacity.

The runoff treatment pond filters are to be maintained in good working condition. In the event that siltation of the filters reduces flow-through below design capabilities, filters shall be cleaned in a manner approved by DOE-CRBRP.

5.2 Erosion and Sediment Control During Site Redress

The primary method for controlling erosion on the site is to be by diverting as much runoff as possible into the runoff treatment ponds to be filtered and discharged to the Clinch River. This is to be accomplished by maintaining the slopes of cut and fill areas so they will drain into treatment ponds. Earthwork must be sequenced to control the size of areas draining into each treatment pond to prevent their being overloaded. The approximate maximum drainage area for each of the treatment ponds is:

Pond A	44 acres
Pond B	34 acres
Pond C	48 acres
Pond D	32 acres
Pond E	82 acres

If the size of drainage areas is not maintained, overloading of individual ponds may result. In these circumstances it will be necessary to control the water level in the overloaded ponds. To accomplish this it will be necessary to have the capability of pumping water from the overloaded ponds to the ponds with excess capacity.

Spoil areas and areas where large volumes of materials will be moved shall have barriers placed along the toe of the outer most slopes (where runoff flows toward the river), prior to start of earthwork until they are stabilized, well vegetated and erosion is prevented. All affected areas shall be inspected after each rainfall to verify that erosion is minimized and that erosion and sediment control structures are being effective. Erosion control features shall be repaired, replaced, or added as required to maintain effectiveness.

Existing erosion control measures presently in place protecting previously disturbed areas of the site are to be maintained as long as necessary. If new problems develop new control measures are to be installed.

Effluent samples from the runoff treatment ponds are to be collected and analysed according to the limitations and monitoring requirements of the Project's NPDES permit. An extract of the pertinent requirements is at Attachment 1. Sample analyses, results and inspection findings are to be reported to the DOE-CRBRP promptly.

In the event that effluent concentration exceeds 50 mg/l, the contractor shall evaluate system performance to assure that the system is operating as designed and that on-site controls are effective. Contractor shall take appropriate corrective action as required.

Disturbed areas which do not drain into treatment ponds are to have separate erosion control measures installed. These measures are to include straw dams, silt fences and others as required to minimize sediments reaching the Clinch River.

The runoff treatment pond filters are to be maintained in good working condition. In the event that siltation of the filters reduces flow-through below design capabilities, filters shall be cleaned in a manner approved by DOE-CRBRP.

Rainfall data representative of the site shall be collected.

5.3 Other Water Quality Control

There are two potential sources of water on the site: a well at the Concrete Batch Plant Area and the Bear Creek Water Line. The well will be capped and not used. The Bear Creek Water Line has been installed from the K-25 Water Filtration Plant, along the site Access Road to water line station 74+50 where it terminates with a fire hydrant. The line has had a hydrostatic test performed on it but is not connected to the K-25 Water Filtration Plant and has not been flushed or disinfected.

No discharges from the site, other than those permitted by the project's NPDES permit from the runoff treatment ponds, are permitted. If any other discharge occurs the contractor is to immediately inform the DOE-CRBRP.

6.0 AIR QUALITY CONTROL

6.1 Dust Control

Water sprinkling of laydown, storage, and parking areas, unpaved roads and other areas of the site is to be used to control dust formation. This can be accomplished through the use of sprinkler trucks which can obtain water from the Clinch River. A specific area along the river at which the trucks may obtain water will be designated. The area will be regularly inspected and any observed damage to the riverbank at this area will be repaired and corrective actions taken. The area will be protected against erosion by placement of crushed stone and curbing, and by limiting the distance from the river the trucks may approach, or by designating a different area.

6.2 Open Burning

Open burning is to be done in accordance with the Rules of Tennessee Department of Public Health, Bureau of Environmental Health Services, Division of Air Pollution Control, Chapter 1200-3-4, Open Burning. Burning of waste materials consisting of wood products, trees and brush is permissible, within the limits shown and the requirements specified in notes on drawing 12720-YSK-007-11.

If any new air contaminant sources are to be constructed on the site all required construction and operating air quality permits are to be obtained by the organization responsible for the sources.

7.0 LIQUID WASTE CONTROL

7.1 Oil Control

Equipment maintenance activities such as lubrication or equipment repair which could result in spills of oil or grease shall be performed in an enclosed building if possible. In the event it is not possible to conduct equipment maintenance in an enclosed building oil sorbent materials shall be used to clean up any spills. Oil contaminated materials shall be stored in metal containers and disposed of off-site in accordance with environmental regulations. Materials shall be maintained for cleanup of oil spills on both land and in the river. All pumps shall have drip pans and an enclosure provided for protection from rainfall.

Storage of fuel and oil shall be in a manner that provides containment of a spill and protection from surface runoff. If on-site oil storage facilities are developed with an underground capacity of more than 42,000 gallons, or an above ground capacity of more than 1,320 gallons with any single container larger than 660 gallons the requirements of 40 CRF112 for a Spill Prevention Control and Countersmeasures Plan must be implemented.

In the event that a spill of oil occurs, the following reporting actions are to be taken immediately:

1. The DOE-CRBRP shall be notified immediately.

2. Notification shall include:

   a) Time and location of spill.
   b) Source and type of material spilled.
   c) Estimated quantity of spill.
   d) Potential health or fire hazard.
   e) Initial action taken for containment of spill.

3. The person notified in 1 above shall immediately inspect the reported spill and if appropriate report the information from 2 above to the following:

   Duty Officer, National Response Center, U. S. Coast Guard
   400 7th Street S. W., Washington, D. C. 20590
   Telephone (800) 424-8802

4. The contractor responsible for the site will take immediate actions to contain the spill. He will then determine to use either available construction forces or to contract a commercial waste collector for cleanup of the spill.

5. Within 5 days of a spill the contractor shall submit a written report to the DOE-CRBRP. The report will provide details of the spill and measures taken for its containment and cleanup.

7.2 Other Liquid Waste

Liquid waste materials from the site are to be handled on an individual basis. If the organization responsible for the site produces any potentially hazardous materials, the materials are to be transported and/or disposed in accordance with the Resource Conservation and Recovery Act and appropriate State of Tennessee requirements.

8.0 SOLID WASTE CONTROL

8.1 Solid Waste Control During Site Maintenance

During the site maintenance period the organization responsible for the site is to remove all solid waste to an off-site approved disposal point. If he produces any potentially hazardous materials, the materials are to be transported and/or disposed in accordance with the Resource Conservation and Recovery Act and appropriate State of Tennessee requirements.

8.2 Solid Waste Control During Site Redress

During the site redress period solid waste materials listed below may be buried on site:

a. Ashes
b. Tree Stumps
c. Masonry
d. Concrete
e. Lumber

Paper, wrappers, lunch debris, and other garbage shall not be disposed of on-site. This material shall be hauled off-site to an approved disposal point.

If any potentially hazardous materials are produced on-site they are to be transported and/or disposed in accordance with the Resource Conservation and Recovery Act and appropriate State of Tennessee requirements.

9.0 RARE AND UNUSUAL PLANT SPECIES DURING MAINTENANCE AND REDRESS

Various rare and unusual plant species have been located on the site and are shown on drawing 12720-YSK-010-2. The area around these plants have

been marked with yellow ribbons and signs labeled "OFF LIMITS - FRAGILE ECOSYSTEM". All of these areas are located outside the disturbed areas of the site. These areas are to remain undisturbed and the contractor is to maintain the ribbons and signs marking the areas.

10.0 REPORTING

10.1 Reporting During Maintenance Period

1. Report sample analysis of discharges from runoff treatment ponds. Samples are to be analysed in accordance with the "Monitoring Requirements" of Attachment 1.

   Test procedures for the analysis of pollutants shall conform to all regulations published pursuant to Section 304(h) of the Clean Water Act, as amended (40 CRF 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants").

   For each measurement or sample taken pursuant to the requirements of the Project's NPDES permit, the contractor shall record the following information:

   a. The exact place, date, and time of sampling;

   b. The person(s) who obtained the samples or measurements;

   c. The dates the analyses were performed;

   d. The person(s) who performed the analyses;

   e. The analytical techniques or methods used; and

   f. The results of all required analyses.

2. Report findings of the regular site inspection.

3. Reports on oil spills are to be submitted as described in section 7.1.

10.2 Reporting During Site Redress Period

1. Report sample analyses of discharges from runoff treatment ponds. Samples are to be analysed in accordance with the "Monitoring Requirements" of Attachment 1.

Test procedures for the analysis of pollutants shall conform to all regulations published pursuant to Section 304 (h) of the Clean Water Act, as amended (40 CFR 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants").

For each measurement or sample taken pursuant to the requirements of the Project's NPDES permit, the contractor shall record the following information:

a. The exact place, date, and time of sampling.

b. The person(s) who obtained the samples of measurements;

c. The dates the analyses were performed;

d. The person(s) who performed the analyses;

e. The analytical techniques or methods used; and

f. The results of all required analyses.

2. Report findings of the inspections of disturbed areas after each rainfall.

3. Report rainfall records for the site. All periods of rainfall which exceed the 10-year, 24-hour event or cause discharge from any overflow shall be reported to DOE-CRBRP to be reported to the EPA.

4. Reports on oil spills are to be submitted as described in Section 7.1.

5. Report findings of inspections of the area along the Clinch River where sprinkler trucks obtain water.

6. A report summarizing the implementation of the erosion and sediment control measures shall be submitted covering a period of the first three months of site redress. The report shall be submitted within 30 days of the end of the first period. A final report shall be submitted by November 1, 1984, covering the overall status of the implementation of erosion and sedimentation control measures.

11.0 REFERENCES

1. Clinch River Breeder Reactor Plant Environmental Report.

2. Supplement to Final Environmental Statement Related to Construction and Operation of Clinch River Breeder Reactor Plant, Docket No. 50-537.

3. National Pollutant Discharge Elimination System, permit number TN0028801

4. Erosion and Sediment Control Plan, Clinch River Breeder Reactor Plant, dated December 10, 1982

5. SWEC Drawing 12720-YSK-007-11

6. SWEC Drawing 12720-YSK-010-2

12.0 ATTACHMENTS

1. Extract of Effluent Limitations and Monitoring Requirements of National Pollutant Discharge Elimination System (NPDES) Permit Number TN0028801 Applicable to Maintenance and Redress of the CRSRP Site

Attachment 1 to Environmental Control Plan for Maintenance and Redress of the CRBRP Site.

January 18, 1984

EXTRACT OF EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS OF NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT NUMBER TN0028801 APPLICABLE TO MAINTENANCE AND REDRESS OF THE CRBRP SITE

The attached pages I-3 and I-4 of Permit No. TN0028801 contain the effluent limitations and monitoring requirements applicable to the following authorized point source discharges from runoff from areas of construction which remain in effect during maintenance and redress of the CRBRP site:

Serial Number	Locations
003	From Pond A
004	From Pond B
005	From Pond C
006	From Pond D
007	From Pond E

References to discharge point 008 are not applicable since the onsite quarry and quarry pond were cancelled and not developed.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 003 through 008 - Point source runoff from areas of construction and yard drainage to unnamed ditches to the Clinch River. (003, 004 and 006 may also receive dewatering wastes and/or other small sources and 007 may also receive overflow from the Concrete Wash Settling Pond and the Aggregate Washing Settling Pond during abnormal rainfall periods.)

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent characteristic	Discharge Limitations	Monitoring Requirements	
	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow - m^3/Day (MGD)	N/A	1/week 1/	Grab
Total Suspended Solids (mg/l)	2/	1/week 1/, 3/	Grab
Oil and Grease (mg/l) 5/	5/	1/week 1/, 5/	Grab 5/
Detention Volume	See Below	1/six months	Calculation(s)

The runoff treatment ponds shall be capable of processing the 10-year, 24-hour rainfall event plus all accumulated silt without overflow of the standpipe. Not less than once per six months for the first year, permittee shall ascertain that available settling volume meets this requirement and shall report this finding when submitting Discharge Monitoring Reports. Frequency during subsequent years shall be determined based on assessment of the information for the first year.

Permittee shall maintain or obtain records of rainfall representative of site conditions. All periods of rainfall which exceed the 10-year, 24-hour event or cause discharge from any overflow shall be reported to EPA.

The drain value on 008 (Quarry Pond) shall be locked at all times with the key placed only in the custody of the Senior Construction Site Representative and/or his supervisors and shall not be provided to his subordinates. In the event that this valve must be opened for maintenance purposes, all resonable precautions shall be taken to minimize any silt released to the Clinch River. Monitoring shall be 2/day by grab sample with analyses to include TSS, pH and flow.

NOTE: No direct discharge from temporary ponds T1, T2, or T3 is permitted by this Authorization to Discharge (Discharge to OSN 003 through 007 is permitted.). Any direct discharge to waters of the U.S. shall be reported in accordance with requirements of Part II.A.3.b, except that reporting shall be within five days. Monitoring shall be 2/day by grab sample with analyses to include TSS, pH and flow.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on start of discharge and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 003 through 008 - Point source runoff from areas of construction and yard drainage to unnamed ditches to the Clinch River. (003, 004 and 006 may also receive dewatering wastes and/or other small sources and 007 may also receive overflow from the Concrete Wash Settling Pond and the Aggregate Washing Settling Pond during abnormal rainfall periods.) Continued

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored 1/week 1/, 4/.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): points of discharge from treatment ponds A, B, C, D, E and the quarry pond, respectively, prior to mixing with any other waste stream 3/.

1/ Sampling and inspection of the filter and water level shall be conducted at leant two times per week during periods when the water level is within 36 inches of the top of the overflow pipe. All periods of overflow shall be reported and representative samples collected and analyzed, with the first sample collected within 12 hours of start of overflow.

2/ In the event that effluent concentration exceeds 50 mg/l, permittee shall evaluate system performance to assure that the system is operating as designed and that on-site controls are effective. Permittee shall take appropriate corrective action as required.

3/ All periods of discharge from the Concrete Wash and Aggregate Washing Settling Ponds to OSN 007 shall be reported and monitored 1/day for total suspended solids, total dissolved solids and pH on grab samples at the individual Settling Pond discharge points.

4/ Applicable to any flow up to the flow resulting from a 24-hour rainfall event with a probable recurrence interval of once in ten years.

5/ Applicable to OSN 003 only.

OAK RIDGE

ATTACHMENT B

TENNESSEE

CITY OF OAK RIDGE
MUNICIPAL BUILDING
POST OFFICE BOX 1 37831-0001
TELEPHONE (615) 483-5671

March 6, 1984

Mr. Peter Gross
Assistant Director for Public Safety
CRBR Project Office
P. O. Box U
Oak Ridge, Tennessee 37831

Dear Mr. Gross:

Thank you for your presentation to City Council on February 21, 1984 of the CRBRP preliminary plans and schedule for site redress. We certainly agree that time should be taken to fully evaluate possible future uses for the CRBRP site, and feel that your proposed schedule provides sufficient time for that evaluation. If no specific use for the site is identified during this evaluation period, then the general approach to site redress, which you outlined and which results in level land uses for future industrial development, appears reasonable.

We look forward to working with you in the future to develop the details of the site redress design.

Sincerely yours,

M. Lyle Lacy, III
City Manager

lm

ATTACHMENT C

STATE OF TENNESSEE
DEPARTMENT OF HEALTH AND ENVIRONMENT
EAST TENNESSEE REGIONAL OFFICE
ALEX B. SHIPLEY REGIONAL HEALTH CENTER
1522 CHEROKEE TRAIL
KNOXVILLE, TENNESSEE 37920

February 27, 1984

Mr. Jerry Wing
Clinch River Breeder Reactor Project
P. O. Box U
Oak Ridge, TN 37830

Dear Mr. Wing:

Thank you for reviewing our staff on the site redress plans for the terminated Clinch River Breeder Reactor Project. As was discussed at the February 24, 1984 meeting, our main concern with the site redress proposal is to insure that erodable materials and other potential contaminants for the abandoned site do not enter surface waters of the area. Since all the erosion control measures and sediment ponds are to remain functioning and in place we have no objections to leaving the site undisturbed until May 1985, as long as the following conditions are met:

1) All surface run-off is to be directed through the sediment pond systems as presently established on the site.

2) All discharges from the sediment ponds must not exceed NPDES permit conditions as presently established.

3) All erosion control measures must be maintained to prevent erodable materials from entering surface streams from roadways on the project site.

If no suitable use is found for the project site by May 1985, and the final redress plan is implemented, we feel that your proposed site stabilization plan is adequate to protect the surface waters of the area provided that the seeding of the area is successful. We request that the Tennessee Division of Water Management be notified prior to

dismantling of erosion control measures so that we may make a final inspection. Thank you for your cooperation in keeping us informed on your plans to close out the Clinch River Breeder Reactor Project site.

Sincerely,

A. David McKinney, Manager
Knoxville Basin Office
Division of Water Management

ADM:DLM:bp

ATTACHMENT D

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

FEB 2 9 1984

4PM-EA/SNM

Mr. Peter J. Gross
Assistant Director for Public Safety
U.S. Department of Energy
Clinch River Breeder Reactor Plant
P.O. Box U
Oak Ridge, Tennessee 37830

Dear Mr. Gross:

Thank you for coming to Atlanta, Georgia, February 22, 1984, and reviewing your site redress planning with us. We concur with your conceptual approach and agree that one year is a reasonable time to develop a final site redress plan, and to investigate potential use for the site. We commend your desire to secure input from TVA, NRC, the State of Tennessee, and local government. We are willing to assist you in any way that we can in reaching an environmentally acceptable solution.

Sincerely yours,

Howard D. Zeller
Assistant Regional Administrator
for Policy and Management

ATTACHMENT E

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 6, 1984

Mr. Francis X. Gavigan
Director, Office of Breeder
Demonstration Projects
Office of Nuclear Energy
Department of Energy
Washington, D.C. 20545

Dear Mr. Gavigan:

Your letter of March 5, 1984 provided the final CRBR site redress plan for our review and approval. The NRC staff has reviewed this plan, including as part of this review visits to the site on February 29, 1984 and April 24, 1984. Based upon this review the staff finds your proposed course of action environmentally acceptable. As part of implementing your plan the following actions should also be taken:

1) At the time final disposition of the site is determined (Spring 1985) the plans for the site should be reported to NRC along with its status at that time and the schedule for the final redress activities. If an alternate use for the site is found the redress plan should be revised as appropriate to reflect consideration of this alternate use and submitted to NRC.

2) In performing the redress activities the topsoil stockpiled during site clearing should be used as much as possible to facilitate the regrowth of vegetation. This is consistent with a previous commitment from the Department of Energy made pursuant to requesting an exemption which allowed early site preparation activities to begin (see letter G. L. Chipman, Jr. to NRC Commissioners, dated January 18, 1982, Pgs. 82-88 of the attachment).

As stated in your March 5, 1984 letter DOE is committed to meeting the existing conditions of the United States Environmental Protection Agency and State of Tennessee effluent limitations for runoff treatment and overall site erosion control prior to and during site redress activities. Compliance with these limitations will continue to be reported to the United States Environmental Protection Agency and the State of Tennessee. Per discussions between the NRC staff and United States Environmental Protection Agency staff compliance with effluent and erosion control limits will be subject to monitoring by the United States Environmental Protection Agency Region IV. Accordingly, NRC will rely on the United States Environmental Protection Agency in this regard.

cc: Marshall E. Miller, Esq., Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Gustave A. Linenberger
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Cadet H. Hand, Jr., Director
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Room 6-B-256
Washington, D. C. 20585

As indicated in the site redress plan, if no alternate use for the site is found by Spring 1985 then implementation of the major redress activities will begin (refill nuclear island excavation, removal of specified concrete pads, batch plant, etc.). NRC Region II will monitor these redress activities to verify they are done in accordance with the plan.

In consideration of the proposed plan and the above stated actions the CRBR site redress plan is found to be acceptable. Final approval of the plan must await action by the Atomic Safety and Licensing Board. If you have any questions please do not hesitate to contact me.

Sincerely,

Thomas P. Speis, Director
Division of Safety Technology
Office of Nuclear Reactor Regulation

cc: Service List
H. R. Denton, NRR
J. P. O'Reilly, NRC, Reg. II
R. C. Lewis, NRC, Reg. II
H. D. Zeller, EPA, Reg. IV

SUPPLEMENTAL AGREEMENT

BETWEEN

TENNESSEE VALLEY AUTHORITY

AND

UNITED STATES DEPARTMENT OF ENERGY

THIS SUPPLEMENTAL AGREEMENT, made and entered into this 31st day of August, 1984, by and between the TENNESSEE VALLEY AUTHORITY, a wholly owned Government corporation organized and existing under the Tennessee Valley Authority Act of 1933, as amended, 16 U.S.C. §§ 831-831dd (1982) (hereinafter called "TVA"), and the UNITED STATES DEPARTMENT OF ENERGY (hereinafter called "DOE"):

W I T N E S S E T H:

WHEREAS under a license agreement between TVA and DOE dated August 18, 1982, TVA granted DOE a license to occupy and use, for the purpose of conducting site preparation activities authorized by the Nuclear Regulatory Commission (hereinafter called "NRC") under 10 C.F.R. § 50.12 for the Clinch River Breeder Reactor Plant Project, approximately 600 acres of land referred to herein as "the property" and shown outlined in red on the map attached to the license agreement and designated Exhibit A thereto; and

WHEREAS section 5 of said license agreement provides that should subsequent construction beyond the conduct of site preparation activities not be authorized by NRC, DOE is to restore the property in accordance with NRC requirements, or in lieu of such specific requirements, in a manner determined by TVA and DOE, taking into account the project site's potential for industrial use; and

WHEREAS the Clinch River Breeder Reactor Project was terminated effective November 14, 1983, and therefore, subsequent construction beyond the conduct of site preparation activities has not and will not be authorized by NRC; and

WHEREAS in lieu of specific NRC site restoration requirements, the parties desire by this supplemental agreement to agree upon the manner in which the property will be restored; and

NOW, THEREFORE, in consideration of the foregoing premises and of the mutual covenants hereinafter contained, the parties hereto agree as follows:

1. DOE shall redress the property in accordance with the Clinch River Breeder Reactor Plant DOE/TVA/PMC Site Redress Planning Task Force Report (January 1984) attached hereto as Exhibit B. DOE shall implement Conceptual Redress Alternative 2 described therein.

2. Construction activities for redress of the property shall commence not later than May 31, 1985, and are expected to be complete by November 30, 1985.

3. DOE shall be responsible for maintaining the property until all redress activities have been satisfactorily completed and TVA concurs that the redress has been completed in accordance with the agreed to design.

4. DOE hereby obligates the sum of Five Million Dollars ($5,000,000) for the accomplishment of the work as described in the agreed upon conceptual plan, under DOE contract(s), provided that such sum is an estimate of the cost of such work and that the actual cost of restoration for which DOE is committed to pay may exceed or be less than the amount herein obligated.

5. If prior to the completion of onsite redress activities, a serious industrial prospect expresses interest in developing the site, TVA and DOE will consult and agree upon such reasonable modifications to the redress plan and schedule as would enhance the usefulness of the site to such prospect.

6. Except as amended and supplemented herein, all terms and conditions of the August 18, 1982 license agreement shall remain in full force and effect as the continuing obligations of the parties.

IN WITNESS WHEREOF, the parties hereto have caused this supplemental agreement to be executed by their duly authorized representatives as of the day and year first above written.

TENNESSEE VALLEY AUTHORITY

By /s/ W. F. Willis
W. F. Willis
General Manager

UNITED STATES DEPARTMENT OF ENERGY

By /s/ John D. Wagoner 8/31/84
John D. Wagoner
Contracting Officer
Clinch River Breeder
Reactor Project

EXHIBIT B

CLINCH RIVER

BREEDER REACTOR PLANT

DOE/TVA/PMC

SITE REDRESS PLANNING

TASK FORCE REPORT

JANUARY 1984

TABLE OF CONTENTS

SUMMARY AND CONCLUSIONS

The CRBRP Redress Planning Task Force conducted preliminary evaluations of site use and redress options and reached the following conclusions:

A. No specific near term use of the site was identified.

B. General industrial development of the site is the use most likely to occur.

C. Site redress activities should be designed to enhance potential development of the site for industrial use.

D. Completion of the previously designed barge unloading facility, railroad spur, and sewage treatment plants would not be cost-effective at this time and should not be included in the final redress plan.

E. Final redress plan development and implementation should achieve an environmentally stable site which should not require further monitoring or site maintenance.

F. DOE and TVA should continue to exchange information pertaining to specifics of the site redress plan to ensure that mutual interests are preserved.

G. Conceptual alternative 2 is preferred because it achieves the most favorable balance between construction costs and the potential for industrial development while accomodating satisfactory compliance with NRC requirements.

1.0 INTRODUCTION

1.1 Purpose and Objectives

The purpose of this report is to provide a description of the conceptual alternatives and site redress recommendations developed by the Site Redress Planning Task Force.

To assist in developing the site redress plan, the DOE CRBRP Project Director established a joint DOE, TVA, PMC Redress Planning Task Force. The objectives of this joint task force are to:

A. develop site redress planning concepts that comply fully with NRC requirements and, as determined by DOE and TVA, taking into account the site's potential for industrial use;

B. develop site redress planning concepts that achieve an appropriate balance between maintaining the site in an environmentally acceptable condition and that maximize development parameters that increase the feasibility of generic types of industrial uses;

C. identify facility concepts, if any, feasible in the near term, and to identify specific redress activities which may be compatible with such possible use; and

D. present the two or three most realizable alternatives at a joint DOE/TVA meeting and recommend a preferred conceptual alternative to be included in the development of the final site redress plan.

2.0 SITE HISTORY AND DESCRIPTION

2.1 Site History

The CRBRP site is located on a peninsula formed by the Clinch River approximately two miles upstream of the Highway 58 crossing of the river (Gallaher Bridge) in Roane County. The site is on a 1,346 acre tract of land owned by the Federal Government in the custody of TVA. The site area is typical East Tennessee ridges and valleys. TVA granted a right of entry in August 1982 to DOE-CRBRP to about 600 acres of the tract to begin site preparation activities authorized by the Nuclear Regulary Commission (NRC).

The Constructor for the CRBRP, Stone & Webster Engineering Corporation (SWEC), started site preparation and excavation work in September 1982. Work authorized by the NRC included:

. Excavation and backfill

- Non-safety related permanent improvements including a site access road, railroad spur to site, barge unloading facility, sewage treatment plant, and water line

- Construction support facilities including roads, parking areas, quarry, buildings, fire protection system, electric power, concrete batch plant.

Site preparation and excavation and the start of the construction support facilities was curtailed on October 28, 1983. During the thirteen months of work, the following was accomplished:

- About 240 acres of the site was cleared and grubbed. This includes not only the main plant area and contiguous laydown areas but also the access road, areas for spoil and a portion of the remote quarry area.

- About 1.5 million cubic yards of overburden was excavated. The overburden, a cohesive soil, was placed in structural fill, designated random fill, or was spoiled due to organic content, high moisture content or other unsuitable conditions.

- About 1.5 million cubic yards of rock was excavated in the Nuclear Island (NI) excavation and from two main ridges. Most of the rock (limestone and siltstone) was crushed to a three inch maximum size and placed in Class B structural fills.

- The permanent access road was completed through the top of subgrade. Subsequent to curtailment of construction twelve inches of crushed limestone aggregate was placed on the access road to provide an all-weather surface for continuing access to the site. The on-site portion of the railroad embankment, contiguous to the access road, was completed.

- An eight-inch water line from DOE's Bear Creek Filtration Plant off-site was completed to road station 50+00 (approximately 6450 feet).

- A construction power substation was completed by TVA taking power from the Ft. Loudoun-K31 161 KV transmission line and providing 25 KVA of 13.8 KV power. SWEC completed approximately 2,000 feet of underground distribution to two construction substations.

- Four pre-engineered metal buildings from 4,000-5,000 square feet were erected.

- A concrete ringer crane pad, appoximately 80 feet by 80 feet, was constructed on the east side of the NI excavation at elevation 814.

- A dual concrete batch plant capable of producing 250 cubic yards per hour was erected and put into operation.

The authorized site preparation activities not initiated were deferred because of limited funding.

2.2 Site Description

The site consists of an all-weather access road of approximately 6500 feet from a public road (Bear Creek Road) to the plant area and the following relatively level, stabilized areas:

The Craft Parking Lot at average elevation of 836 (14 acres)

Plant and laydown areas at average elevation of 810 (20 acres)

Other level areas at lower elevations (10 acres)

Within and contiguous to the plant area are the Nuclear Island (NI) excavation, the normal cooling tower (NCT) excavation and the emergency cooling tower (ECT) excavation which, with their side slopes projected to plant area elevations of 810, total 24 acres. See attached Sketch 1.

Non-topographic features of the site, besides the all-weather access road, include the 8-inch water line to road station 50+00, approximately 2000 feet of underground power distribution, four pre-engineered metal buildings, concrete batch plant, construction power substation, and the concrete ringer crane pad.

3.0 ENVIRONMENTAL AND REGULATORY REQUIREMENTS

3.1 DOE Committed To Redress The Site.

On November 30, 1981, the Applicants (DOE, PMC and TVA) submitted a request to the Nuclear Regulatory Commission (NRC) for authorization under 10 CFR 50.12 to conduct site preparation activities prior to issuance of a Limited Work Authorization. In response to questions contained in a NRC Commission Order of December 24, 1981, the Applicants committed to redress impacts resulting from site preparation if a construction permit was not granted (reference 1, p. 11,12). The applicants redress plan contemplated backfilling and compacting the excavations for permanent plant facilities and other depressions within the construction area (ref. 1, p. 81-83). Grading to facilitate drainage would leave the site in a condition most compatible with intended future industrial development whereas redress of the site to its original contours (full redress) would be inconsistent with future industrial use (ref. 1, pg. 84).

The Commission's authorization acknowledged the Applicants' and Staff's statements that the site could be substantially returned to its original condition, but that the site is zoned for industrial use and full redress may not be necessary to minimize environmental impact (reference 2, p. 20,21).

The Applicants have committed to develop an appropriate plan for site redress and seek review and approval from the NRC Staff (ref. 3, p.6). Furthermore, the Applicants would not object to the Atomic Safety and Licensing Board (ASLB) formalizing such an obligation in an ASLB Order. It is DOE's intent to satisfy the conditions of the Licensing Agreement (ref. 4, p. 4, par. 5) between TVA and DOE which require that the CRBRP site be appropriately restored.

3.2 Applicable Permit and Regulatory Approvals

The CRBRP Project Office developed a matrix to identify all non-NRC permits and approvals in effect at the time of termination (Appendix A). Four permits and approvals will be maintained in an active status during the site redress phase. These permits and approvals will be terminated in accordance with the schedule indicated on the permit and approval matrix. The permits and approvals which will be required during site redress are listed below.

- US EPA NPDES permit No. TN 0028801 - authorization to discharge into the waters of the U.S.
- Federal Aviation Administration - Permit for structures over 200 feet
- Federal Communications Commission - Frequency authorization for construction phase radios
- State of Tennessee - CWA Section 401 Certification of the NPDES permit

The proposed permit and approval plan (Appendix A) is contingent upon securing approval from the appropriate regulatory agency. Site redress evaluation further assumes that there will be no significant adverse impact upon: 1) archaeological and historical significant areas; 2) flood plains or wetlands; 3) rare or unusual species; 4) navigable waters; 5) air quality; and 6) easements controlled by other agencies.

The permit and approval matrix provides a schedule for terminating the permits and approvals which will not be required for site redress.

3.3 NRC Environmental Measures and Controls

The NRC environmental requirements during CRBRP Plant construction are contained in NURG-0139 "Supplement to Final Environmental Statement" (SFES) (ref. 5). The environmental control measures contained in the SFES primarily restate criteria contained in non-NRC permits and approvals identified in Appendix A. Specific NRC criteria contained in the SFES Section 4.6.1.1 which address additional conditions which could be effected by site redress are as follows:

. Blasting restrictions	Par. 3
. Access and encroachment on the Hensley Cemetary	Par. 4
. Site access road control	Par. 10,12
. Transmission line maintenance	Par. 13
. Protection of critical ecological elements	Par. 16
. Fire prevention control	Par. 19

4.0 POTENTIAL USES FOR THE CRBRP SITE

A subgroup of the CRBRP Site Redress Task Force investigated numerous potential uses for the site. The goal of the subgroup was to provide information regarding future uses which could influence the site redress plan. Near term uses which could use some or all of the current excavation were considered, but none were identified as likely in the near future. Redress options should not preclude the identified uses in the future. Other specific alternative uses assumed filling in the major NI excavation but were not based on any specific redress options such as grading elevations, etc. Again, no near term uses were identified. The following lists were compiled based on limited data regarding the possibility of relocating a planned project (e.g. coal gasification) or matching a potential project to the site, (e.g, a DOE experimental reactor).

Uses Identified but Eliminated

1. TVA power plant inventory site
2. Atmospheric fluidized bed combustion demonstration plant site
3. Coal gasification site
4. Private sector fusion experiment
5. High temperature gas reactor lead plant site
6. Welding research institute

Uses Identified but Considered Unlikely in the Near Term

1. Low level radwaste facility
2. Spent fuel storage and/or disposal
3. Industrial hazardous waste management facility
4. Experimental use by University of Tennessee
5. Oak Ridge airport
6. Experimental use by other Federal Agencies
7. DOE fusion demonstration
8. DOE experimental reactor
9. Military reactor projects
10. DOE waste repository

Although any one of the specific uses listed above could emerge in the future, it is the consensus of the Task Force that generalized industrial development is considered the type of use most likely to occur in the future.

5.0 SITE REDRESS ALTERNATIVES

5.1 General

As noted earlier, redress of the site is an obligation of the Project. As a minimum, the site must be reconfigured and otherwise redressed to provide an environmentally stable, self-draining, self-maintaining and aesthetically acceptable site that can be left unattended.

Redress alternatives considered two general categories:

- Topographic approaches which accomplish the minimum requirements noted above and which maintain the potential of the site for future idustrial use.
- Completion or addition of site development features such as a railroad spur, a barge facility, sewage treatment plant, or a water line to ensure the value of the site for potential industrial uses.

5.2 Common Criteria to All Alternatives

In addressing various alternatives, the following criteria were assumed to apply:

- Excavations will be filled at least to minimum elevations sufficient to provide self-drainage to the Clinch River.
- No area outside the present cleared area will be disturbed.

- Borrow materials to be used in backfilling excavations and topographic reconfigurations will be taken from locations on the site which are within the present cleared area.

- The area identified on plant construction drawings as the Craft Parking Lot, about 14 acres, with an average elevation of 836 will remain "as is". About 80% of the area is underlain with rock and there is no justification for removing the rock to the general plant elevation of 810.

- Pre-engineered metal buildings and the dual batch plant will be removed while the substation will be de-energized.

5.3 Conceptual Redress Alternatives

Two conceptual schemes for accomplishing redress of the CRBRP Site were considered which would leave the site in a configuration environmentally stable and suitable for industrial use. The major cost item included in each alternative was excavation work.

The two alternative approaches for site redress which appear most feasible for further refinement and assessments are:

- Alternate 1 - Backfill the NI excavation, the NCT excavation and trench and the ECT excavation to the general plant grade of 810. Material to fill excavations would be borrowed from Spoil Areas 2, 3 and 6, the East Laydown Area, the CBI Area, and the South Plant Area. This would provide a site with two major useable areas - the Craft Parking Lot (14± acres) and the general plant area at an average elevation of 810 (47± acres). See Sketch 2.

- Alternate 2 - Backfill the NI excavation, the NCT excavation and trench and the ECT excavation to about elevation 780. Establish a drainage "spine" from the excavations in a plant south direction to the Clinch River. Material would be borrowed from Spoil Areas 2, 3 and 6, the East Laydown Area and the CBI Area. This would provide a site with three major useable areas - the Craft Parking Lot (14± acres), the West Area (29± acres) and the East Area (25± acres). The excavation and redress activities would result in a perimeter road along the north side of the plant area which would provide additional access to the lower portion of the peninsula. The Bear Creek Water line would be completed from the present terminus of road station 50+00 to 71+30. See Sketch 3.

5.4 Advantages and Disadvantages of Alternatives

The principal advantage of Alternate 1 is that it provides the most flexibility for future use. Except for the Craft Parking Lot, the site is left at one general elevation, about 810.

The disadvantages of Alternate 1 are the higher cost and longer construction schedule and less net useable acreage for industrial use. To backfill the excavations with material to support industrial structures will require borrowing from and eliminating some presently stabilized fills.

A preliminary estimate indicates that as much as 1.3 million cubic yards of material may have to be moved at a cost of $5.8 million. Optimistically, this work might be completed in seven months. However, the schedule is sensitive to the final determination of the stability required in the excavation backfills.

The principal advantage of Alternate 2, other than lower cost and schedule considerations, is that it provides the most net useable, stabilized area to support industrial structures. Since the excavations will be part of a drainage "spine", requirements for backfill will be smaller than in alternative 1 and material can be borrowed from spoil areas and other non-stabilized areas. In addition, Alternative 2 includes the completed water line and additional access to the lower portion of the peninsula, both important development parameters for the potential development of the site for industrial purposes.

The disadvantage of Alternate 2 is the less flexible site topography. The reconfigured site will have three areas - the Craft Parking Lot (14 acres), a West Area (29 acres), and an East Area (25 acres). This will not provide as much flexibility in locating future roads and railroad spurs.

A preliminary estimate for Alternate 2 indicates that about 750 thousand cubic yards of material may have to be moved at a cost of $3.3 million with about $76,000 additional dollars necessary to complete the water line. A schedule of six months for accomplishment should be readily achievable.

5.5 Completion or Addition of Non-Topographic Features

The completion of the following non-topographic improvements which were planned, designed, and approved for construction by NRC in the authorization permit, were not completed during site preparation. They would, if completed, enhance the value of the site for future use, but were rejected from consideration during redress due to the extreme high cost for the derived benefit cost and the negative effect on the redress construction schedule completion date of November 1984.

The barge unloading facility adjacent to the access road at about road station 22+00. It is estimated to cost about $1.2 million.

The railroad spur from the K-25 spur to the site. It is estimated to cost about $1.8 million. If completed as planned, it would have limited value since it would be subject to severe security restrictions where it passes through K-25.

The sewage treatment plants on-site. The designed plants would have a capacity of 65,000 gpd and are estimated to cost about $600 thousand to complete.

The addition of the following improvements would enhance the value of the site for industrial use.

Construction of a railroad spur to the site outside of the K-25 security fence (present design utilizes existing track through K-25). An estimate has not been made for this routing, but it would be about 14,000 feet longer than the present design, would require bridges over two roads and one creek, and thus cost considerably more than present design.

Upgrading the existing gravel road that connects with State Highway 95 and the intersection of Bethel Valley Road which serves the National Laboratory. This would provide a more direct route to the Pellissippi Parkway and to East I-40 via Route 95. This would be a major and costly construction task.

None of the additional improvements considered in this subsection were incorporated into either alternative due to their high cost, potential environmental impacts, and negative effect on the redress construction schedule.

6.0 RECOMMENDATIONS

The CRBRP Project Redress Planning Task Force recommends that conceptual Alternative 2 be considered for further development and be implemented in the Project's Site Redress Plan. This conceptual alternative is considerably less expensive than Alternative 1, complies with all NRC requirements, and accounts for the site's potential for industrial use.

REFERENCES

1. Letter: Gordon L. Chipman to Nunzio J. Palladino, "Clinch River Breeder Reactor Plant Docket No. 50-537 (section 50.12 Request)", dated January 18, 1982.

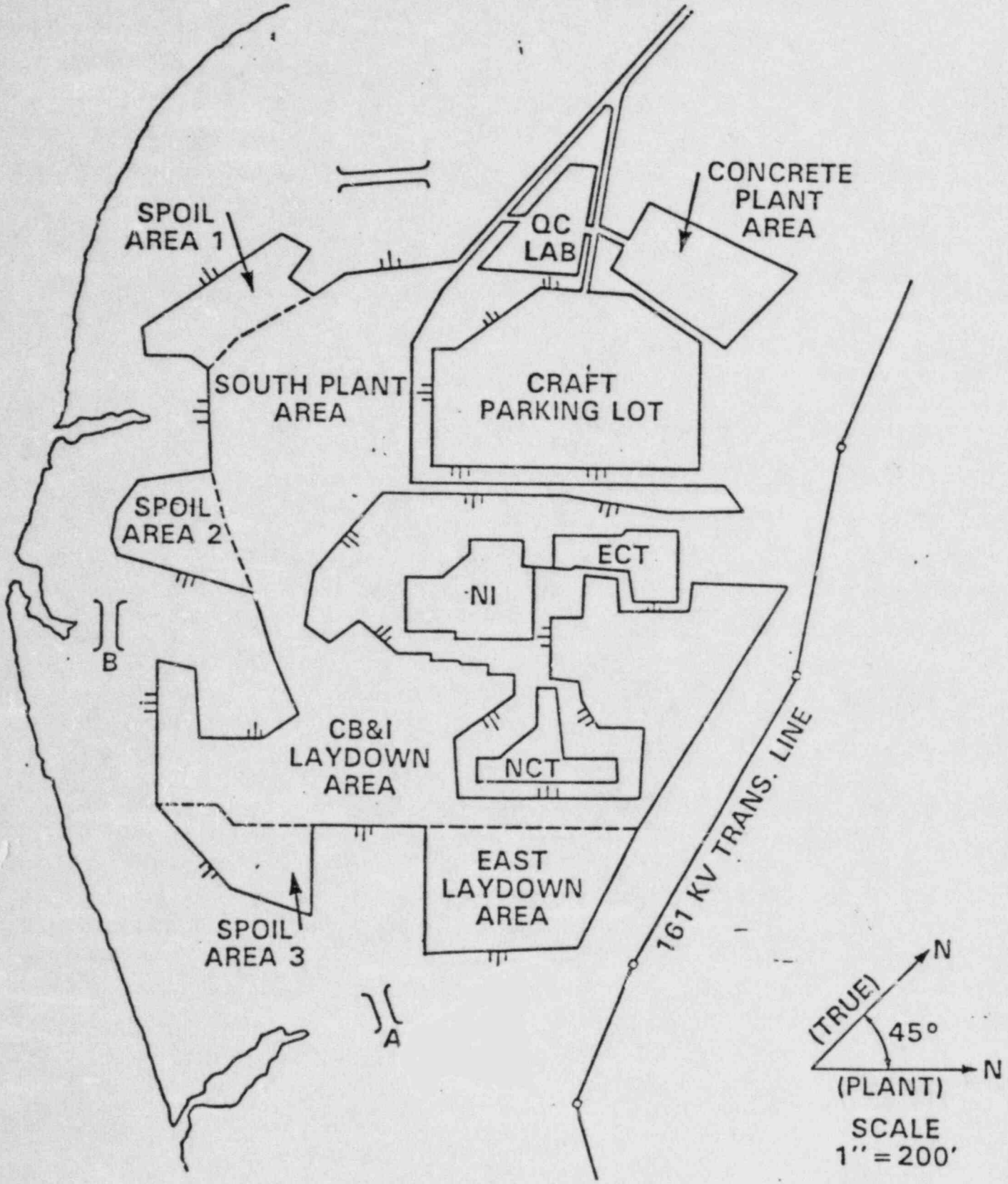
2. Docket 50-537 CLI-82-23, Memorandum and Order, dated August 17, 1982.

3. Docket 50-537, Applicants Response to Motion of Natural Resources Defense Council, Inc. to Intervene, dated December 5, 1983.

4. Licensing Agreement between Tennessee Valley Authority and United States Department of Energy, dated August 18, 1982.

5. NUREG-0139, "Supplement to Final Environmental Statement Related to Construction and Operation of Clinch River Breeder Reactor Plant, Docket No. 50-537" October 1982.

CRBRP SITE OCTOBER 1983



SKETCH 1

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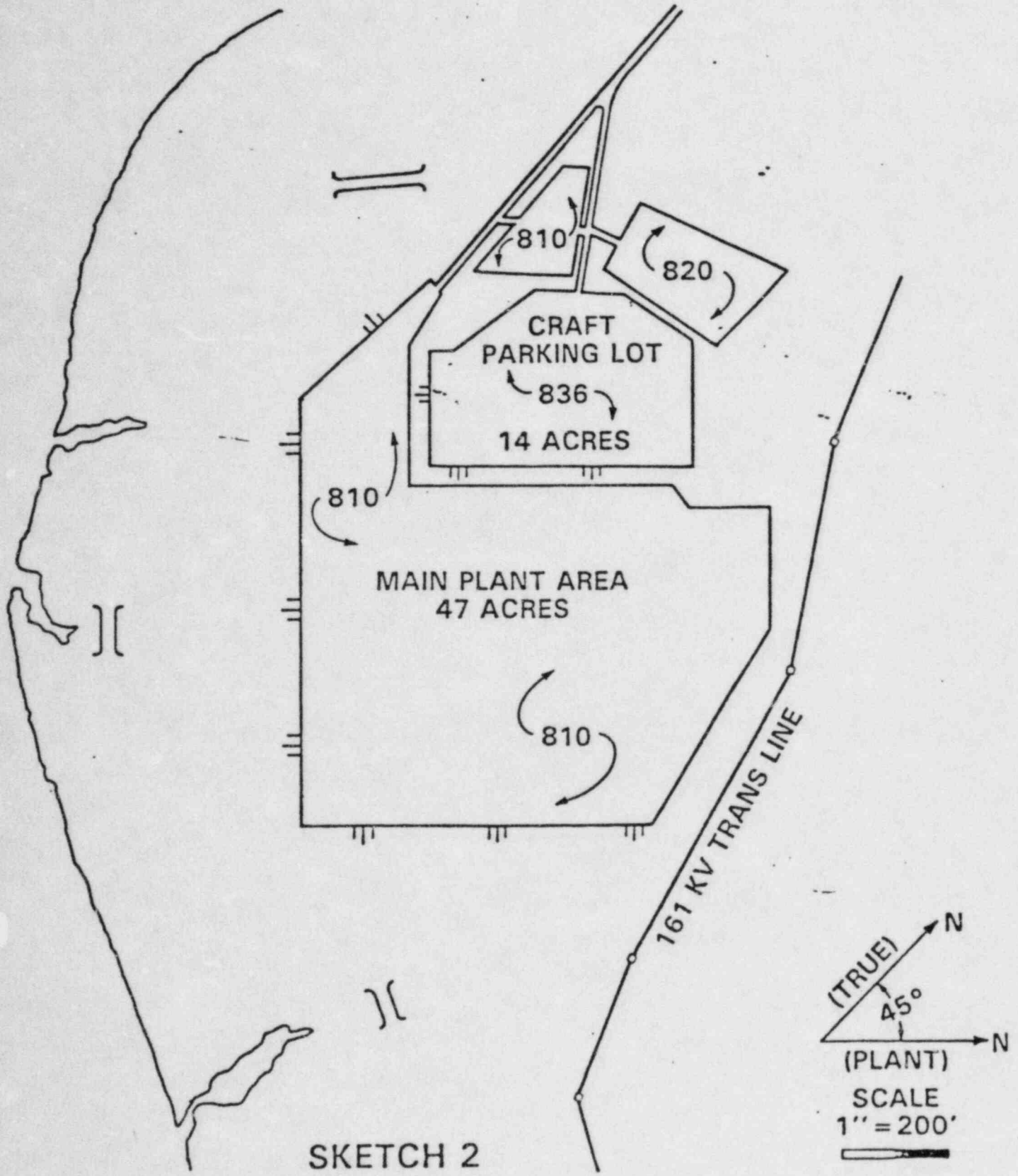
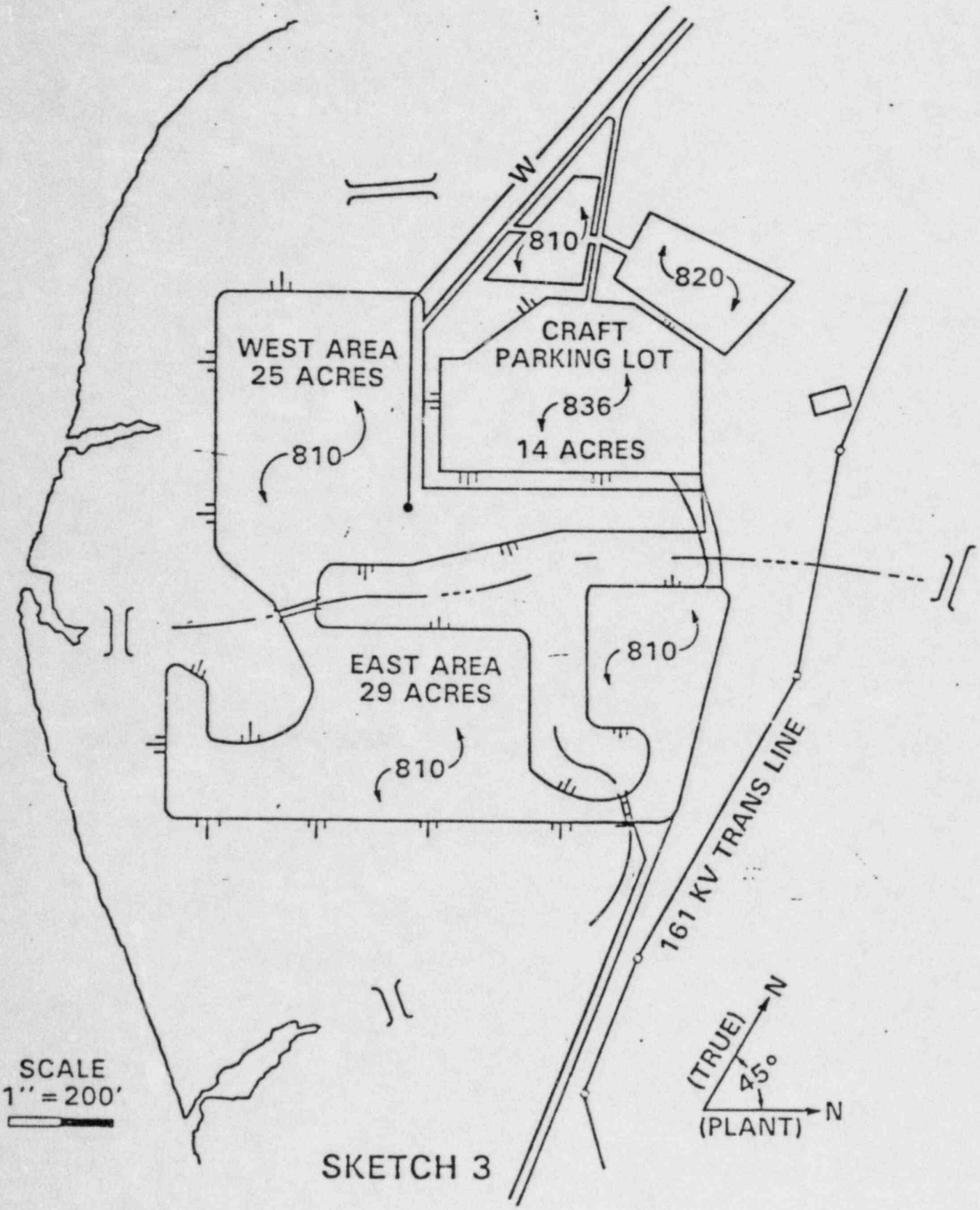
ALTERNATE 1



SKETCH 2

ALTERNATE 2



SKETCH 3

Table 3.7.2-1

Clinch River Breeder Reactor Plant Project's
Non-NRC Approvals Listing

	Agency	Type of Approval(s) or License(s)	Issue/ Effective Date	Need for Site Redress	Expiration Date	Status	Method of Termination	Reporting Requirements	Comments
Federal									
1	Department of Transportation, U.S. Coast Guard	Navigational Aids Assessment	11-30-81	No	None	No private aids for navigational markings are required	None	None	Terminated on 12/7/83 by telephone
2	Department of Army, Corps of Engineers	Permit No. 42,362, Barge facility, Intake and Outfall Structures & Fills (main site)	05-06-77	No	05-06-84	Partial completion of activities covered by this permit	Cease all activities covered by this permit	None	Terminate with a letter by 2/1/84
3		Permit A42,362, Turn & Acceleration Lane	10-19-83	No	10-19-86	Work covered by this permit has not commenced	Do not begin this work	Notify agency when the work is begun and completed	Terminate with a letter by 2/1/84
4	U.S. Environmental Protection Agency, Water Management Division	Authorization to discharge under the National Pollution Discharge Elimination System Permit No. TN0028801	02-01-83	Yes	01-31-88	The conditions of the permit are in effect	Formal notification of EPA to terminate	As listed in the permit	Terminate with a letter by 6/1/85
5	Tennessee Valley Authority, Division of Land and Forest Resources	Section 26A permit Approval of Plans for the main site activities	04-19-77	No	None	Partial completion of activities covered by this approval	Inform TVA of completed activities & other proposed activities	None	Terminate with a letter by 2/1/84
6		Section 26A permit Approval of Plans-modification to include additional activities	02-18-83	No	None	Activities covered by this approval have been completed	Inform TVA of completed activities	None	Terminate with a letter by 2/1/84

Clinch River Breeder Reactor Plant's
Non-NRC Approvals Listing

	Agency	Type of Approval(s) or License(s)	Issue/ Effective Date	Need for Site Redress	Expiration Date	Status	Method of Termination	Reporting Requirements	Comments
7		Section 26A permit-approval of plans for the turn and acceleration lane	10-26-83	No	None	Work covered by this approval will not be performed	Inform TVA of intentions	None	Terminate with a letter by 2/1/84
8	Federal Aviation Air Space & Procedures Branch	Permits for structures 200 ft. or more above the ground		Yes, until towers are removed					Permits are held by TVA Request TVA to terminate permit when towers are sold.
9	Federal Communications Commission, National Telecommunication and Information	Assignment of frequency authorization for construction phase radios operational phase receives/transmitters	07-08-83	Yes	None	Construction phase authorizations obtained only	Request DOE-ORO to have authorizations invalidated	None	Authorizations are held by DOE-ORO, operational phase authorizations were never obtained. Terminate with a letter by 12/1/84
	State								
10	State of Tennessee, Division of Air Pollution Control	The determination that a Prevention of Significant Deteriation review was not required	03-18-82	No	None	In effect, the PO agreed to limit emissions	Inform TN to mutually invalidated agreement	None	Terminate with a letter by 2/17/84
11		Three construction permits for two concrete batch plant d one boile ng No. 2 diesel 1	04-25-83	No	09-01-83	Invalid	Not applica-ble	None	For item 12; Terminate with a letter by 2/17/84
12		Three operating permits two concrete batch plants & one boiler using No. 2 diesel fuel	11-15-83	No	None	The units will no longer be operated	Inform TN that the activity will not be conducted	None	Permits for the batch plants have not been issued. A permit was received for the boiler.

Clinch River Breeder Reactor Plant's
Non-NRC Approvals Listing

	Agency	Type of Approval(s) or License(s)	Issue/ Effective Date	Need for Site Redress	Expiration Date	Status	Method of Termination	Reporting Requirements	Comments
13		Authorization to open burn		Maybe		As needed	Formal notification not required		See TN statutes and regulations for open burning
14	Division of Water Management	CWA Section 401 Certification of the NPDES permit	07-15-82	Yes	01-31-88	Partially satisfied	Request TN to terminate requirements	None	Terminate with a letter by 2/1/84
15		Approval to Construct Sewage Treatment Plants	06-30-83	No	06-30-84	Sewage treatment plants will not be constructed	Inform TN that the plants will not be constructed.	None	Terminate with a letter by 2/1/84
16		Approval to Construct Potable Water Main	06-30-83	Yes	06-30-84	Water main is being constructed	Inform TN of status & completion of watet main	None	Terminate with a letter by 2/17/84
17		CWA Section 401 Certification of the Corps of Engineers Permit No. A42,362, Turn & Acceleration Lane	09-22-83	No	10-19-86	Work covered by this certification will not be performed	Inform TN of status	None	Terminate with a letter by 2/1/84

0000-P02

Department of Energy
Washington, D.C. 20545

OCT 12 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Denton:

With regard to Docket No. 50-537 CP, this is to advise you that, in light of the termination of the Clinch River Breeder Reactor Plant (CRBRP) project, the Department of Energy no longer wishes to pursue the pending Construction Permit application. Since the staff has now approved the site redress plan, the Department, acting on behalf of all the applicants, hereby withdraws the application, and requests that the limited work authorization issued to the project be terminated.

The applicants intend to file a Motion to dismiss the proceeding with the Atomic Safety and Licensing Board in the near future.

Sincerely,

Francis X. Gavigan, Director
Office of Breeder Demonstration
Projects
Office of Nuclear Energy

cc:
Service List
Standard Distribution
Licensing Distribution

38/2

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
UNITED STATES DEPARTMENT OF ENERGY	)	Docket No. 50-537
PROJECT MANAGEMENT CORPORATION	)	
TENNESSEE VALLEY AUTHORITY	)	
	)	
(Clinch River Breeder Reactor Plant)	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of APPLICANTS' MOTION TO DISMISS PROCEEDING were served this 19th day of October, 1984 by first class mail upon:

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Dated: October 19, 1984