Final Copy

DOE/EIS-0138
Volume II A.3

FINAL
ENVIRONMENTAL IMPACT STATEMENT

SUPERCONDUCTING SUPER COLLIDER

Volume II
Comment/Response Document

A. Comments
3. Letters Postmarked After 10/17/88

December 1988

U.S. Department of Energy

DOE/EIS-0138
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December 1988

U.S. Department of Energy
Washington D.C. 20585

LETTER 5000

STATE OF TEXAS
OFFICE OF THE GOVERNOR
AUSTIN, TEXAS 78711

WILLIAM P. CLEMENTS, JR.
GOVERNOR

October 19, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

RE: Superconducting Super Collider
SAI TX-R-88-08-29-0001-50

Dear Dr. Hess:

Attached is the state of Texas review of the Superconducting Super Collider (SSC) draft Environmental Impact Statement (EIS). At our request the Texas National Research Laboratory Commission coordinated this review.

In addition to the comments summary received from the commission, comments provided directly to the Governor's Office by participating state agencies are attached.

We trust this information will aid you in making a favorable decision to locate the SSC in Texas. If we may be of further assistance, please let me know.

Sincerely,

T. C. Adams
State Single Point of Contact

TCA/pon

Enclosure

cc: Dr. Ed Bingler, TNRLC

TEXAS AIR CONTROL BOARD

6330 HWY. 290 EAST
AUSTIN, TEXAS 78723
512/451-5711

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MARY ANNE WYATT

October 4, 1988

Mr. Thomas C. Adams
State Single Point of Contact
Governor's Office of Budget
and Planning
Post Office Box 12428
Austin, Texas 78711

Dear Mr. Adams:

This is in response to the draft Environmental Impact Statement (EIS) for the Superconducting Super Collider (SSC) (SAI/EIS#: TX-R-88-08-29-0001-50-00). Recently, we supplied comments on this EIS to Mr. Gerald Hill of the Texas National Research Laboratory Commission. These comments are enclosed.

Because emissions during the operation of the SSC are negligible, the EIS identifies the major air quality impact as temporary emissions of total suspended particulate (TSP)/dust during construction. This is the case for the Texas site as well as the other potential sites. It has been our experience that these types of emissions can be minimized, for materials such as those contained in the Austin Chalk formation, through proper available mitigation measures such as the use of water sprays or water spray with additives to avoid creating nuisance conditions during construction. The EIS proposes use of such measures during construction. Mr. James Kamrath, P.E., or Mr. Gary McArthur, P.E., both of our Permits Division, may be contacted concerning dust suppression techniques if further information is required. You may reach either of them at (512) 451-5711.

We would also like to verify that based on the information presented in the EIS, the Department of Energy would not require any Texas Air Control Board (TACB) permits for construction of the SSC. However, individual contractors may need to contact TACB regarding possible permit requirements for facilities such as concrete batch plants. Mr. Lawrence E. Pewitt, P.E., Director, Permits Division, can provide further information concerning permit requirements for these facilities. You may contact him at 451-5711, extension 203.

Thank you for the opportunity to review this document. If we can be of further assistance, please contact us.

Sincerely,

J L Montgomery

Steve Spaw, P.E.
Deputy Executive Director

Enclosure

cc: Mr. Gerald Hill, Texas National Research Laboratory Commission, Austin

Texas Air Control Board Staff Review of DOE's Draft EIS for the SSC

AIR QUALITY
Regional Air Pollutant Sources

I Executive summary/key findings

Emission information for Texas presented in Table 4-7 and Table 5.7.4-5 is actually in pounds per hour. However, the table represents the numbers as tons per year.

II Comparison of Texas-generated with DOE EIS data and identification of discrepancies

No discrepancies noted.

III. Comparison between states on key indicators with analysis of differences

It does not appear that the differences in emissions listed for the different states would cause air quality to be a significant siting criterion.

IV. Omissions

None noted.

V. Outright errors

None, except as noted in I, VI, and VII.

VI. Inconsistencies and misinterpretations

Emissions for the Texas area are all in pounds per hour and the table is labeled as tons per year. All other areas represent emissions in tons per year.

VII. Conclusion/action items

Convert the Texas emissions to tons per year by multiplying pounds per hour by 4.38.

Texas Air Control Board Staff Review of DOE's Draft EIS for the SSC

AIR QUALITY
Ambient Conditions

I. Executive summary/key findings

a. Table 4-6 presents ambient lead (Pb) data for Baton Rouge, Louisiana as representative of lead concentrations in Ellis County, Texas.

b. The ozone data presented in Table 4-5 for Ellis County, Texas represents concentrations downwind of the Dallas area. The Ellis County area is upwind from the Dallas urban core.

II Comparison of Texas-generated with DOE EIS data and identification of discrepancies

Monitoring results for Dallas County, Texas show ambient lead levels of 0.48 ug/m^3 for the highest calendar quarter in 1986.

III Comparison between states on key indicators with analysis of differences

It does not appear that there are any substantial differences in ambient concentrations between the different states that would cause air quality to be a significant siting criterion.

IV Omissions

None noted.

V Outright errors

None noted.

VI. Inconsistencies and misinterpretations

None noted.

VII. Conclusion/action items

Correct Table 4-6 to incorporate Dallas County lead concentrations.

TEXAS
PARKS AND WILDLIFE DEPARTMENT
4200 Smith School Road Austin, Texas 78744

CHARLES D. TRAV
Executive Director

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Laredo

September 7, 1988

Edward C. Bingler, Ph.D.
Executive Director
Texas National Research
Laboratory Commission
Post Office Box X
University Station
Austin, Texas 78713-7508

Re: Draft Environmental Impact Statement for the Superconducting Super Collider Project
August, 1988

Dear Dr. Bingler:

Initial comments on the Draft Environmental Impact Statement (DEIS) for the Superconducting Super Collider project were provided in a September 21, 1988 report.

Since the original report was written, two site visits have been performed in an attempt to resolve concerns identified in the document: potential wetland impacts in the J4 area and the possible occurrence of Black-capped Vireo at the site.

On September 27, 1988 a representative of the Department's Heritage Program visited the site to evaluate the habitat for the potential occurrence of both the Black-capped Vireo (Vireo atricapillus) and the Golden-cheeked Warbler (Dendroica chrysoparia). After completing the survey, neither of the two species are thought to occur at the site. Table 1 (attached) lists the corridor sites which were surveyed.

Staff also assisted Ms. Linda McClain and Dr. John Krummel, representing the Department of Energy, in a visit to the J4 area on September 29, 1988. This is the area where the collider ring crosses Chambers Creek. According to information provided by Ms. McClain and Dr. Kummel the proposed shaft can be moved several hundred feet to avoid the creek area. Because avoidance is the best method of mitigation, the Department supports a relocation of the shaft upland away from the creek. This would avoid potential impacts to the Chambers Creek area which are discussed in the DEIS.

Please let me know if I can provide additional assistance.

Sincerely,

Charles D. Travis
Executive Director

CDT:RWS:wjg

cc: Phil Stafford, Texas National Research Laboratory Commission, DeSoto
T. C. Adams, Governor's Office of Budget and Planning, Austin
Rick Thomas, Director of Governor's Office of State Development, Austin

TEXAS
PARKS AND WILDLIFE DEPARTMENT
4200 South School Road Austin, Texas 78744

CHARLES D. TRAINS
Executive Director

September 21, 1988

Jerry Hill, Ph.D.
National Research Laboratory Commission
Superconducting Super Collider
Post Office Box 12428
Capitol Station
Austin, Texas 78711

Re: Draft Environmental Impact Statement for the Superconducting Super Collider Project

Dear Dr. Hill:

The following comments are provided concerning the Draft Environmental Impact Statement for the Super-conducting Super Collider (SSC) project, following your outline:

I. Executive Summary/Key Findings: A staff review of the referenced document reveals a number of errors in the document which are due in part to the writer's choice of referenced material. This is particularly evident in several tables found in Volume IV which list vertebrate species common to Ellis County. Specific comments are detailed in Section IV Omissions. Also, some terms used in the document seem awkward or lack acceptable terminology. While some of the mistakes are minor, the cumulative effect could shed doubt on the credibility of other information and could reflect on the choice of the Texas site. Specific comments in the following sections will detail these statements.

IV. Omissions and V. Outright Errors: Seven tables found in Volume IV, Appendix 5C, Section 5.7.9 (Table 5.7.9-1 through 5.7.9-7) are not complete. A number of species listed in these tables should have been deleted, and a number of species which should be included do not appear. Proposed changes in the tables are shown on marked copies (Attachment I). It is apparent that this error occurred when the writer used the tables that were found in the site proposal (September 2, 1987). Information provided in the Ecology section of the environmental assessment prepared by the Texas National Research Laboratory Commission should have been used in the document (Attachment II).

IV. Inconsistencies and Misinterpretations:
General comments:

A. Volume I, Table 1-1 indicates that the SSC will have a major environmental impact on the Black-capped Vireo. This table is misleading because Volume IV, Appendix II, Section 11.3.7.2., page 51 states that the nearest nesting habitat for the bird is about 2 or 3 miles west of a line parallel to the outer edge of Area I and no habitats are known to exist on the site.

B. Volume I, Table 3-7, page 3-53 also lists the Black-capped Vireo as a species that will be impacted. This should be clarified.

C. Volume I, Section 4.7.2, page 4-50, paragraph 4 should include the following proposed underlined changes:

1. The area is comprised of clay and clay loams;

2. Blackland Prairie should be capitalized;

3. The Blackland Prairie is approximately 80 miles wide and is oriented on a north-south axis from roughly the Red River to ....

D. Volume I, Section 4.7.4.1, page 4-54, par
"Black-capped Vireo" and using the term "shrubs" instead of "bushes."

E. Volume I, Section 4.7.5.7, page 4-66, paragraph 1 should be clarified. The third sentence states that riparian woodlands are not unique. Because of the scarcity of these habitats, they are unique.

F. Volume I, Section 4.7.5.7, page 66, paragraph 2 should be changed from the "Texas Biotic Province" to the "Texan Biotic Province."

G. Volume I, Section 4.7.6.7, page 4-69, first paragraph, last sentence states that wetland vegetation, other than tree species, is frequently absent. This sentence should be deleted.

H. Volume IV, Section 11.3.7.1, page 50, second paragraph, second sentence provides a discussion of remnant prairies which is unclear. It should be rewritten.

I. Volume IV. Section 11.3.7.2, page 51, first paragraph provides a list of threatened, endangered, and state protected species which deals only with animal species. Perhaps a statement which indicates that no protected plants are known from the area is appropriate.

J. Volume IV, Section 11.3.7.3, pages 52, 53, and 54 discusses wetland impacts. According to this section, J4 appears to be the only wetland effect which is significant. This agency also agrees that wetlands are important habitats which are essential to wildlife and should be protected. Because avoidance is the best method of mitigation, moving J4 out of Chambers Creek is the preferred measure to avoid wetland impacts.

VII. Conclusions/Action Items: The two important items which need to be clarified or addressed in the FEIS are: potential for impacts upon the Black-capped Vireo, and wetland effects of the J4 facility. Presumably the field trip planned for September 29 and 30, 1988 will clean up the wetlands issue. Texas Parks and Wildlife Department staff plan to make a field visit to the site in October, 1988 to observe the habitat and look for the vireo.

Please let me know if this agency can be of further assistance concerning this project.

Sincerely,

Larry D McKinney
fj

Larry D. McKinney
Acting Director
Resource Protection Division

LDMcK:RWS:wjg

cc: Phil Stafford, National Research Laboratory Commission

Table 5.7.9-1

REPTILE SPECIES COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over most site area:	
Coluber constrictor	Racer
Sonora semiannulata	Ground snake
Diadophis punctatus	Ringneck snake
Elaphe guttata	Corn snake
Elaphe obsoleta	Rat snake
Tropidoclonion lineatum	Lined snake
Opheodrys aestivus	Rough green snake
Pituophis melanoleucus	Pine-gopher snake
Regina grahamii	Graham's crayfish snake
Masticophis flagellum	Coachwhip
Nerodia erythrogaster	Plain-bellied water snake
Nerodia fasciata	Southern water snake
Nerodia rhombifera	Diamondback watersnake
Cnemidophorus sexlineatus	Six-runner
Sistrurus catenatus	Western massasauga
Thamnophis marcianus	Checkered garter snake
Thamnophis proximus	Western ribbon snake
~~Thamnophis rufipunctatus~~	~~Narrow-gauton-snake~~ — omit
Thamnophis sirtalis	Common garter snake
Virginia striatula	Rough earth snake
Agkistrodon piscivorus	Cottonmouth
Crotalus atrox	Western diamondback rattlesnake
Trionyx spiniferus	Spiny softshell
Anolis carolinensis	Green anole
Lampropeltis calligaster	Prairie king snake
Phrynosoma cornutum	Texas horned lizard
Sceloporus undulatus	Eastern fence lizard
Terrapene ornata	Western box turtle
Sternotherus odoratus	Stinkpot ← Similar
Habitat available between 10 and 50% of site:	
Virginia valeriae	Smooth earth snake
Leptotyphlops dulcis	Blind snake
~~Leptotyphlops dulcis dissectus~~	~~New Mexico blind snake~~ — omit
~~Rhinocheilus lecontei~~	~~Texas longnose snake~~ — omit
Crotalus horridus	Timber rattlesnake
Storeria dekayi	Brown snake
Tantilla gracilis	Flat-headed snake
~~Tantilla nigriceps~~	~~Plains black-headed snake~~ - omit
Heterodon platyrhinos	Eastern hognose snake
Lampropeltis getulus	Common king snake
Agkistrodon contortrix	Copperhead
Eumeces septentrionalis	Prairie plains skink
Eumeces fasciatus	Five-lined skink
Eumeces laticeps	Broad-headed skink
Sceloporus olivaceus	Texas spiny lizard
Ophisaurus attenuatus	Slender glass lizard
Holbrookia maculata	Lesser earless lizard
Chrysemys scripta	Pond slider
Graptemys kohni	Mississippi map turtle
Terrapene carolina	Eastern box turtle
Kinosternon flavescens	Yellow mud turtle
Kinosternon subrubrum	Mud turtle
Sternotherus carinatus	Razor-backed musk turtle

Table 5.7.3-1 (Cont)

REPTILE SPECIES COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over <10% of site:	
Heterodon nasicus	Western hognose snake
Hypsiglena torquata	Night snake
Lampropeltis triangulum	Milk snake
Sistrurus miliarius	Pigmy rattlesnake
Micrurus fulvius	Coral snake
Scincella lateralis	Ground skink
[illegible]	[illegible]
Coleonyx brevis	Greater earless lizard
Crotaphytus collaris	Collared lizard
Alligator mississippiensis	American alligator
Cnemidophorus gularis	Texas spotted whiptail
Chelydra serpentina	Snapping turtle
Trionyx muticus	Smooth softshell
Chrysemys concinna	River cooter

Source: Behler and King 1979.

Table 5.7.3.2

AMPHIBIAN SPECIES COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over most of the site area:	
Gastrophryne carolinensis	Eastern narrow-mouthed frog
Gastrophryne olivacea	Great plains narrow-mouthed frog
Ambystoma tigrinum	Tiger salamander
Scaphiopus holbrooki	Eastern spadefoot
Pseudacris streckeri	Strecker's chorus frog
Rana catesbeiana	Bull frog
Rana clamitans	Green frog
Bufo woodhousei	Woodhouse's toad
Acris crepitans	Northern cricket frog
Habitat available over 10-50% of the site area:	
Rana sphenocephala	Southern leopard frog
Hyla chrysoscelis/Hyla versicolor	Gray treefrog
Hyla cinerea	Green treefrog
Pseudacris clarki	Spotted chorus frog
Habitat available over <10% of site area:	
[illegible]	[illegible]
Rana areolata	Crawfish frog
Notophthalmus viridescens	Eastern newt
[illegible]	[illegible]
Ambystoma texanum	Small-mouthed salamander

Source: Behler and King 1979.

Table 8.7.9-3

MAMMALS COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over most of the site area:	
Didelphis virginiana	Opossum
Cryptotis parva	Least shrew
Scalopus aquaticus	Eastern mole
Pipistrellus subflavus	Eastern pipistrelle
Eptesicus fuscus	Big Brown bat
Tadarida brasiliensis	Brazilian free-tailed bat
Dasypus novemcinctus	Nine-banded armadillo
Sylvilagus floridanus	Eastern cottontail
Mephitis mephitis	Striped skunk
Procyon lotor	Raccoon
Mustela frenata	Long-tailed weasel
Mustela vison	Mink
Geomys bursarius	Plains pocket gopher
Perognathus hispidus	Hispid pocket mouse
Reithrodontomys fulvescens	Fulvous harvest mouse
Baiomys taylori	Pygmy mouse
Peromyscus leucopus	Deer mouse
Mus musculus	House mouse
Rattus rattus	Black rat
Rattus norvegicus	Norway rat
Sigmodon hispidus	Hispid cotton rat
Canis latrans	Coyote
Odocoileus virginianus	White-tailed deer
Habitat available over 10-50% of site area:	
Castor canadensis	Beaver
Spilogale putorius	Eastern spotted skunk
Lasiurus cinereus	Hoary bat
Lasiurus borealis	Red bat
~~Peromyscus leucopus~~	~~Deer mouse~~ — Omit
Peromyscus gossypinus	White-footed mouse
~~Peromyscus nuttalli~~	~~Cotton mouse~~ — Omit
Spermophilus tridecemlineatus	Thirteen-lined ground squirrel
~~Sciurus carolinensis~~	~~Eastern gray squirrel~~ — Omit
Sciurus niger	Fox squirrel
Lynx rufus	Bobcat
Habitat available over <50% of site area:	
Vulpes vulpes	Red fox
Urocyon cinereoargenteus	Gray fox
Glaucomys volans	Southern flying squirrel
Microtus pinetorum	Woodland vole
Bassariscus astutus	Ringtail
Sylvilagus aquaticus	Swamp rabbit
~~Ammospermophilus nelsoni~~	~~Texas antelope~~ — Omit
Reithrodontomys montanus	Plains harvest mouse
Neotoma floridana	Eastern woodrat
Myocastor coypus	Nutria
Lepus californicus	Black-tailed jack rabbit

Sources: Whittaker 1968; Davis 1974. Schmidly 1983

Habitat coverage very [illegible]

LETTER 5000 (CONTINUED)

Table 5.7.9-4

BIRD SPECIES COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over 50% of the site area:	
	Eastern phoebe
	Great crested flycatcher
	Western kingbird
	Eastern kingbird
	Scissor-tailed flycatcher
	Ruby-crowned kinglet
	Horned lark
	Pine siskin
	Purple martin
	Dickcissel
	Rufous-sided-towhee
	[illegible] – Omit
	Chipping sparrow
	Field sparrow
	Vesper sparrow
	House sparrow
	Harris sparrow
	Dark-eyed junco
	Rock dove
	Mourning dove
	Eastern meadowlark
	Western meadowlark
	Yellow-billed cuckoo
	Greater roadrunner
	Barn owl
	Eastern screech-owl
	Great horned owl
	Barn swallow
	Chestnut collared longspur
	Blue jay
	American crow
	White-throated sparrow
	Carolina chickadee
	Tufted titmouse
	Northern flicker
	Common nighthawk
	Chuck-will's-widow
	[illegible] – Omit
	Orange-crowned warbler
	Chimney swift
	Yellow-bellied sapsucker
	Ruby-throated hummingbird
	Northern cardinal
	Blue grosbeak
	Indigo bunting
	Swainson's hawk
	Red-tailed hawk
	Downy woodpecker
	American kestrel
	[illegible] ——— Omit
	Great-tailed grackle
	Common grackle
	Brown-headed cowbird
	Northern bobwhite

Table 5.7.9-4. (Cont)

BIRD SPECIES COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over 50% of the site area:	
	Loggerhead shrike
	White-eyed vireo
	European starling
	American robin
	Eastern bluebird
	Northern mockingbird
	Grey catbird
	Brown thrasher
	Yellow-breasted chat
	Northern harrier
	Killdeer
	Black vulture
	Turkey vulture
	Osprey
	~~Mississippi kite~~ — Omit
	Short-eared owl
Habitat available over 10-50% of the site area:	
Some	American goldfinch
	~~Red-wing~~ blackbird
	McCown's longspur
	Orchard oriole
	Purple finch
	House finch
	Burrowing owl
	Barred owl
	Common yellowthroat
	Lark sparrow
	Savannah sparrow
	Fox sparrow
	Song sparrow
	Belted kingfisher
	House wren
	Winter wren
	~~Golden-fronted woodpecker~~ — Omit
	Red-bellied ~~woodpecker~~
	Ladder-backed ~~woodpecker~~
	Hairy ~~woodpecker~~
	Easter ~~wood-pewee~~
	Golden-crowned kinglet
	White-crowned sparrow
	Painted bunting
	~~Summer~~ tanager
	Brewer's blackbird
	Blue-gray gnatcatcher
	Red-eyed vireo
Habitat available over <10% of site area:	
	Solitary vireo
	~~Golden-cheeked warbler~~ — Omit
	Black and white warbler
	Black-chinned hummingbird

Table 5.7.3-4 (Cont.)

BIRD SPECIES COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over <10% of site areas	
	Hermit thrush
	Red-breasted nuthatch
	Northern rough-winged swallow
	[redacted] — Omit
	Marsh wren
	[redacted] — Omit
	Sharp-shinned hawk
	Coopers hawk
	Red-shouldered hawk
	Broad-winged hawk
	Bell's vireo
	Black-capped vireo
	Sprague's pipit
	[redacted] — Omit
	Cedar waxwing
	Red-headed woodpecker
	Wild turkey

Sources: Fermand-BMB; Oberholser 1974; Peterson 1963; Texas Park and Wildlife Department 1987; U.S. Fish and Wildlife Service 1987.

Conner and Pulich 1974
Pulich 1988

Table 5.7.9-5

WATERFOWL COMMON TO THE TEXAS SSC SITE

Scientific Name	Common Name
Habitat available over most of the site area:	
	Gadwall
	American wigeon
	Canvasback
	Redhead
	Lesser scaup
	Bufflehead
	Ruddy duck
	Water pipit
	Spotted sandpiper
	Common snipe
	Ring-billed gull
	Canada goose
	Green-winged teal
	Mallard
	Northern pintail
	Double-crested cormorant
	Pied-billed grebe
	Eared grebe
Habitat available over 10-50% of the site area:	
	Great blue heron
	Northern shoveler
	King rail
	Common moorhen
	American coot
Habitat available over <10% of the site area:	
	Great egret
	Snowy egret
	Little blue heron
	Cattle egret
	Yellow-crowned night heron
	Black-crowned night heron
	American bittern
	Least bittern

Sources: Raymond 1988; Oberholser 1974; Peterson 1963; Texas Parks and Wildlife 1987; U.S. Fish and Wildlife Service 1987.
Nicholas and Runnels, 1974; Pulich, 1988

Table 5 7.9-6 identifies common fish species present in these diverse streams.

5.7.9.3 Aquatic Ecosystems

A. Lotic Ecosystems

Area streams and rivers provide diverse habitats for biological communities. Variations in stream vegetation are related to the differences in stream bed substrates and surface water flow regimes.

Table 5.7.9-6

FISH SPECIES COMMON TO RIVERS, CREEKS, AND STREAMS AT THE TEXAS SSC SITE

Scientific Name	Common Name
Ample habitat available:	
Micropterus punctulatum	Spotted bass
[illegible]	[illegible] — omit
Lepomis macrochirus	Bluegill
Lepomis humilis	Orangespotted sunfish
Pomoxis annularis	White crappie
Moderate habitat available:	
Ictibus bubalus	Smallmouth buffalo
Zygonectes notatus	Blackstripe topminnow
Lepomis auritus	Redbreast sunfish
Menidia beryllina	Inland silverside
Morone chrysops	White bass
Lepomis punctatus	Spotted sunfish
[illegible]	Gray redhorse — omit
Percina sciera	Dusky darter
[illegible]	Longnose — omit
Notropis buchanani	Ghost shiner
Campostoma anomalum	Central stoneroller
Etheostoma spectabile	Orangethroat darter
Limited to minimal habitat available:	
Opsopoedus emiliae	Pugnose minnow
[illegible]	[illegible] — omit
[illegible]	Chub shiner — omit
Notropis venustus	Blacktail shiner
Notropis volucellus	Mimic shiner
Ictalurus punctatus	Channel catfish
Pylodictis olivaris	Flathead catfish
Ictalurus melas	Black bullhead
Percina macrolepida	Bigscale logperch
Aplodinotus grunniens	Freshwater drum
[illegible]	Sharpnose shiner — omit
[illegible]	Silverband shiner — omit
[illegible]	Plains killifish — omit
Lepisosteus osseus	Long gar
Ample habitat available:	
Dorosoma cepedianum	Gizzard shad
Lepomis gulosus	Warmouth
[illegible]	Bluegill
[illegible]	Orangespotted sunfish — omit
[illegible]	White crappie
[illegible]	Redear sunfish
[illegible] habitat available:	
Micropterus salmoides	Largemouth bass
Morone saxatilis	Striped bass
[illegible]	[illegible]
Lepomis microlophus	Redear sunfish
[illegible]	Redbreast sunfish
[illegible]	Ghost shiner
[illegible]	Central stoneroller

Table 5.7.9-6 (Cont.)

FISH SPECIES COMMON TO RIVERS, CREEKS, AND STREAMS AT THE TEXAS SSC SITE

Scientific Name	Common Name
Ample habitat available:	
Limited habitat available:	
[illegible]	Spotted gar
[illegible]	Texas silverside
[illegible]	Freshwater drum
[illegible]	Black drum

Sources: Hubbs 1957; Lee et al. 1980.

Ample habitat available: Moderate habitat available:
River carpsucker Blue Catfish
Threadfin Shad
Goldfish
Common Carp
Golden Shiner
Red Shiner
Bullhead Minnow
Yellow Bullhead
Mosquitofish
Green Sunfish
Longear Sunfish

B. Lentic Systems

Lake Bardwell is the largest lake in Ellis County. A survey conducted in 1979 identified 26 species of fish (Sellers 1980). Lake Waxahachie is 4 mi northwest of Lake Bardwell. There are also numerous floodwater retarding impounds in the area.

Twenty-one fish species were identified in Lake Waxahachie in a 1986 survey (Inman 1987). Table 5.7.9-7 indicates fish species common to lakes, ponds, and other impoundments in the SSC site vicinity.

5.7.9.4 Economically, Recreationally, and Culturally Important Species

Both Lake Waxahachie and Lake Bardwell are used for sport fishing. Waxahachie provides the following game fish: channel catfish, large-mouth bass, and white crappie. Major sport fish in Lake Bardwell include white crappie, channel catfish, blue catfish, largemouth bass, white bass, striped bass, and sunfish.

Principal game species in the region are the northern bobwhite, rabbit, squirrel, and mourning dove. Commonly hunted waterfowl include green-winged teal, gadwall, and mallard. White-tailed deer are hunted in the area, as are bullfrogs. Raccoon, opossum, striped skunk, gray fox, and spotted skunk are trapped and or hunted in the area.

5.7.9.5 Threatened and Endangered Species

A. Federally Listed and Candidate Species

Four federally listed animal species are known to occur in the vicinity of the site. (Table 5.7.9-8). The bald eagle, black-capped vireo and whooping crane are listed as endangered species. The Arctic peregrine falcon is classified as a threatened species (Fish and Wildlife Service 1988). Two additional endangered species, the wood stork and the interior least tern are also possible inhabitants, although their presence is unconfirmed.

Additional species, listed as Category 2 by the U.S. Fish and Wildlife Service, that have some or ample habitat in the SSC vicinity (none have any special status with the State of Texas) include: Swainson's hawk (Buteo swainsoni), western snowy plover (Charadrius alexandrinus nivosus), mountain plover (Charadrius montana, long-billed curlew (Numenius americanus), western yellow-billed curlew (Coccyzus americanus occidentalis), migrant loggerhead shrike (Lanius ludovicianus migrans), and golden-cheeked warbler (Dendroica chrysoparia).

No federally listed plant species are known to occur in this vicinity.

Table 5.7.9-7

FISH SPECIES COMMON TO LAKES AND PONDS
IN THE AREA OF THE TEXAS SITE

Scientific Name	Common Name
Ample habitat available:	
Dorosoma cepedianum	Gizzard shad
Lepomis cyanellus	Warmouth
Lepomis macrochirus	Bluegill
Lepomis humilis	Orangespotted sunfish
Pomoxis annularis	White crappie
[illegible]	[illegible]
Moderate habitat available:	
Micropterus salmoides	Largemouth bass
Morone saxatilis	Striped bass
[illegible]	[illegible]
Lepomis microlophus	Redear sunfish
Lepomis auritus	Redbreast sunfish
Notropis buchanani	Ghost shiner
Campostoma anomalum	Central stoneroller
Limited habitat available:	
Lepisosteus oculatus	Spotted gar
Noturus gyrinus	Tadpole madtom
Aplodinotus grunniens	Freshwater drum
Ictalurus melas	Black bullhead

Sources: Hubbs 1982; Lee et al. 1980.

Table 5.7.9-8

SPECIES PROTECTED BY THE STATE OF TEXAS IN ELLIS COUNTY

Identification by Common Name (Scientific Name)	Regulatory Status Federal	State	Habitat(s) Utilized	Occurrence in Ellis County	Texas Parks and Wildlife Department County Status
Wood Stork (Mycteria americana)	Endangered	Threatened	Wet meadows; swamps and marshes	Non-breeding, casual visitor	Probable
Arctic Peregrine Falcon (Falco peregrinus tundrius)	Threatened	Threatened	Winters on coast, Gulf of Mexico	Migrates through area	Confirmed
Bald Eagle (Haliaeetus leucocephalus)	Endangered	Endangered	Winters in Texas along rivers and reservoirs	Winter resident	Confirmed
Whooping Crane (Grus americana)	Endangered	Endangered	Winters in isolated wetlands along Texas coast (Gulf of Mexico)	Migrates through area	Probable
Interior Least Tern (Sterna antillarum athalassos)	Endangered	Endangered	Barren or sparsely vegetated alluvial islands or sandbars	Not verified but potential visitor or breeder	Potential
Black-capped Vireo (Vireo atricapillus)	Endangered	Endangered	Open oak/juniper woodlands	Historic breeding without recent records. Habitat, if any, in western edge of county.	Confirmed
White-faced Ibis (Plegadis chihi)	Category 2 Review	Threatened	Marshes and wet meadows	Casual visitors - breeds coastal areas of Texas and SE U.S.	Probable
American Swallow-tailed Kite (Elanoides forficatus)	Category 2 Review	Threatened	Mature riparian near wet prairie/ shrub lands	Breeding currently restricted to Florida	Probable
Golden-cheeked Warbler (Dendroica chrysoparia)	Category 2 Review	Threatened	Mature juniper-oak woodlands. Nests in trees on steep slopes of canyons scarps and creek beds	Historic records in adjacent counties. Habitat, if any, in western edge of county.	Potential
Timber Rattlesnake (Crotalus horridus)	None	Threatened	Riparian woodlands	Recent records in county; resident population level unknown	Confirmed
Texas Horned Lizard (Phrynosoma cornutum)	None	Threatened	Dry, open areas with loose and sandy soils	Population levels and distribution in county unknown	Confirmed

Source: Texas Parks and Wildlife Department 1988.

TABLE 2.3.-2. FISH SPECIES NORMALLY OCCURRING IN THE DALLAS-FORT WORTH PROJECT AREA[1]

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
O. Semionotiformes			
F. Lepisosteidae			
*Spotted Gar	Lepisosteus oculatus	Quite clean water with dense aquatic vegetation	Limited to moderate
*Longnose Gar	Lepisosteus osseus	Medium to large streams	Minimal
O. Clupeiformes			
F. Clupeidae			
*Gizzard Shad	Dorosoma cepedianum	Reservoirs, ponds, pools, and low gradient backwaters	Ample
*Threadfin Shad	Dorosoma petenense	Reservoirs and large creeks	Ample
O. Cypriniformes			
F. Cyprinidae			
*Goldfish	Carassius auritus	Reservoirs	Ample
*Common Carp	Cyprinus carpio	Streams, reservoirs, and ponds	Ample
Pugnose Minnow	Opsopoedus emiliae	Clean slow moving waters often with emergent herbaceous vegetation	Limited
*Golden Shiner	Notemigonus crysoleucas	Vegetated, shallow ponds and reservoirs and sluggish streams	Ample
*Red Shiner	Notropis lutrensis	Low gradient back-waters, creeks and streams with sand/silt bottoms	Ample
*Blacktail Shiner	Notropis venustus	Moderately large clear to turbid streams with gravel and rubble bottoms	Limited
Mimic Shiner	Notropis volucellus	Clean to turbid rivers and streams near riffles	Limited to minimal
Ghost Shiner	Notropis buchanani	Pools in large creeks and rivers, relatively clear to turbid waters, and low flow backwaters	Moderate to limited
*Bullhead Minnow	Pimephales vigilax	Sluggish pools and backwaters of streams	Ample
Central Stoneroller	Campostoma anomalum	Clear, cool streams with moderate to rapid current and gravel to rubble bottoms in pools or riffles	Moderate to limited

(continued)

TABLE 2.3-2. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
F. Catostomidae			
*Smallmouth Buffalo	Ictibus bubalus	Clear water with moderate current	Moderate
*River Carpsucker	Carpiodes carpio	Quiet, silt-bottomed pools of rivers with low to moderate gradient; impoundments	Ample
O. Siluriformes			
F. Ictaluridae			
*Channel Catfish	Ictalurus punctatus	Clear medium to large fast rivers over sand or gravel/rocky bottoms	Ample
*Blue Catfish	Ictalurus furcatus	Reservoirs	Ample
*Black Bullhead	Ictalurus melas	Ponds, reservoirs, and pools in streams	Ample
*Yellow Bullhead	Ictalurus natalis	Shallow vegetated bays of reservoirs; ponds and slow moving streams	Ample
*Flathead Catfish	Pylodictis olivaris	Deep holds of medium to large rivers and reservoirs	Moderate
*Tadpole Madtom	Noturus gyrinus	Quiet water over soft bottoms with dense vegetation	Limited
O. Atheriniformes			
F. Cyprinodontidae			
*Blackstripe Topminnow	Fundulus notatus	Variable sized lowland streams, slow moderate to high turbidity	Moderate
F. Poeciliidae			
*Mosquitofish	Gambusia affinis	Vegetated ponds, reservoirs, ditches, and backwaters of streams	Ample
F. Atherinidae			
*Inland Silverside	Menidia beryllina	Streams over sand and gravel bottom pools or riffles	Moderate
O. Perciformes			
F. Percichthyidae			
*White Bass	Morone chrysops	Clear reservoirs and rivers	Moderate
*Striped Bass	Morone saxatilis	Reservoirs	Moderate

(continued)

TABLE 2.3-2. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
F. Centrarchidae			
Spotted Bass *	Micropterus punctulatus	Small rivers and streams, and reservoirs	Moderate
*Largemouth Bass	Micropterus salmoides	Quick clean waters with ample aquatic vegetation	Ample
*Warmouth	Lepomis gulosus	Ponds and lakes	Ample
Spotted Sunfish	Lepomis punctatus	Slow to moderately flowing waters with dense cover and vegetation	Moderate
*Green Sunfish	Lepomis cyanellus	Tolerant of most aquatic habitats	Ample
*Longear Sunfish	Lepomis megalotis	Reservoirs and small streams	Ample
*Redear Sunfish	Lepomis microlophus	Warm clean quiet waters with vegetation cover	Moderate
*Bluegill	Lepomis macrochirus	Shallow warm lakes, ponds, slow flowing streams with vegetation	Ample
*Orangespotted Sunfish	Lepomis humilis	Quiet streams, vegetated lakes and ponds	Ample
Redbreast Sunfish	Lepomis auritus	Lakes and rivers	Moderate
*White Crappie	Pomoxis annularis	Streams, lakes, ponds, slow moving reaches of large rivers	Ample
F. Percidae			
Dusky Darter	Percina sciera	Large streams and rivers over gravel/sand raceways	Moderate to limited
*Bigscale Logperch	Percina macrolepida	Gravel raceways of moderate to swift currents of streams; reservoirs	Moderte to limited
Orangethroat Darter	Etheostoma spectabile	Small turbid streams with silted bottoms	Moderate to limited
F. Sciaenidae			
*Freshwater Drum	Aplodinotus grunniens	Large silty lakes and rivers	Limited

[1]Sources: 1. Hubbs, 1982. 2. Lee, et al., 1980 et seq.

[2]Within the Collider Ring

Ample - Habitat available over most of the site area

Moderate - Habitat available over less than one half of the site area, but more than 10% of the site area

Limited - Habitat available less than approximately 10% of the site area

Minimal - Habitat coverage very small and of marginal quality

*Species collected via seining, electrofishing, gill netting, frame netting, and cove rotenoneing (Texas Parks and Wildlife Dept. reports; Bonn 1965, 1966; Sellers 1980; and Inman 1987).

TABLE 2.3-3. AMPHIBIANS SPECIES NORMALLY OCCURRING IN THE DALLAS-FORT WORTH PROJECT AREA[1]

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
O. Caudata			
F. Salamandridae			
Lesser Siren	Siren intermedia	Warm, shallow, quiet waters; sloughs, weedy ponds	Ample
Eastern Newt	Notophthalmus viridescens	Ponds, lakes, back waters, streams with dense submerged vegetation	Limited
*Small-mouthed Salamander	Ambystoma texanum	Deciduous forest bottomlands; tall-grass prairies and farming areas near water	Limited
Tiger Salamander	Ambystoma tigrinum	Variety of moist habitat types from arid plains to wet meadows	Ample
F. Pelobatidae			
*Couch's Spadefoot	Scaphiopus couchi	Tolerant of dry terrain: shortgrass prairie and mesquite savannah	Ample
Eastern Spadefoot	Scaphiopus holbrooki	Forested, brushy, or farmed areas with loose or soft soils	Ample
F. Ranidae			
*Crawfish Frog	Rana areolata	Wet meadows, prairie woodlands	Limited
*Bullfrog	Rana catesbeiana	Aquatic; still waters	Ample
Green Frog	Rana clamitans	Near still or slow moving water, swamps amid fallen litter	Ample to moderate
*Rio Grande Leopard Frog	Rana berlandieri	Any aquatic or moist conditions, natural or artificial	Ample
*Southern Leopard Frog	Rana sphenocephala	Wet areas amid moist vegetation in summer, aquatic habitats in other seasons	Ample

(continued)

TABLE 2.3-3. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
F. Microhylidae			
Eastern Narrow-Mouthed Frog	Gastrophryne carolinensis	Near water, ponds, ditches and litter	Ample
Great Plains Narrow-Mouthed Frog	Gastrophryne olivacea	Woodlands and grasslands; moist litter and rodent burrows	Ample
F. Bufonidae			
Green Toad	Bufo debilis	Prairies	Ample
Red-spotted Toad	Bufo punctatus	Prairies near permanent water or dampness, natural or man-made	Ample
Texas Toad	Bufo speciosus	Prairie grasslands and open woodlands; adapted to dry conditions	Ample
*Gulf Coast Toad	Bufo valliceps	Variety of moist habitats	Ample
*Woodhouse's Toad	Bufo woodhousei	Variety of moist habitats	Ample
F. Hylidae			
*Northern Cricket Frog	Acris crepitans	Open shallow water with vegetation cover; ditches	Ample
*Gray Treefrog	Hyla chrysoscelis/ Hyla versicolor	Trees and shrubs growing in or near permanent water	Moderate to limited
*Green Treefrog	Hyla cinerea	Vegetation near permanent water	Moderate
*Spotted Chorus Frog	Pseudacris clarki	Short-grass prairie	Moderate
*Strecker's Chorus Frog	Pseudacris streckeri	Variety of moist habitats	Ample
*Upland Chorus Frog	Pseudacris triseriata	Grassy areas from dry to swampy to agricultural; also woodlands	Ample

[1]Sources: 1. Behler and King, 1979 2. Dixon, 1987

[2]Within the Collider Ring

Ample - Habitat available over most of the site area

Moderate - Habitat available over less than one half of the site area, but more than 10% of the site area

Limited - Habitat available less than approximately 10% of the site area

Minimal - Habitat coverage very small and of marginal quality

*Literature records (collected) from Ellis County (in vicinity of project).

TABLE 2.3-4. REPTILE SPECIES NORMALLY OCCURRING IN THE DALLAS-FORT WORTH PROJECT AREA

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
O. Crocodylia			
*American Alligator	Alligator mississippiensis	Variety of aquatic and wetland habitats	Limited
O. Testudines			
F. Cheldridae			
*Common Snapping Turtle	Chelydra serpentina	Soft bottom aquatic habitats with dense vegetation	Ample
F. Kinosternidae			
*Yellow Mud Turtle	Kinosternon flavescens	Quieter slow-moving bodies of water with sand or mud bottoms	Moderate
*Mud Turtle	Kinosternon subrubrum	Shallow, soft-bottom quiet water with dense vegetation	Moderate to limited
Razor-backed Musk Turtle	Sternotherus carinatus	Swamps; slow-moving water courses with dense vegetation	Moderate to limited
Stinkpot	Sternotherus odoratus	Quiet shallow muddy-bottom waters	Ample
F. Emydidae			
Chicken Turtle	Deirochelys reticularia	Shallow ponds and ditches with dense vegetation	Limited
River Cooter	Chrysemys concinna	Streams with moderate currents; large reservoirs	Limited streams; two reservoirs
*Pond Slider	Trachemys scripta	Slow, shallow streams, ponds, and reservoirs with soft bottoms and dense vegetation	Moderate
*Mississippi Map Turtle	Graptemys kohni	Streams, reservoirs, and sloughs with mud bottoms, dense vegetation, and basking sites	Moderate
*Eastern Box Turtle	Terrapene carolina	Moist upland habitats, floodplains	Moderate
*Western Box Turtle	Terrapene ornata	Open prairies, pasturelands, open woodlands, and waterways in arid, sandy-soiled terrain	Ample

(continued)

TABLE 2.3-4. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
F. Trionychidae			
Smooth Softshell	Trionyx muticus	Large streams, moderate to fast currents, sand or mud bottoms	Limited
Spiny Softshell	Trionyx spiniferus	Small marshy creeks, farm ponds, fast-flowing streams and reservoirs	Ample
O. Squamata			
F. Iguanidae			
Green Anole	Anolis carolinensis	Arboreal: trees, fence posts, walls, woody vegetation, and vines	Ample
Greater Earless Lizard	Cophosaurus texanus	Stretches of rocks, limestone cliffs, dry sandy stream beds, washes	Limited to minimal
Collared Lizard	Crotaphytus collaris	Hardwood forests to arid areas with large rocks for basking; usually hilly regions	Minimal
*Lesser Earless Lizard	Holbrookia maculata	Sandy soil in grassy prairie, cultivated fields, dry stream beds; desert grasslands	Moderate
*Texas Horned Lizard	Phrynosoma cornutum	Dry areas, open lands with loose soil and grasses, mesquite	Ample
*Texas Spiny Lizard	Sceloporus olivaceus	Arboreal: mesquite, live oaks, other trees, buildings	Moderate
Eastern Fence Lizard	Sceloporus undulatus	Open upland woodlands; dry prairies near fallen logs and stumps	Ample
F. Anguidae			
Slender Glass Lizard	Ophisaurus attenuatus	Dry grasslands and dry open woods	Moderate

(continued)

TABLE 2.3-4. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
F. Teiidae			
*Texas Spotted Whiptail	Cnemidophorus gularis	Semi-arid prairie grassland, open brushy areas, washes	Limited
*Racerunner	Cnemidophorus sexlineatus	Dry sunny areas, open grasslands, open woods, well-drained soils	Ample
F. Scincidae			
*Five-lined Skink	Eumeces fasciatus	Moist woods with litter, stumps, and fallen logs	Moderate
*Broad-headed Skink	Eumeces laticeps	Moist woods; open areas with litter and rubble cover	Moderate to limited
*Prairie Skink	Eumeces septentrionalis	Moist areas with vegetation and loose soil; rocky or gravelly washes	Moderate
*Ground Skink	Scinella lateralis	Moist woods and wooded grasslands with abundant leaf litter	Ample
F. Leptotyphlopidae			
Blind Snake	Leptotyphlops dulcis	Subterranean, beneath leaf and plant litter or under decaying logs	Moderate
F. Colubridae			
*Racer	Coluber constrictor	Old fields; woods-field interface; abandoned buildings	Ample
Ringneck Snake	Diadophis punctatus	Damp meadows and woodland; overgrown fields near water; litter-filled bottoms and gullies	Ample
Corn Snake	Elaphe guttata	Wide variety of habitat types	Ample
*Rat Snake	Elaphe obsoleta	Wide variety of habitat types	Ample

(continued)

TABLE 2.3-4. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
*Eastern Hognose Snake	Heterodon platyrhinos	Open deadwoods or pine woodlands; forest-grasslands near streams or ponds	Moderate to limited
Western Hognose Snake	Heterodon nasicus	Sandy shortgrass prairie; rocky semi-desert, pasture and woodland interface	Limited
Night Snake	Hypsiglena torquata	Sandy or gravelly ground broken by rocky bluffs or overlaid by flat stones and litter	Limited to minimal
*Prairie Kingsnake	Lampropeltis calligaster	Grasslands; less frequently riparian woodlands	Ample
*Common Kingsnake	Lampropeltis getulus	Beneath litter, debris; damp grassy pastures	Moderate
Milk Snake	Lampropeltis triangulum	Wooded riparian lands; rolling hillsides in short or tall grass prairie with loose soil and rocks	Limited
*Coachwhip	Masticophis flagellum	Drylands	Ample
*Plain-bellied Water Snake	Nerodia erythrogaster	Aquatic habitats	Ample
Southern Water Snake	Nerodia fasciata	Calm permanent bodies of water	Ample
*Diamondback Water Snake	Nerodia rhombifera	Aquatic habitats	Ample
*Rough Green Snake	Opheodrys aestivus	Arboreal; leafy trees and shrubs; edges of woods and open areas	Ample
*Pine-Gopher Snake	Pituophis melanoleucus	Open terrain	Ample
Graham's Crayfish Snake	Regina grahamii	Streams, ponds, and ditches	Ample
Ground Snake	Sonora semiannulata	Well-vegetated habitats; debris piles	Ample

(continued)

TABLE 2.3-4. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
*Brown Snake	Storeria dekayi	Moist soils beneath litter, logs, rocks; riparian bottomland of hill country and oak or juniper brakes	Moderate to limited
*Flat-headed Snake	Tantilla gracilis	Loose, slightly damp soil; most often in moist deciduous woods and grassland/brushland communities	Moderate
Checkered Garter Snake	Thamnophis marcianus	Arid and semi-arid grasslands near water	Ample
*Western Ribbon Snake	Thamnophis proximus	Pond, creek margins	Ample
*Common Garter Snake	Thamnophis sirtalis	Wet meadows and pastures; riparian areas	Ample
*Rough Earth Snake	Virginia striatula	Beneath debris around abandoned farms	Ample
Smooth Earth Snake	Virginia valeriae	Beneath rocks, logs on open wooded hillsides	Moderate to limited
*Lined Snake	Tropidoclonion lineatum	Grasslands; pasture/woodland interface	Ample
F. Elapidae			
*Coral Snake	Micrurus fulvius	Dry oak/juniper brakes with rock or litter cover	Minimal
F. Viperidae			
*Copperhead	Agkistrodon contortrix	Mesic upland woods or bottomlands with litter cover	Moderate
*Cottonmouth	Agkistrodon piscivorus	Variety of habitat types near water	Ample
Western Diamond-back Rattlesnake	Crotalus atrox	Variety of habitat types near water	Ample
*Timber Rattlesnake	Crotalus horridus	Dense thickets; woods; second growth pastures	Moderate to limited
Western Massasauga	Sistrurus catenatus	Grasslands	Ample
Pigmy Rattlesnake	Sistrurus miliarius	Riparian woods with litter and shrub layers	Minimal

[1]Sources: 1. Behler and King, 1979. 2. Dixon, 1987 3. Tennant, 1985.
[2]Within the Collider Ring
Ample - Habitat available over most of the site area
Moderate - Habitat available over less than one half of the site area, but more than 10% of the site area
Limited - Habitat available less than approximately 10% of the site area
Minimal - Habitat coverage very small and of marginal quality
*Literature records (collected) from Ellis County (in vicinity of project).

TABLE 2.3.-5. BIRD SPECIES NORMALLY OCCURRING IN THE DALLAS-FORT WORTH PROJECT AREA[1]

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
O. Podicipediformes			
F. Podicipedidae			
* Pied-billed Grebe	S,W	Marshes, ponds, and reservoirs	Ample
Eared Grebe	W	Marshes and ponds	Ample
O. Pelicaniformes			
F. Phalacrocoracidae			
**Double-Crested Cormorant	W	Reservoirs	Ample
O. Ciconiiformes			
F. Ardeidae			
**American Bittern	W	Marshes	Limited
Least Bittern	S	Marshes	Limited
*Great Blue Heron	S,W	Ponds, marshes, reservoirs; nests in trees in or water	Limited nesting; ample feeding
**Green-backed Heron	S	Reservoirs, ponds, streamsides	Ample
*Great Egret	S,W	Ponds, marshes, reservoir edges; nests in shrub stands in water, on islands with shrubs and trees, and upland woodlands	Limited nesting; ample feeding
*Snowy Egret	S	Ponds, marshes; nests in shrubs in water or island shrubs, and trees, and upland woodlands	Limited nesting; ample feeding
*Little Blue Heron	S	Ponds, marshes; nest in shrubs in water, on islands with shrubs and trees, and upland woodlands	Limited nesting; ample feeding
*Cattle Egret	S	Pastures, roadsides, open fields; nests in shrub stands in water, on islands with trees and shrubs, and upland woodlands	Limited nesting; ample feeding
**Yellow-crowned Night-Heron	S	Freshwater habitat types; nests in trees and shrubs in water and upland woodlands	Limited nesting; ample feeding
**Black-crowned Night-Heron	S	Freshwater habitat types; nests in trees and shrubs in water and upland woodlands	Limited nesting; ample feeding

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
**Cooper's Hawk	W	Woodlands	Limited
**Red-shouldered Hawk	S,W	Moist deciduous woods, usually mature	Limited
**Broad-winged Hawk	W	Large stands of mixed deciduous woods	Limited to minimal
Swainson's Hawk	W	Open plains; nests in trees and shrubs along water courses, wetlands, and hedgerows	Ample
**Red-tailed Hawk	S,W	Open fields and open woods	Ample
**Bald Eagle	W	Reservoirs	Ample
F. Falconidae			
*American Kestrel	W	Variety of habitat types	Ample
O. Galliformes			
F. Phasianidae			
***Ring-necked Pheasant	S,W	Agricultural land	Ample
*Wild Turkey	S,W	Open forests and forest edges	Limited
*Northern Bobwhite	S,W	Open forest, fields with scattered shrubs	Ample
O. Gruiformes			
F. Rallidae			
King Rail	S	Marshes	Moderate
**Sora	W	Marshes, wet meadows, margins of ponds and reservoirs	Moderate
**American Coot	W	Ponds and reservoirs	Ample
O. Charadriiformes			
F. Charadriidae			
*Killdeer	S,W	Fields, marshes, pastures, mudflats	Ample
F. Scolopacidae			
**Spotted Sandpiper	W	Edge of aquatic habitats	Ample
**Solitary Sandpiper	W	Streamsides and shores of ponds and reservoirs	Ample
**Least Sandpiper	W	Mud flats, shores of ponds and reservoirs	Ample
**Common Snipe	W	Marshes and fields	Ample

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
F. Laridae			
**Ring-billed Gull	W	Ponds, wet fields, reservoirs, and marshes	Ample
*Herring Gull	W	Reservoirs	Ample
O. Columbiformes			
F. Columbidae			
**Rock Dove	S,W	Urban and farm areas	Ample
*Mourning Dove	S,W	Upland open and semi-open habitats	Ample
O. Cuculiformes			
F. Cuculidae			
*Yellow-billed Cuckoo	S	Woods, forest edges, and brushlands	Ample
*Greater Roadrunner	S,W	Open woodlands, grasslands, and farming areas	Ample
O. Strigiformes			
F. Tytonidae			
**Barn Owl	S,W	Prairie, farmland, and marshes	Ample
F. Strigidae			
*Eastern Screech-Owl	S,W	Open woods, floodplain woods, and farms	Ample
*Great Horned Owl	S,W	Variety of upland habitat types	Ample
**Burrowing Owl	S,W	Open grasslands and deserts	Moderate
**Barred Owl	S,W	Wooded swamps and forests	Moderate
**Long-eared Owl	W	Woodlands, thickets, and conifer trees	Moderate
**Short-eared Owl	W	Open habitats, grasslands, farm fields, and marshes	Ample
O. Caprimulgiformes			
F. Caprimulgidae			
*Common Nighthawk	S	Variety of habitat types	Ample
Chuck-will's-Widow	S	Forests, forest edges, and riparian woods	Ample

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
O. Apodiformes			
F. Apodidae			
[a]Chimney Swift	S	Buildings, and open woods	Ample
F. Trochilidae			
[a][b]Ruby-throated Hummingbird	S	Woods, parks, and gardens	Ample
[a][b]Black-chinned Hummingbird	S	Riparian woods, oaks of canyons and lowlands	Limited
F. Alcedinidae			
[a][b]Belted Kingfisher	W	Streams and lakes with perches	Moderate
O. Piciformes			
F. Picidae			
[a]Red-bellied Woodpecker	S,W	Wooded areas	Moderate
Red-headed Woodpecker	S,W	Open woods, groves of trees on prairies	Limited
[a]Yellow-bellied Sapsucker	W	Wooded habitats	Ample
[a]Ladder-backed Woodpecker	S,W	Scrub lands, riparian trees and parks	Moderate
[a]Downy Woodpecker	S,W	Variety of wooded habitat types	Ample
[a]Hairy Woodpecker	S,W	Large trees in forest and woodlots	Moderate to limited
[a][b]Northern Flicker	W	Variety of wooded habitats	Ample
O. Passeriformes			
F. Tyrannidae			
[a]Eastern Wood-Pewee	S	Deciduous and mixed woods	Moderate
[a]Eastern Phoebe	S,W	Near running water, and ponds; in trees and at buildings	Ample
[a][b]Great Crested Flycatcher	S	Wooded suburban areas, clearings in forests, and small woodlots	Ample
[a]Western Kingbird	S	Open habitats with perches	Ample
[a][b]Eastern Kingbird	S	Open habitats with perches	Ample
[a]Scissor-tailed Flycatcher	S	Open plains with perches	Ample

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
F. Alaudidae			
[4]Horned Lark	S,W	Open prairies, pasture, and fields	Ample
F. Hirundinidae			
[4]Purple Martin	S	Open habitat types, usually near water	Ample
Northern Rough-winged Swallow	S	Near stream banks, gravel pits, dams, bridges and road cuts	Limited
[4]Barn Swallow	S	Buildings and structures	Ample
F. Corvidae			
[4]Bluejay	S	Variety of habitat types, usually with brush or woodlands	Ample
[4]American Crow	S,W	Open and semi-open habitats	Ample
F. Paridae			
[4]Carolina Chickadee	S,W	Forests and forest edge	Ample
[4]Tufted Titmouse	S,W	Forest and woodlots	Ample
F. Sittidae			
Red-breasted Nuthatch	W	Forests, usually coniferous	Limited
[4]White-breasted Nuthatch	W	Bottomlands, woodlots, groves	Ample
F. Certhiidae			
[4]Brown Creeper	S,W	Woodlots and forests	Ample
F. Troglodytidae			
[4]Carolina Wren	S,W	Lower story forests and open woods	Ample
[4]Bewick's Wren	S,W	Brushy clearings, scrub woods, and suburban areas	Ample
[4]House Wren	S,W	Thickets, and forest edges	Moderate
Winter Wren	W	Streams in woods, and floodplain woods	Moderate
Marsh Wren	S	Marshes and pond shores	Limited

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
F. Muscicapidae			
**Golden-crowned Kinglet	W	Forests, forest edges, and coniferous stands	Moderate
*Ruby-crowned Kinglet	W	Open woods and shrub areas	Ample
Blue-gray Gnatcatcher	S,W	Brushy areas and woods	Moderate
*Eastern Bluebird	S,W	Open wooded areas and farmlands	Ample
*Hermit Thrush	W	Upland woods	Limited
*American Robin	S,W	Woods, open wooded areas, pastures, and fields	Ample
F. Mimidae			
*Northern Mockingbird	S,W	Open habitat with perches	Ample
Gray Catbird	S	Brushy habitats and edges of woods	Ample
**Brown Thrasher	W	Hedgerows and woodlots	Ample
F. Motacillidae			
Water Pipit	W	Shorelines and fields with little vegetation	Ample
Sprague's Pipit	W	Short grass prairie	Limited
F. Bombycillidae			
*Cedar Waxwing	W	Brushy and shrub habitats with berry-producing plants	Ample
F. Laniidae			
*Loggerhead Shrike	S,W	Open habitats with perches and thorn trees or barbed wire	Ample
F. Sturnidae			
**European Starling	S,W	Variety of habitat types	Ample
F. Vireonidae			
*Red-eyed Vireo	S	Mixed and deciduous forests	Moderate
*White-eyed Vireo	S	Edges of woods and tall shrubby areas	Ample
Bell's Vireo	S	Riparian woods and marshes with mesquite	Limited
*Black-capped Vireo	S	Low oak scrub of dry hillsides and ravines	Minimal
*Yellow-throated Vireo	S	Mixed and deciduous forests often in floodplains	Ample
*Solitary Vireo	W	Mixed forests and brushlands	Limited
Warbling Vireo	S	Deciduous and mixed woods	Ample

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
F. Emberizidae			
*Orange-crowned Warbler	M	Variety of shrubs and wooded habitats	Ample
*Yellow-rumped Warbler	M	Varied woods and thickets	Ample
*Common Yellowthroat	S,M	Adjacent to water and shrub area with openings	Moderate
Black and White Warbler	S	Mixed forests	Limited
**Yellow-breasted Chat	S	Shrublands, forest edges, and thickets	Ample
*Summer Tanager	S	Forests	Limited
*Northern Cardinal	S,M	Brushy areas and woods	Ample
*Blue Grosbeak	S	Shrublands and hedgerows	Ample to moderate
*Indigo Bunting	S	Open woods, shrublands, and forest edges	Ample
*Painted bunting	S	Open woods and semi-open habitats	Moderate
**Dickcissel	S	Weeds and fields	Ample
*Rufous-sided Towhee	M	Forest edges and shrublands	Ample
Chipping Sparrow	M	Woodland, fields, and shrublands	Ample
**Field Sparrow	M	Fields	Ample
*Vesper Sparrow	M	Dry open fields with fruited vegetation	Ample
**Lark Sparrow	S,M	Open habitats with scattered trees and shrubs	Moderate
*Savannah Sparrow	M	Moist grasslands and marshes	Moderate
*Grasshopper Sparrow	S,M	Grasslands, hayfields, prairies	Ample
*Fox Sparrow	M	Undergrowth in wooded areas	Moderate
*Lincoln's Sparrow	M	Thickets, weedy areas, bushes	Ample
*Song Sparrow	M	Stream banks, brush piles, and wet meadows	Moderate
*White-throated Sparrow	M	Variety of habitat type	Ample
*White-crowned Sparrow	M	Shrublands	Moderate
**Harris Sparrow	M	Hedgerows and edges of woodlots	Ample
**Dark-eyed Junco	M	Variety of habitat types	Ample
*McCown's Longspur	M	Open fields with limited vegetation	Moderate

(continued)

TABLE 2.3-5. (continued)

Species	Status[2]	Habitat	Habitat Availability Onsite[3]
*Lapland Longspur	W	Fields and prairies	Ample
Smith's Longspur	W	Fields and prairies	Ample
Chestnut Collared Longspur	W	Grasslands	Ample
*Red-wing Blackbird	S,W	Marshes and wet fields	Moderate
*Eastern Meadowlark	S,W	Fields and grasslands	Ample
*Western Meadowlark	S,W	Fields and grasslands	Ample
Brewer's Blackbird	W	Open habitats with trees	Moderate
*Great-tailed Grackle	S,W	Open wooded areas and suburban areas	Ample
*Common Grackle	S,W	Croplands, fields, and woods	Ample
*Brown-headed Cowbird	S,W	Fields, pastures, and woods	Ample
*Orchard Oriole	S	Open woods	Moderate
**Purple Finch	W	Open woods	Moderate
*House Finch	S,W	Open woods	Moderate
*Pine Siskin	W	Variety of open habitat types	Ample
*American Goldfinch	W	Open fields, shrubby, often along streams	Moderate
***House Sparrow	S,W	Open fields, buildings, and pastures	Ample

[1]Sources: Ferrand, 1983; Nickols and Runnels, 1974; Oberholser, 1974; Peterson, 1963; TPWD, 1975; USFWS, 1987

[2]Transient Species not Included: S-Summer Inhabitant; W-Winter Inhabitant

[3]Within the Collider Ring

Ample - Habitat available over most of the site area

Moderate - Habitat available over less than one half of the site area, but more than 10% of the site area

Limited - Habitat available less than approximately 10% of the site area

Minimal - Habitat coverage very small and of marginal quality

*Literature records (collected) from Ellis County (in vicinity of project).

**Telfair, R. C. II, 1987, Environmental Assessment Biologist, Texas Parks and Wildlife Department, Personal Communication.

***Introduced species TPWD

TABLE 2.3-6. MAMMAL SPECIES NORMALLY OCCURRING IN THE DALLAS-FORT WORTH PROJECT AREA

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
O. Marsupalia			
*Opossum	Didelphis virginiana	Deciduous woodlands and prairies, marshes, and farmlands	Ample
O. Insectivora			
Least Shrew	Cryptotis parva	Dense grasslands and areas of dense herbaceous ground cover	Ample
Eastern Mole	Scalopus aquaticus	Open fields, waste areas, loose soils	Minimal
O. Chiroptera			
Eastern Pipistrelle	Pipistrellus subflavus	Crevices, buildings, stumps, trees, culverts	Ample
Big Brown Bat	Eptesicus fuscus	Loose bank of dead trees and tree cavities, buildings	Ample
Hoary Bat	Lasiurus cinereus	Wooded areas	Moderate
**Red Bat	Lasiurus borealis	Wooded areas	Moderate
Brazilian Free-tailed Bat	Tadarida brasiliensis	Buildings	Ample
O. Edentata			
**Nine-banded Armadillo	Dasypus novemcinctus	Soft soils near water	Ample
O. Lagomorpha			
**Black-tailed Jack Rabbit	Lepus californicus	Pastures, haylands, cultivated areas	Ample
*Eastern Cottontail	Sylvilagus floridanus	Bush lands, fields	Ample
Swamp Rabbit	Sylvilagus aquaticus	Swamplands, bottomlands (edge of range)	Minimal
O. Rodentia			
**Thirteen-lined Ground Squirrel	Spermophilus tridecemlineatus	Short and tall grass prairies, pastures	Moderate
**Fox Squirrel	Sciurus niger	Open mixed forests	Moderate

(continued)

TABLE 2.3-6. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
**Southern Flying Squirrel	Glaucomys volans	Forest	Limited
Plains Pocket Gopher	Geomys bursarius	Sandy soils where topsoil is greater than 10 cm in depth	Minimal
Hispid Pocket Mouse	Perognathus hispidus	Sand and other soft soils with scattered to moderate vegetation stands	Ample
*Beaver	Castor canadensis	Aquatic habitat types	Moderate
*Fulvous Harvest Mouse	Reithrodontomys fulvescens	Grasslands with a few shrubs or creek bottoms	Ample
Plains Harvest Mouse	Reithrodontomys montanus	Mature grasslands which are well drained	Limited
Deer Mouse	Peromyscus leucopus	Wide variety of habitat types (edge of range)	Ample
White-footed Mouse	Peromyscus maniculatus	Forests, wooded creeks, and river bottoms	Moderate
*Hispid Cotton Rat	Sigmodon hispidus	Tall grass areas, old fields	Ample
**Eastern Woodrat	Neotoma floridana	Swamplands, forest lands, rocky areas	Limited
Pygmy Mouse	Baiomys taylori	Low grassy or weedy areas	Ample
Woodland Vole	Microtus pinetorum	Deciduous woods with dense herbaceous cover	Limited
*House Mouse	Mus musculus	Fields, buildings	Ample
*Black Rat	Rattus rattus	Buildings	Ample
**Norway Rat	Rattus norvegicus	Buildings, landfills, waste areas	Ample
*Nutria	Myocastor coypus	Swamps, marshes, ponds, reservoirs	Limited

(continued)

TABLE 2.3-6. (continued)

Species	Scientific Name	Habitat	Habitat Availability Onsite[2]
O. Carnivora			
*Coyote	Canis latrans	Wide variety of habitats	Ample
**Red Fox	Vulpes vulpes	Woodlands interspersed with farms and pastures	Limited
*Gray Fox	Urocyon cinereoargenteus	Mixed hardwoods (uplands and bottomlands)	Limited
*Raccoon	Procyon lotor	Wide variety of habitat types often near water	Ample
*Ringtail	Bassariscus astutus	Wooded areas	Limited
Long-tailed Weasel	Mustela frenata	Variety of habitat types (edge of range)	Ample
*Mink	Mustela vison	Stream banks, lake, and marshes	Ample
*Eastern Spotted Skunk	Spilogale putorius	Wooded areas and tall-grass prairies	Moderate
*Striped Skunk	Mephitis mephitis	Wooded and brushy areas, and associated farmlands	Ample
*Bobcat	Lynx rufus	Wide variety of habitat types with preference for rocky areas and outcrops	Ample
O. Artiodactyla			
**White-tailed Deer	Odocoileus virginianus	Brush and woodlands with open areas	Minimal

[1]Sources: Whitaker, 1980. Davis, 1974. Schmidly, 1983.
[2]Within the Collider Ring
Ample - Habitat available over most of the site area
Moderate - Habitat available over less than one half of the site area, but more than 10% of the site area
Limited - Habitat available less than approximately 10% of the site area
Minimal - Habitat coverage very small and of marginal quality
*Specimens examined and/or trapper records in literature for Ellis County.
**Telfair, R. C. II. 1987. Environmental Assessment Biologist, Texas Parks and Wildlife Department, Personal Communication.

Table 1:
Results of field visit to SSC site on September 27, 1988

Project Area	Habitat Present	BCV Habitat
A Campus	Field	No
B Injector	Field	No
C Future Expansion	Field	No
E 10	Field	No
F 1	Field, Riparian	No
F 2	Field, House	No
F 10	Field	No
F 9	Field	No
J 1	Riparian	No
J 5	House, Field	No
J 6	House, Field, Woods	No
J 3	Field	No
J 4	Field, Riparian	No
K 1, K 2	Field, House	No
L 1	Field	No
L 2	Riparian	No

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October 13, 1988

DRAFT

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
Office of Energy Research
U.S. Department of Energy
Washington, DC 20545

Ref: SAIC TNR-88-08-29-~~001-50~~ TX-R-0001-50-00

Dear Dr. Hess:

The Texas National Research Laboratory Commission has reviewed the draft Environmental Impact Statement (EIS) on the Superconducting Super Collider (SSC) prepared by the U.S. Department of Energy (DOE). As a part of its review, the Commission called upon appropriate state agencies for comment. A list of the state agencies participating in the review of the draft EIS is provided as Attachment A. The results of our review follow.

The Commission found the draft EIS to be comprehensive, fair and accurate. On the whole, methodologies and models used to compare the seven sites were appropriate to the task and were properly employed. In general, findings in the draft EIS confirmed the view of the Commission that the impacts of developing the Texas site for the SSC would not be significant.

We would like to begin by clarifying the discussion of the Commission's authority found in the first paragraph of Section 4.3.2.7, Volume IV, Appendix 4 (page 13). The Texas legislature created the Texas National Research Laboratory Commission under Article 4413 (47d) of the Texas Revised Civil Statutes. That article confers on the Commission the power of eminent domain to acquire land for siting the SSC.

Furthermore, Tex. HB 2066, 70th Leg., Reg. Sess. (1987) authorizes creation of a multi-district super collider authority (SCA) comprised of two or more counties, cities, or other public entities which will have the power of eminent domain to acquire land and to convey land to the Commission for siting the SSC.

Our comments are organized according to these headings: earth resources; water resources; climate, meteorology and air quality; noise and vibration; environmental hazards and waste; ecological resources; land resources; socioeconomics and infrastructure; cultural and paleontological resources; and scenic and visual resources. In its review, the Commission was aware that DOE will develop a detailed, site-specific EIS after selection of a preferred site. Accordingly, our comments have been developed consistent with the programmatic evaluation of the potential effects to the human environment from construction and operation of the SSC at the Texas site. We understand that a more rigorous assessment of these effects will be appropriately reserved until publication of the Supplemental Site Specific EIS.

Earth Resources

Although the description of the existing condition of the various elements constituting earth resources is largely accurate, the discussion in the draft EIS identifies some information that may be inconsistent or require clarification. The following comments are offered to clarify and substantiate the earth resources of the Texas site:

- Inconsistent reference is made throughout the draft EIS to the lithology of the Taylor group. The lithology is best and most consistently referred to as marl rather than calcareous claystone.

- Table 4-1 suggests that faults with maximum displacements of 100 feet occur in Austin Chalk. Though displacements approaching 100 feet have been reported, this is the exception rather than the rule. Displacements of more than 10 feet are rare; most are less than a few feet.

- Caution is suggested in use of the term "low strength rock." Strength available in both the chalk and the marl is more than adequate to allow the rock to support itself for the proposed conditions of relatively shallow tunneling.

- Table 4-1 also refers to minor oil production from a depth of over 800 feet at the Texas site. However, there is no oil production within several miles of the Texas SSC site. Furthermore, it is stated on page 28 of

Appendix 6, that "No producing wells are known within the immediate vicinity of the site, and potential for undiscovered occurrences beneath the site is small."

Concerning the assessment of impacts to earth resources, the Commission concurs that no cumulative impacts can be identified. However, the following comment is offered:

* Surface topography effects at the injector site will be diminished because the MEB and HEB facilities will be completed by tunneling, not by open excavation.

Water Resources

The draft EIS confirms that development of the SSC will not result in significant impacts on water resources at the Texas site. Two possible impacts reported in the draft EIS can be mitigated. First, encroachment of Site J-4 on Chambers Creek, which could affect its water quality and existing uses, can be mitigated by relocation of the J-4 facility. This possibility is noted on page 74 of Appendix 7 of the draft EIS.

Second, "measurable impact" on ground water levels due to SSC facilities, as noted in Volume I, Chapter 3, page 3-66, and Chapter 5, page 5.1.2-29, will likely not occur due to increasing reliance on surface water supplies by users in the area. Thus, it cannot be said that the use of groundwater by the SSC is a perpetual adverse impact, as action is underway to alleviate the impact with or without the project. Specifically, the Texas Water Development Board has initiated a study to develop a long-range water master plan for Ellis County. The study is 40 percent complete and is scheduled to be finished in March 1989. At present, this study supports regionalization of the Ellis County water supply utilizing Cedar Creek and Richland-Chambers reservoirs as the primary source to meet Ellis County demands. Inasmuch as the majority of the participating entities have expressed their desire to proceed with converting present groundwater usage to surface water supplies, it is likely that the regionalized approach will be adopted, thereby relieving existing impacts to groundwater resources. Development of the SSC in Ellis County will only serve to accelerate the conversion, resulting in new, beneficial impacts to the groundwater supply.

With regard to SSC facilities impacting on groundwater resources, groundwater usage at remote service areas was proposed as a cost-saving measure. However, it is evident that this potential impact can be mitigated utilizing abundant surface water supplies. Moreover, adoption of the regionalized water plan described above will facilitate the

accessibility of these resources to the service areas. Also note that Table 4-4 of Volume I, page 4-19, overstates current groundwater use. Rather than 9,000 acre-feet per year, current use is estimated to be 6,112 acre-feet per year. (See the Environmental Information Document submitted by Texas, Tables 2.2.4-1 and 2.2.4-2, Attachment B.)

Finally, after baseline information to be used in the draft EIS had been gathered, the Rockett Water Supply Corporation applied to the Texas Water Commission for appropriative water rights subject to their proposed Red Oak Creek Reservoir. The National Research Laboratory Commission opposes this project in the interest of supporting the utilization of existing excess water supplies at Richland-Chambers Reservoir as a more plausible alternative. The Commission and the Rockett Water Supply Corporation agreed in June 1988 that if the Texas SSC site is chosen, the interests of Rockett Water Supply Corporation's customers would best be served by existing surface water supply sources, obviating the need for their reservoir. It would also appear that the ongoing Ellis County Water Supply study and the current attitudes toward regionalization raise serious questions concerning the necessity of the Red Oak Creek Reservoir even without the SSC.

In addition, the TNRLC review found the following:

- Volume I, Page 6-2, states that Texas has no antidegradation policy to protect existing water quality. We note that the Surface Water Quality Standards of the Texas Water Commission, pages 13-16, relate specifically to antidegradation. These standards were adopted in April 1988 and include this general policy statement: "It is the policy of this state and the purpose of this chapter to maintain the quality of water in the state consistent with public health and enjoyment, propagation, and protection of terrestrial and aquatic life, operation of existing industries, and economic development of the state; to encourage and promote development and use of regional and areawide wastewater collection, treatment, and disposal systems to serve the wastewater disposal needs of the citizens of the state; and to require the use of all reasonable methods to implement this policy."

- In Volume I, chapter 5, page 5.1.2-29, and Volume IV, appendix 7, page 143, it is stated that the Woodbine and Twin Mountains aquifers have relatively low transmissivities and that the radius of influence of drawdown may extend relatively long distances from wells. Radius of influence is directly proportional to aquifer transmissivity. Therefore, the radius of influence of drawdown in low-transmissivity formations is small

relative to that radius in highly transmissive formations. The draft EIS implies the opposite.

- Volume I, table 4-3, page 4-16. The summary of hydrologic setting and depth-to-water at the Texas site omits the important fact that the limited near-surface alluvial aquifers are perched at considerable height above the regional aquifers and are separated by a great thickness of unsaturated, low-permeability chalk and marl.

- The surficial alluvial aquifer is of relatively high permeability, and it is locally important to residents of Ellis County. However, this aquifer will be encountered only at some shaft locations where standard construction techniques will be utilized to stop any groundwater movement into the shaft. Any impact to this aquifer associated with construction activities will be restricted to the shaft areas and will be of very short duration. The quality of the water supply will not be affected, and the impact on aquifer utilization will be minimal and temporary. On completion of construction, this shallow aquifer will be sealed by shaft lining and depth of rock cover from communication with the tunnel.

- In Volume IV, appendix 7, page 140, the text does not point out that the tunnel in Austin Chalk would be above the regional groundwater level in the Woodbine Formation. Groundwater by definition is water occurring in the zone of saturation beneath the water table. Except for positions beneath stream beds where cover depth is minimal, there is no water in the rock pores above the water table that would be drawn to the tunnel face by capillary gradients.

- In Volume IV, appendix 7, page 148, the statement, "Septic tanks and leach fields would likely introduce some level of contaminants...at a very localized scale to site groundwater," probably exaggerates the effect. Most far-site septic tanks and leach fields would be sited in Austin Chalk or Taylor Marl at considerable height above the regional aquifer. Water would percolate very slowly through thousands of feet of rock, allowing considerable attenuation by dilution, dispersion, or absorption before the water is discharged in seeps at stream cuts or reaches the water table. Travel times are on the order of tens of thousands of years.

Climate, Meteorology and Air Quality

The Texas Air Control Board review of the draft EIS found no air quality issues that are likely to affect the siting of the SSC in Ellis County. Three corrections to information presented in the draft EIS are suggested. First, Table 4-6, Volume I, Chapter 4, page 4-27, presents ambient lead data for Baton Rouge, Louisiana, as representative of lead concentrations in Ellis County. Available Dallas County lead concentrations would be more appropriate. Second, the ozone data presented in Table 4-5, Volume I, Chapter 4, page 4-23, represents concentrations downwind of the Dallas area. Ellis County is upwind from the Dallas urban core. Finally, in Table 4-7, page 4-28, and Table 5.7.4-5, emissions information for Texas is actually in pounds per hour, rather than in tons per year as depicted in the tables.

One additional air quality issue is that of temporary emissions of total suspended particulate (TSP) or dust during construction. As indicated in the draft EIS, this condition will be similar at all potential SSC sites and can be minimized through the use of available mitigation measures such as suppression by water sprays.

The Commission's review of draft EIS data on climate and meteorology finds that information to be generally accurate, though more recent data are available in the publication The Climate of Texas Counties, 1987 (See Attachment C).

Noise and Vibration

Commission review of the "Noise and Vibration Assessments" section of the draft EIS, Appendix 9, confirms the DOE conclusion that "...a regional increase in the ambient sound level is not expected." (Appendix 9, page 72.) Noise level increases that will occur on a local basis due to SSC activities in the vicinity of human receptors can be mitigated by techniques identified in various sections in Appendix 9. For example, the impact of noise generated by spoils hauling could be mitigated by limiting hauling activities to daytime hours and by specifying routes that avoid residential concentrations.

Noise and vibration caused by blasting will not be a problem at the Texas site because the properties of the host rock will allow all excavation to be performed by mechanical means.

Two conflicting statements appear in Volume 4, Appendix 9, page 6. "Increased passenger vehicle traffic on roads during both construction and operations will not have the potential to create significant noise impacts" and ..."Area residents are likely to be annoyed by noise levels from

roads which experience increased traffic as a result of SSC." The Commission's review supports the first statement.

Environmental Hazards and Waste

The Texas Department of Health, Bureau of Radiation Control (BRC), has reviewed information contained in the draft EIS on environmental radiation. The BRC found the information to be, on the whole, accurate and comprehensive. The agency has provided more recent and, in BRC's opinion, more accurate data on radon in living spaces. (See Attachment D.)

DOE listed potential hazardous/toxic material sources in the immediate areas of the seven site alternatives. None were listed for Texas. DOE also concluded that pathogens did not occur, but potentially hazardous organisms were not included in the draft EIS assessment. Data collected by the State for the SSC proposal and the Environmental Information Document (EID) would support a position that organisms such as poisonous snakes, insects, or plants are not a potential hazard to the construction and operation of the SSC.

* Inconsistent reference is made throughout the draft EIS concerning volumes of muck to be produced during excavation and the methods by which such materials will be disposed. Inasmuch as the volumes of spoil material will depend upon a design not yet finalized, the Commission does not offer corrective measures at this time. Moreover, material excavated from tunnels and halls will be used as cement feedstock to the extent feasible, and the remaining materials will be placed in dry, abandoned quarries or in fills contoured to improve local topography (thereby reducing erosion), covered with topsoil and revegetated. However, the Commission cannot support reference to specific recommendations as to disposal methods described in Appendix 10, Volume I, Chapter 3, and elsewhere.

The Commission concurs with DOE's assessment which notes excess capacity for sewage treatment and industrial solid waste management in the area. With regard to cooling water disposition at the far cluster (Appendix 10.3.8-1), two options should be considered:

1. Tying into the existing City of Ennis collection system, or

2. Utilizing an evaporation pond as with the other towers.

Either of these alternatives is acceptable, however, the most cost-effective option cannot be defined at this

time until more site-specific design data is available. In addition, the Texas Water Commission has provided a revised (June 1987) list of Authorized Commercial Industrial Solid Waste sites (See Attachment E). Finally, it should be noted that the low-level radioactive waste disposal site currently under consideration in Texas is approximately 500 miles from the proposed SSC site (Volume I, Chapter 6, page 6-10).

Ecological Resources

The Commission concurs with DOE's assessment that construction of the SSC in Texas will impact less than 10 acres of wetlands as currently proposed. Moreover, it would be useful to distinguish between jurisdictional wetlands and riverine habitat with associated hydric communities. Such a distinction would more clearly portray the type and quality of aquatic habitat present at the Texas site, particularly as it relates to other sites.

The riverine impacts in Texas are associated with the activity at the J-4 beam access area. The conclusion drawn in Section 11.3.7.3, Mitigation (page 54), that the impacts of construction activities associated with J4 can be mitigated only by locating J4 to areas outside of the Chambers Creek area is overstated. There are alternatives for mitigating the Chambers Creek construction, such as:

1. analyzing the design to limit adverse construction impacts through avoidance;

2. designing mitigation features into the site plan; for example, creating wetlands and planting bottomland hardwoods; and

3. acquiring an adjacent area with similar habitat which would be purchased for permanent habitat preservation.

The Texas Parks and Wildlife Department reviewed the potential impact of the SSC on habitat of the Black-capped Vireo. The agency noted that Volume IV, Appendix II, Section 11.3.7.2, page 51, states that the nearest nesting habitat for the bird is about 2 or 3 miles west of a line parallel to the outer edges of Area I and that no habitats are known to exist on the site. This additional information on habitat of the Black-capped Vireo indicates that impact mitigation is not required.

The Environmental Information Document submitted to DOE on March 15, 1988, includes lists of fish, reptile, bird and mammal species normally occurring in the Dallas-Fort Worth

project area. These lists are more complete than the information found in Volume IV, Appendix 8C, Section 8.7.9, Tables 8.7.9-1 through 8.7.9-7. (See Attachment F.)

Land Resources

The land resource impacts of siting the SSC at the Texas site will be positive. Project development is likely to be an important source of growth in the Dallas-Fort Worth area consistent with ongoing development within the region of influence.

The draft EIS states in Appendix 4, Section 4.4.7.3, that project development will require 224 relocations. However, an on-the-ground count conducted by the State Department of Highways and Public Transportation (SDHPT, April 1988) shows 175 resident relocatees, of which 120 live in conventional housing and 55 live in manufactured housing. The SDHPT also identified 911 available replacement houses in Ellis County. No business relocatees were identified.

One other land resource concern is the impact on prime farmland. The Commission agrees with DOE that the loss of prime and important farmlands is small and lower than the average amount lost every year to other development. (Volume I, Chapter 5, page 5.2.9.)

Socioeconomics and Infrastructure

The Commission has evaluated and generally agrees with the socioeconomic analysis contained in the draft EIS. The draft EIS (Volume I, Chapter 5 and Volume IV, Appendix 14) adequately identifies and evaluates economic and social change associated with preconstruction, construction and operation of the SSC in Texas. It accurately portrays the Texas region of influence as one which is expected to enjoy long-term population growth and economic expansion. The data in the EIS is generally consistent with State of Texas sources.

The draft EIS identifies no unmanageable adverse socioeconomic impacts to the Texas environment that would result from the SSC project. In fact, the nature of SSC-associated economic and social change will be predominantly positive in the event of a Texas siting decision.

Public school officials in Ellis County have expressed concern over potential net negative fiscal impacts on their school districts. The Commission has agreed to develop financial mitigation strategies to ensure that net negative fiscal impacts do not occur for these school districts.

The Commission review also found the following:

- The statement regarding allocation of motor fuel tax revenues to counties is incorrect. (Last paragraph on page 118, Appendix 5c). Actually, one-quarter of motor fuel tax revenues is allocated to the Available School Fund which helps finance the state's Foundation School Program. Counties currently receive a combined total of $7.3 million per year from the state general revenue fund for road purposes.

- Local governments receive 25 percent of the alcoholic beverage sales tax (page 119, Appendix 5c).

- Table 5.7.11-6. Figures listed are actual dollar amounts rather than thousands of dollars (page 120, Appendix 5c).

- Table 5.7.11-6. Figures listed are actual dollar amounts rather than thousands of dollars. Population for Waxahachie should be listed as 18,230 (page 121, Appendix 5c).

- Table 14.1.3.7-8. The 2.5 percent telecommunications tax appears to be based on the gross receipts tax which was repealed effective October 1, 1988. Long distance and basic local service are now subject to sales tax (page 282, Appendix 14).

Regarding infrastructure, the Commission is in general concurrence with DOE findings. However, concerning transportation, one omission from the draft EIS is a proposed highway connection of 2.1 miles between FM 66 and FM 1446. Also, it should be noted in Volume IV, Appendix 14, page 80, that modifications to the construction road system will total 20 miles of reconstructed 2-lane roads instead of the listed 73 miles.

Several corrections should be noted concerning electrical utilities. To facilitate DOE's response to our comments we have included a revised version of the text as Attachment G, with corrections noted. In addition, the South Texas Nuclear Project has recently begun commercial operations.

Cultural and Paleontological Resources

The draft EIS correctly notes that archaeological and paleontological studies have been completed in Ellis County (Volume I, Chapter 5, page 5.1.9-3). Known historical resources occur in the project vicinity but are concentrated in Waxahachie, Ennis, Palmer and other towns in Ellis County and will not be adversely affected by project development.

The State Historic Preservation Officer in Texas and DOE have already executed a programmatic agreement that specifies how historical and archaeological surveys and evaluations would be completed. This agreement covers treatment of significant resources and implementation of appropriate mitigative measures. The Commission is confident that the programmatic agreement will adequately protect any previously unrecorded prehistoric and historic archaeological sites that may be found.

Scenic and Visual Resources

Scenic and visual resources would be impacted to a limited degree. The Commission concurs with DOE's summary on page 5.1.10-21 of Volume I, Chapter 5: "Although many of the proposed facilities would be noticeable to dominant as seen from secondary roads and isolated farm structures, few of the affected views are sufficiently sensitive for the effects to be considered an impact." In local areas where views from residential areas would be impacted, various mitigations can be employed to conceal intruding facilities such as berming, landscaping, architectural treatment and screening. DOE makes note of these mitigative measures on page 5.1.10-21 of Volume I, Chapter 5.

The Commission appreciates the opportunity to comment on the draft EIS on behalf of the State of Texas. We will be pleased to provide further information or clarification of comments contained in this letter.

Sincerely,

Edward C. Bingler
Executive Director

ECB:dae

cc: Robert Schenker
Morton Meyerson

LETTER 5001

213 Edgebrook
Bronxville, IL, 60435
10/16/88

Dear Dr. Peas,

I think the new accelerator should be brought to Illinois rather than Texas for one reason you could use Fermilab, and add on to it. Another, you would have to relocate scientists, and their families which would be hard to adjust. Also there are schools, and communities settled around the area, but not in Texas. Finally the sight has most all standards to be used. I hope you will consider these reasons, and make the right choice.

Thankyou,
Ubaner Richardson

LETTER 5002

411 W. Bellarmine Dr.
Joliet. Il. 60436
October 15, 1988

SSC Draft EIS comments
Dr. Wilmot Hess chairman
SSC Site Task Force
ER-60 GTN
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

Dear Dr. Hess,

I am writing in regards to the SSC placement. I support Fermilab in Illinois as the choice of locations for the following reasons. All the scientists currently operating the collider at Fermilab are located here with their families. There are exellent schools for the scientists' children here. Locating the supercollider at Fermilab would save million of dollars, at least. Furthermore, locating the supercollider at Fermilab would further the technology already achieved with the collider now in use.

Please consider these reasons and locate the supercollider at Fermilab.

Yours truly,

Andrea Rock
student
Joliet Township West
High School

LETTER 5003

To whom this may concern,

I am writing to you for my Biology project. I am writing to you to tell you my opinion on having a super collider in Illinois. I think it would be a wise choice for many reasons, because you already have the land purchased, it would save billions of dollars, and the EPA studied it to be safe.

Sincerely yours,
Sue Hosner

LETTER 5004

Dear Mr. Hess,

I think the SSC should be stationed at Firmilab, her in Illinois, for many reasons. First of all, the scientists are already here, and there would be no sense in moving them to Texas. Plus, all the extra money would have to be spent in order to move it to Texas. Also, around the Firmilab area, we have many good science schools. The people have checked it out, and they say that Firmilab is a good, safe sight. Plus, it save the tax payers a lot of money if it stayed in Illinois. These are my opinions, and I hope you will consider them in making your decision.

Kareem Shaikh

9th Grade Student

Joliet West High School

LETTER 5005

To whom it may concern,

I am a student at Joliet Township West who is concerned about the super exelerator. I think you should built il here in Joliet because of all the money you can save. The schools here are excellent for the children of all the prominent scientists. Aeod the fascillities here are convenient for visiting scientists

sincerely,
-Glenn Reyes

LETTER 5006

Dear Doctor Hess,

I am of the opinion that the proposed super collider should be stationed at Fermilab in Illinois instead of Texas Fermilab has all the necessary facilities for the collider. The scientists there have been progressing rapidly in this area of science. Also, this collider would create many jobs for the unemployed of Illinois and other neighboring states. There is adequate housing space and some of the best schools in the nation. If the super collider was put in the proposed area in Texas, a great deal of money would have to be spent on housing and schools. Finally, the FPA has approved Fermilab for the super collider. Thank you for your time.

Sincerely,

Heather Green

IIA.3- 62

LETTER 5007

1304 Taylor St
Joliet, IL
60435
October 16, 1988

SSC Draft EIS Comments
Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65 GTN
Office of Energy Research
US Department of Energy
Washington D.C 20545

Dear Sir,

I am writing in regard to the Super-Collider project to be built in the near future. I feel that it should be built here in Illinois for many reasons. Some of which I have listed here:

We have many skilled people here who would be able to operate it.

We have many excellent schools for the children of the people who would be working at

We have a Science and Math Teaching Center

The EPA has already studied the land we bought and the surrounding area as

has said it is very safe.

Also, I feel that in the long run building the Super Collider here would save you billions of dollars

If you would please consider all of the points I have just made and then make your decision about the Super-Collider.

Sincerely Yours,

Kristin Kaufman

LETTER 5008

October 14, 1988

Dr. Wilmot Hess
SSC Site Task Force
ER-65GTN
Office of Energy Research
U.S. Department of Energy
Washington D.C. 20545

Dear Dr. Hess,

We strongly oppose the proposed Michigan site of the super collider in the Stockbridge area. It will adversely affect our environment forever. Wetlands need to be protected, not recreated. We rely on a well as our only source of water as many others do in this area. We are deeply concerned about disturbing the aquifer.

The area is a natural haven of the endangered Sandhill Cranes whom are extremely sensitive to disturbances ... we had two nesting in our pond all summer. The neighboring counties are also abundant with wildlife and will suffer the severe consequences. Our Governor has a record of little regard for environmental issues.

Thank you for your sincere attention,

Greg and Laura Payter
2998 Wylie
Dexter MI 48130

LETTER 5009

Dear Dr. Hess,

I am a sophomore at Joliet West, and I'm writing you to tell you my opinion of were the Super Collider should be located. I think the Super Collider should be built in Illinois. because. it will bring us more jobs & save the government money because we already own the land space. It is also convient because the International Scientists will have nearby colleges to speak at. These are just a few of the many reason why I think the Super Collider should be built in Illinois.

Sincerely,
Angela Westlake

LETTER 5010

Oct. 13-88

I am writing this letter as an interested tax payer.

I feel it in our best intrests as "We The People"; for the super collider to be settled in Ill. We have the technology already here with Fermi Lab

IIA.3-67

It would seem
rather silly to place
it otherwise. Let's
save the taxpayer
some money for
a change. Not
cause the government
to spend more
elsewhere.

Thank you,
Georgia Marinaro

LETTER 5011

October 18, 1988

Dr. Wilmot N. Hess
SSC Site Task Force
Washington, D.C.

Dear Dr. Hess:

After much thought and having attended some of the Super Collider hearings in Aurora, I am more convinced than ever that this is the wrong place to build the Collider. It will be under a large segment of the population in this area and will absorb far more than the 15 acres of good farm land which we were first informed would be involved. This is the best land in the nation and should be preserved for future generations to come. Our population is booming around Aurora and I have read several places that besides our own growth there are more than one hundred million people who would like to immigrate to our Country if allowed to do so. Aurora has gone to shallow rivers under it to mix with our present water to reduce our p.p.i. standards to satisfy the E.P.A. The collider would be at that level.

I strongly urge you to choose Arizona first where the government owns much of the land and to choose Texas second. We have a going economy here and the State of Illinois has been very weak in supporting the schools as well as its mental health programs. We absolutely cannot afford the costs without the flotation of more bonds-and then higher taxes.
Do us a kindness and rule us out. Our Govenor has eyes bigger than his budget.

Very truly yours,
Oliver J. Hem
Oliver J. Hem
99 Circle Drive West
Aurora, Illinois 60538

IIA.3-69

LETTER 5012

PETITION AGAINST THE SUPERCONDUCTING SUPER COLLIDER IN RUTHERFORD, BEDFORD, MARSHALL, AND WILLIAMSON COUNTIES IN TENNESSEE

We, the undersigned citizens and residents of Tennessee do petition the President of the United States and the Secretary of Energy to disapprove the construction of the Super Collider project by the Department of Energy in Rutherford, Bedford, Marshall, and Williamson Counties as proposed by the state of Tennessee.

Our opposition is based on these facts:

1) A significant number of homes would be taken from their owners, many of which have been occupied by the same families for generations.
2) Over 16,000 acres of land would be taken, including many farms with prime agricultural soil. This would severely disrupt the agro-business and quality of life in these affected rural communities.
3) City and county government services, especially in Rutherford County, would be adversely affected. The local infrastructure of roads, schools, utilities, and public service agencies would be seriously strained.
4) There are many scientific unknowns about the environmental effects of the SSC project, including:
   a) the extent of radioactive contamination to ground water, wells, streams, and air and the related damage to humans, mammals, plants, and marine life,
   b) the health hazards of the electromagnetic fields created by the SSC and transmission lines that power it, and
   c) the immense transportation, disposition, and pollution problems with the thousands of tons of rock and rubble produced in the construction of the tunnel.
5) The people of Tennessee are being asked to take risks that they do not choose to take. Less expensive and more appropriate alternatives are available. Both federal and state governments already own vast land areas which are far more suitable and less costly. A project like this belongs in an area with a population not nearly so dense as that of Middle Tennessee.

6) The one in Sweden is NEAR 20 miles + this one would exhibit, be obsolete

Respectfully submitted:

(NAME)	(ADDRESS)	(ZIP)	(DATE)	(CHECK (✓) IF UNDER 18)

LETTER 5013

306 Frances St.
Goodlettsville, Tn
37072
Oct. 18, 1988

U.S. Department of Energy
Washington, D.C.

I want to urge you not to build the super-collider in Middle Tennessee. There is no doubt it would destroy much of our limestone cave system, a precious resource to us, and of course destroy and/or endanger much of our rural water supply from wells, besides other destruction.
Please!

Evelyn Trotter

IIA.3-71

LETTER 5014

October; 16, 19

Dear Mr. Wilmont Hess,

Hello my name is Katie Griffin. I am a freshman in high school. I am from Joliet West in Joliet Illinois. I am writing to you about the super colleder. In biology we have been discussing the super colleder and I feel that the super colleder should go here in Illinois. I mean the land for it has already been bought and it is ready for it. We have the scientist here. And not to mention the kids we as people of Illinois would have if the super colleder was here. I'm not exactly clear of exactly what the colleder does so I had a plan on figuring out. I mean you know it records of

-2-

letters from people like
me, but please [illegible]
[illegible] please consider what
I have asked. you see
I [illegible] you this
letter for extra credit today
But now I know a
little more about this
matter I'm not writing
it for extra credit. I'm
writing because I feel
the super collider should
be here in Illinois. Thanks
for listening to us here
in school. And I hope this
letter makes a difference

Sincerely,

Katie [illegible]

- ILLINOIS #1 -

[illegible]

LETTER 5015

Michigan State Association

AFFILIATED WITH

United Association of Journeymen and Apprentices of The Plumbing and Pipefitting Industry of the United States and Canada

5300 West Michigan Avenue
Ypsilanti, Michigan 48197
(Area Code 313) 434-2211

October 17, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
Office of Energy Research
ER-65, GTN
U. S. Department of Energy
Washington, D. C. 20545

Dear Chairman Hess:

I am writing this letter on behalf of the 10,000 members of the Michigan State Pipe Trades Association and for all of the construction workers of Michigan with regard to the Superconducting Super Collider (S.S.C.)

As you already know, the construction aspect would create several hundred new jobs which certainly would be welcome here in the State of Michigan. The continuing research efforts surrounding the S.S.C., would not only create other much needed jobs, but this research would also generate new prestige to the State of Michigan in terms of Nuclear Energy. We certainly could use something positive in that regard. Also, since the area which is under consideration (Stockbridge, Michigan) is close to the University of Michigan and also Michigan State University would be helpful and desireable.

I am aking you to use your best efforts to encourage the selection of the State of Michigan as the location of the S.S.C.

Respectfully yours,

Bruce E. Towler
Secretary-Treasurer
Michigan State Association

BET/mbk

LETTER 5016

DEPARTMENT OF THE ARMY
NASHVILLE DISTRICT, CORPS OF ENGINEERS
P. O. BOX 1070
NASHVILLE, TENNESSEE 37202-1070

IN REPLY REFER TO

October 17, 1988

Environmental Resources Branch

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
DOE, Office of Energy Research
Washington, D.C. 20545

Dear Dr. Hess:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the proposed Superconducting Super Collider (SSC). I certainly appreciate the difficulty of the task you have undertaken in evaluating seven site alternatives for this complex proposal.

Generally, the comments conveyed in my July 8, 1988, scoping letter to Mr. Robert Selby of your Chicago Operations Office are still applicable. It would definitely be advantageous for the Corps to be a cooperating agency in your NEPA process rather than conducting a separate NEPA process focusing on the Department of the Army Permit Review which appears applicable to most alternatives. However, because of the tiered structure of your NEPA process it appears appropriate that the Corps District containing the selected site become active as a cooperating agency during the additional NEPA process you plan after site selection. Site specific impacts on waters of the United States should be analyzed at that time.

The discussion of Section 404 Permits (Section 6.2.1, Page 6-2) seems to indicate some misunderstanding of this process. First, there seems to be an emphasis on activities occurring in wetlands while, as the opening sentence of the discussion indicates, Section 404 applies to "Waters of the United States". Also, consulting with the Corps or designated state authority regarding DA permits is only a first step. For the Tennessee site, applications for required permits will need to be made and a Public Interest Review must be conducted. As stated in my previous letter, should the Tennessee site be selected, I encourage pre-application consultation and would be pleased to work with you to make the permit process efficient as more details are developed.

Nashville District Corps of Engineers

ADDITIONAL COMMENTS ON SSC DRAFT EIS

1. Page 2-2 begins in mid-sentence. Some material appears to be missing.

2. Paragraph 3.4.6, Page 3-45. The reference to the Duck River as a Wild and Scenic River is incorrect.

3. Section 4.7.2, Page 4-49; Table 4-16, Page 4-46; and Section 5.1, Page 5-7. The word "Lower" as in "Lower Cumberland River" should not be capitalized.

4. Section 4.7.3, Page 4-50. No commercially and recreationally important species are identified for the Tennessee site.

5. Section 5.1.2, Page 5.1.2-1. Physical construction impacts on water resources should be analyzed.

6. Section 5.1.2.1, Page 5.1.2-2. Temporary channel diversions will result in longer term impacts in addition to the short term erosion impacts identified.

7. Section 4.7.4.1, Page 4-56, Final Sentence. The word, "plains", appears to be a typo.

October 17, 1988

Several additional minor comments on the DEIS are enclosed. Again, I appreciate being included in your NEPA Process. Please do not hesitate to call on us if we can be of any assistance.

Sincerely,

Edward A. Starbird
Colonel, Corps of Engineers
District Engineer

LETTER 5017

Village of Hanover Park

Municipal Building
2121 West Lake Street
Hanover Park, Illinois
60103-4398
312.837.3800

Sonya A. Crawshaw
Village President
Sherry L. Craig
Village Clerk
Marc G. Hummel
Village Manager

Hanover Park

October 10, 1988

SSC Draft EIS Comments
Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65 GTN
Office of Energy Research
U.S. Department of Energy
Washington, DC 20545

Dear Dr. Hess:

As an elected official in a community nearby the proposed SSC site in Batavia, Illinois, I strongly support the siting of the facility at, or adjacent to, Fermi Laboratory. The SSC project is supported by residents of the Village of Hanover Park.

It is my belief the draft Environmental Impact Statement (EIS) overstates environmental concerns of the project. Due to the existing Fermilab, much of the required infrastructure for a facility, the magnitude of the SSC, already exists. This pre-existing facility and infrastructure, tied with known geological data, should make the Batavia, Illinois site the designated choice.

I strongly urge selection of Illinois as the superconductor supercollider site.

Sincerely,

Sonya A. Crawshaw, President
Village of Hanover Park

SAC:jb

IIA.3-77

LETTER 5018

October 18, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

Dear Dr. Hess:

I wish to express my support for locating the proposed SSC in Illinois at the present site of Fermilab. This site offers known, consistent geology for tunnel construction; has a strong infrastructure of roads, airports, hospitals and utilities; and features an established, single source of electrical power with sufficient capacity to meet the energy needs of the SSC at a relatively low cost.

I urge you to thoroughly review these points when you make a decision on the SSC.

Sincerely,

Ward Haselhorst

Ward Haselhorst
584 Sunnyside
Elmhurst, IL 60126

LETTER 5019

STEIN STURE, PROFESSOR
DEPARTMENT OF CIVIL, ENVIRONMENTAL AND ARCHITECTURAL ENGINEERING
CAMPUS BOX 428
UNIVERSITY OF COLORADO
BOULDER, COLORADO 80309

October 17, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
Office of Energy Research
U. S. Department of Energy
Washington, DC 20545

Dear Dr. Hess:

During the past four years I have been deeply interested in the site selection process for the Superconducting Super Collider. My focus more recently has been on the geological and geotechnical suitability of the seven "best qualified" sites.

The Draft Environmental Impact Statement on the SSC presented data on the geological and geotechnical suitability of each site. I found in some instances that these data were not complete or clearly presented. As a result, I prepared the attached brief comparative analysis of geological and geotechnical characteristics of the seven sites.

I am submitting this analysis for your consideration in preparing the Final EIS. To the extent my findings are confirmed by your staff and contractors, they should be presented in appropriate tables and text of the Final EIS.

Should you have questions or need additional information, please contact me at above address or call me at 303-492-7651.

Thank you.

Sincerely

Stein Sture
Professor,
Department of Civil, Environmental
and Architectural Engineering

attachment

2875A

IIA.3-79

TO: G. W. Morgenthaler
FROM: PROF. Stein Sture
UC - 10-15-88

Geotechnical Comparison of Competing Sites

Geology at SSC site

Arizona	Mixture of granite, diorite, gneiss, limestone, sandstone, conglomerates, gravel, sand. The rocks at the Maricopa site (Maricopa Mountains) are tilted and faulted. There are severalshear zones that are at least 10 ft. thick on the site. These are deep. Many of the rocks mentioned above are intrusive. The geology is highly heterogeneous and complex.
Colorado	Predominantly shale (Pierre shale) with very small amounts of limestone. The gross geologic structure of the sedimentary rock is simple. The very small limestone/dolomite features apear in horizontal wafer thin layers. The geology is quite homogeneous to great depth.
Illinois	Predominantly limestone and dolomite with chert, siltstone. The gross structure of the sedimentary geology is simple. The faults at the site may have resulted in altered properties of the rock at the proposed depth, especially in the areas where there is water access.
Michigan	Sedimentary rock comprising of sandstoneoccurring within vertical sequences of dolomite, siltstone, clay shales, and evaporites. The geology is relatively heterogeneous.
North Carolina	Mixture of granite, gabbro, diorite, shale, tuff, and sediments. Crystalline rock seems to be the main rock at the tunnel level. There seems to be great lateral discontinuity of the rock formations. The metamorphosed sedimentary and volcanic units at the site are highly faulted, sheared, and deformed in regional folds. The geology is heterogeneous and relatively complex.
Texas	Predominantly chalk, marly limestone, and shale. The gross geologic structure seems simple. The various rock strata at the site are broken by several faults that contain water. Local faults of significant size have been mapped along the east side of ring, immediately within the ring to the north, and south. There seems to be some lateral discontinuity in the lithology. Thick layers of alluvial - paleo material exists over many of the estern parts of the ring.
Tennessee	Mixture of limestone, chert, dolomite, siltstone, shale. There seems to be great lateral continuity in the rock formation at the site. Limestone and dolomite seems to dominate. There are several thin and thick stream channels in the alluvium at the site- that are water bearing.

More to follow

	Relative strength of rock(s) at SSC site:		Estimated range of unconfined compressive strentgh (psi)
Arizona	rock: 800 - 12,000 psi	&	soil: 0 - 100 psi (unconsolidated- to - cemented soil)
Colorado	800 - 1,200 psi		
Illinois	4,000 - 12,000 psi		
Michigan	800 - 8,000 psi		
North Carolina	400 - 10,000 psi		
Texas	400 - 12,000 psi		
Tennessee	2,000 - 12,000 psi		

(The unconfined compressive strentgh is the basic indicator for ease of tunnel boring (TBM). The Arizona, Texas, Michigan, and to some extent North Carolina and Tennessee sites will require significant re-tooling of TBMs during boring of the tunnel, and careful preparatory work with regard to water intrusion into tunnel during boring)

more to follow

Average depth of tunnel at SSC site

Arizona	Range: from 30 ft (in loose basin fill and fanglomerate in valley) to over 500 ft below Maricopa Mountain.
Colorado	Range: from 70 ft to 150 ft
Illinois	Range: from 350 ft to 450 ft
Michigan	Range: from 100 ft to 250 ft
North Carolina	Range: from 100 ft to 150 ft
Texas	Range: from 300 ft to 400 ft
Tennessee	Range: from 100 ft to 250 ft

More to follow

	How much cut & cover and how much tunnel?	Permeability of rock	Slaking of rock
Arizona	It is estimated that 50 % of the ring will be cut & cover, and the remaining be bored by TBM	A large number of faults are present in addition to shear zones, etc. High permeability (10^{-2} cm/sec)	Some of the rocks at the site have slaking potential
Colorado	The tunnel will be bored by TBMs entirely	Very low permeability (10^{-10} cm/sec)	The shale will slake if left unprotected over long periods of time. Dry - wetting cycles would be the most severe case
Illinois	The tunnel will be bored by TBMs entirely	Low permeability. Presence of faults, etc. pose a water flow problem at great depth. Very high water pressures in cracks and shear zones. (Range: 10^{-4} - 10^{-8} cm/sec.)	The limestone will dissolve and degrade if left unprotected over long time periods
Michigan	It is estimated that the tunnel will be bored by TBMs for the entire lenght of tunnel. However, site plan seems to indicate that some parts (25 %) could be done by cut & cover	Low permeability. Presence of discontinuities may pose a water flow problem. (Range: 10^{-4} - 10^{-8} cm/sec.)	The shales have a slaking potential that is large. The limestone/ dolomite will degrade over long periods of time
North Carolina	The tunnel will be bored by TBMs entirely	Due to the very high nonuniformity and presence of fissures and cracks water may pose a problem. (Range: 10^{-4} - 10^{-8} cm/sec.)	Slaking or degradation potential is low.

More to follow

	How much cut & cover and how much tunnel?	Permeability of rock	Slaking of rock
Texas	The tunnel will be bored by TBMs entirely	Low permeability- except in regions where solution zones and caverns are expected to be present. The extent of the "sink holes", solution caverns, zones, etc. may be significant in view of geology and structure. (Range: 10^{-1} - 10^{-6} cm/sec.)	The weathered rock may slake or degrade significantly in the presence of water.
Tennessee	The tunnel will be bored by TBMs entirely	Very low permeability is estimated in general- except in shear and fissure zones. (Range: 10^{-6} - 10^{-8} cm/sec.)	The limestones and shales are subject to degradation, weathering or slaking under the influence of water.

More to follow

	Presence of faults	Potential for groundwater problems
Arizona	There are no significant faults present except for extensive shear zones that are permeable. The rock formations are tilted and faulted within the ring.	There are significant problems related to groundwater or surface water intrusion- especially during construction. The rock and unconsolidated formations are quite permeable.
Colorado	No faults or shear zones appear to be present at the site or anywhere near to the site	There are no significant groundwater infiltration problems at the site
Illinois	Major faults are present near and at the site. Several synclines and anticlines are present.	Groundwater infiltration may pose a severe problem during construction of shafts and chamber hall accesses.
Michigan	Minor faults seem to be present at and near site	Groundwater infiltration may pose a minor problem during construction of shafts and experimental (chamber) halls.
North Carolina	Major faults are present at the site as well as near the site	Same as for Michigan
Texas	Major faults are present within the (ring) site, across the ring and outside the ring. These faults are not active, but they are clearly water bearing and will cause significant problems at great depth	Groundwater infiltration may pose a severe problem during construction of shafts and chamber hall accesses.
Tennessee	Major faults are present at the site and close to the site.	Same as for Michigan

more to follow

	Support structure- tunnel lining needs	Ease of putting in shafts and detection chamber halls
Arizona	Extensive support structures in terms of reinforced concrete culverts and box-culverts are needed in the cut & cover regions. Tunnel lining with average thickness of 10 in. required	The detection chamber halls can apparently be located near to the surface at the site. Extensive earth support systems required in excavations. Some of the shafts will be deep in the Maricopa Mountain region.
Colorado	Average thickness of cast-in-place or prefabricated tunnel lining may be 10 in. The lining is needed to protect shale from slaking and drying- wetting cycles. Otherwise the shal has sufficient structural strength at given tunnel depth.	Shafts and chamber halls will be excavated through surface sedimenets. Support systems for the unconsolidated soil will in most cases be required from the surface to an average depth of 40 ft. The shafts and halls are easily excavated by conventional techniques.
Illinois	The rock does not require lining protection for structural integrity. If left unprotected the limestone may degrade over long periods of time. Tunnel lining or shotcrete thickness required 0.5 to 1.0 in.	Earth support systems are required for the top 20 to 50 ft. Extensive vertical boring and drilling required for the following 320 to 600 ft. The rock excavation for the collision halls and shafts will not be trivial.
Michigan	The conditions are to some extent similar to the Colorado site. Estimated lining thckness (avg.) is 10 in.	The conditions are also here similar to the Colorado site, except in those cases the excavations occur in sandstone, siltstone, and limestone. Drilling (and blasting), and extensive boring may be required. This effort may require substatial support systems and engineering.
North Carolina	Average thickness of tunnel liner for water protection purposes mainly is estimated to be 5 - 8 in.	Same as for Michigan
Texas	Tunnel liner thickness for structural stability and water inflow protection is estimated to range from 12 to 18 in.	Very substantial support systems are required for all shaft and chamber hall systems. Experimental halls will as in the Illinois case be entirely below the surface. Extensive reinforced concrete, support anchor, etc. mechanisms required.
Tennessee	Same as for North Carolina	Same as for Michigan

LETTER 5020

October 21, 1988

2000 TURNER STREET
LANSING, MICHIGAN 48906-4453
(517) 485-4220

Dr. Wilmor Hess, Chair
SSC Site Task Force
Office of Energy Research
ER-65, GTN
U.S. Department of Energy
Washington, DC 20545

Dear Mr. Hess:

My colleges and I would like to urge your committee to select Michigan for the Federal Research Facility for the Superconducting Super Collider. Michigan has two universities close to the proposed location and a large pool of skilled workers. Also, Michigan strongly supports the program and looks forward to its implementation in Michigan.

Thank you for your time and consideration.

Yours very truly,

SOIL AND MATERIALS ENGINEERS, INC.

Robert C. Nabeler, P.E.
Senior Associate

IIA.3-87

LETTER 5021

Dear Sirs,

I think we should have a super conductor or whatever every nation has but, sorry to say us. We should because our land is very safe, we have got flat grounds and land has already been purched. It will save us millions and billions of dollars. I really think we should have one because just think of any nation they have one or at least are building one. So what do you think? Please? Some people really would appreciate it. Thank you!!

Sincerely yours,

Preeti Kalia
2713 Freeway Dr.
Joliet, IL 60435

P.S.
From Mrs. Lenich's Biology Class
Please try!!!

LETTER 5022

Dear Mr. Hess, Oct. 1, 1

I am oppose to the S.S.C coming to the State of Michigan. We do not want it there at all.

Cory Post
1970 Proctor Rd.
Danville, MI
Oct 7, 1988 48819

Dear Mr. Hess,

I do not want the S.S.C. to come to the State of Michigan.

Melanie Post
1970 Proctor Rd
Danville, MI 48819

Dear Mr Hess, Oct. 7, 1988

I do not want the S.S.C. to come to the State of Michigan.

Shelley Post
1970 Proctor Rd
Danville, MI
48819

IIA.3-89

LETTER 5023

ALL LINE, INC.

31 W. 310 91st Street
Wheatland Industrial Park
Naperville, IL 60565
(312) 820-1800
FAX (312) 820-1830

rope ■ braided cord ■ twine ■ netting ■ webbing

October 17, 1988

SSC Draft E.I.S. Comments
Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65 GTN
Office of Energy Research
U.S. Dept. of Energy
Washington, DC 20545

Dear Dr. Hess,

I reside in Illinois and have several properties that I have been aware are near or within the super collidor proposed project. However it has come to my attention just this week that I have 2 properties directly effected by this project in that it passes directly below a 30 acre parcel that I currently own, I also own another 1 acre lot that is within a few hundred feet of the easement for the ring. Oddly enough I am in the process of purchasing another piece of property or was until I found that the proposed super collidor also passes below it, and that within a few hundred feet there would be a compression station.

For being just one individual within a fairly large area this super collidor seems to be coming into contact with a number of things that I am doing. I am upset because I had to find all of this out by accident in as much as I have not been notified by your office or the SSC office that I am effected by this project. I have received nothing stating that it passes under my property, I have owned this property for the past 2 years.

After having researched what is going to take place, I can tell you that I am very much against the super collidor coming here. Currently you show that my property, as being vacant when in fact I have just built a horse barn worth $400,000 which currently houses 21 high strung pure-bred arabian horses. In the studies that have preceeded locating the super collidor there isn't any mention that I can find of horses being impacted, but it seems that chickens, cows and pigs are. I think this is a gross error in that horses are high strung animals that I am sure with the dynamiting and drilling that will be taking placethey will be effected.

ALL LINE, INC.

31 W. 310 91st Street
Wheatland Industrial Park
Naperville, IL 60565
(312) 820-1800
FAX (312) 820-1830

rope ■ braided cord ■ twine ■ netting ■ webbing

In the report it shows that these animals should be moved during the construction of the project. That would be totally out of the question in as much as I would not have the funds to do something like that and furthermore this is a brand new facility which is a business, and would effect my business.

I am also concerned about water contamination or the loss of water with all the drilling going on in the area. There are a number of people that feel that wells are going to be effected in as much as some of the wells in the area are as much as 500 feet deep. It would be quite impossible, especially in winter to haul water in to the tune of 2,500 gallons per day just to water horses.

In addition I feel with the high priced real estate in the area that this passes through, it is effecting a great number of people and the value of their property. The compression stations that you are proposing would also be very unsightly as well we wonder about air and water contamination.

I have a great number of unanswered questions and reservations about this and at present until I know more I am greatly opposed to this project in this area, so please do not recommend Illinois for the SSC. I am sure there are other more suitable sites away from population and the expensive real estate that we have in this area. I also need to be officially notified and to receive the study pamphlets which have been sent out to great number of people effected by the project should it come through. A letter from you would be appreciated.

With kindest regards

Richard A. Moore

Richard A. Moore

RAM/jg

LETTER 5024

Oct. 18 1988

5024

Sir

I do not want the
S & C built in
Ellis Co.

W. F. Kelly

LETTER 5025

Environmental Impact Statement

Please if there is anyway to keep the P&L from coming to the Ava plant so.

There are hundreds of people in the Ava area who would like to voice an opposition against it, but are afraid it would cost it's very good anyway, or are busy trying to make a living farming. The farm people work hard to make ends meet can not take time to attend the meetings that have been set up.

I believe I can get three or four hundred people to oppose it if time allowed. But I am a farm and having a farm family with land involved and has been for fifty or more years time is scarce.

There should be some way to get

the peoples views, other than the way it was done.

The local paper should publish something to get the people to register for or against it, I know there was a chance to vote on this issue but it would be surprising how many would change their opinion if given the opportunity

Please consider my letter and do what you can to keep the S.S.C. out of Texas + out of Waxahachie.

Thank You
Mrs. Helen Walker

LETTER 5026

10-17-88

Dear Dr. Hess, 5026

I am writing to you concerning the location of the new super-collider.

I think the collider should be located in Illinois for many reasons. First of all, Illinois holds many qualified and experienced scientists who would be able to work with expensive equipment.

Illinois has many places to install the collider such as the University of Illinois in Champaign.

Illinois also needs gifted scientists and technology that would benefit the United States.

If you were to place the collider somewhere else and ask Illinois scientists to go with it, it would cost our government a large amount of money to build new facilities and accommodations for the colliders and the scientists and their families.

If it were to be placed in Illinois, it would benefit the young and even the old alike. The knowledge could be passed on to other scientists so they may learn also.

As a young person myself, I am extremely interested in what the future holds for all and me - and hopefully it would include the Collider.

Sincerely,
Leslie Grace
Joliet West High School
Gifted Biology Student

LETTER 5027

10-17-88

To Whom It May Concern,

I am a concerned student at Chetwood High School, in Chetwood NJ. I'd like to ask you to take into serious consideration, putting a Super Accelerator in Illinois. I think Illinois would be an ideal place for this device because, first of all we already have land for it. Also, we have many scientists in this area who could put the Super Accelerator to good use.

I really do hope you take into consideration what I've just said and why I have come to acquire them. Thank you very much.

Sincerely,

Mark J Russell

LETTER 5028

October 14, 1988

Dear Dr Hess,

I am writing in regards to the location of the Super Collider. I have a strong conviction in why it should be here. First of all, the people who are experts in this project are all right here. There is nothing we need to transfer them and their families to Texas. There is also the room here. I'm not even sure where it would be located in Texas. Illinois is also home to Fermi Lab and Argon research centers. To have the Super Collider in Illinois would create many new jobs for qualified technicians and engineers. Much of the pioneer work with the atom and related sciences has been done right here in Chicago. Therefore, much of the basis for this project would be right at hand, and the assistance of the

men and women would be most beneficial to expand a new area in nuclear physics. I've appreciated the opportunity in writing to you, and I hope you will thoughtfully consider my ideas. Thank you!

Sincerely,

Karen Mazaika

Student at Joliet West High School, Joliet, IL

LETTER 5029

Dear: DR HESS

I think the super collider should be built here in Illinois. It would save the United States billions of dollars, One reason is that alot of scientist around the country call "Fermi lab "Home". It would be about eight miles from "Fermi", The largest airport in the country is only about a half hour away so that people(scientists) around the world can work at the super collider, Some of the preperations for the super collider are finished already We have the Math and Science Corrider, I really think it would help the United States to build it in Illinois.

an Illinois resident.
Jason Heggable

LETTER 5030

Dear Dr. Hess,

I am writing this letter to tell you why I want the Super Collider in Illinois. First of all, we have all of the qualified scientists to run it, in Illinois. Another reason is that, the land is very safe,(earthquakes) and is also designated for the Super Collider. In addition, O'Hare Airport is one of the biggest airports in the world, so there would be no problem with flying in scientists from foreign countries. Finally, it will save the United States millions of dollars if the Super Collider will be built in Illinois.

Sincerely,

Paul Reider

LETTER 5031

601 Jana Lane
Joliet, IL 60435
October 13, 1988

Dr. Hess,

I feel that Illinois would be the perfect site for the Supercollider. The reason I feel this way is because there is enough land, and the land has been approved by the C.R.A.. The other reason is because all the workers are already here and it would be costly to transfer them to another location. All the schooling is here for graduates that plan to work in this career.

Sincerely,
April Blazevic

LETTER 5032

SIERRA CLUB - Tennessee Chapter

15 August 1988.

Dr. Wilmot Hess
Chairman, SSC Site Task Force
ER-65, GTN,
United States Department of Energy
Washington, D. C. 20585.

Dear Sir:

Please put my name on the mailing list to receive a copy of the "Draft Environmental Impact Statement for the Superconducting Super Collider" as soon as it becomes available.

Sincerely yours,

Bob Pyle
SSC Study Comittee, Tennessee Chapter, Sierra Club
3524 Pinellas Lane
Chattanooga, TN 37412

Recyclable

"Not blind opposition to progress, but opposition to blind progress"

IIA.3-104

LETTER 5033

10-16-88

Lance Kirsch
2704 Fairway Dr.
Joliet Ill. 60435

SSC Draft EIS Comments
Office of Energy Research
U.S. Department of Energy
Washington D.C. 20545

Attention: Dr. William Hess, Chairman
SSC Site Task Force
ERIGS GTN

Dear Dr. Hess,

There has been lots of talk of whether to have the Super Collider in Fermi Laboratories near Batavia Illinois. It would be wise if you would because not only is the lab already paid for the job, the scientists are already in Illinois. Besides that, if the Collider is kept in Illinois, it will save money for the United States than if we locate it somewhere else. Also, for those scientists who have underage kids who still live with them and need to go to school, there are good schools located nearby. Their kids won't have to be shipped far away from home to go to school.

Thank you for your time and consideration of my opinion.

Sincerely,
Lance Kirsch

LETTER 5034

1403 Ingalls Avenue
Joliet, IL 60435
October 17, 1988

Dr Wilmot Hess
Chairman - SSC Site Task Force
US Dept of Energy
Washington, DC 20545

Dear Mr. Hess:

I strongly believe you should choose Illinois as the site for the supercollider. Illinois has the truly great Fermilab and University of Chicago as their leading institutions, and we also have created the High-Tech Corridor near Aurora close to the Illinois Mathematics and Science Academy. Fermilab and the U of C have some of the greatest physicists and Nobel Prize winners in the world, while our prestigious Academy is grooming the great physicists of the future. Illinois also would appreciate the jobs this venture would create.

Sincerely,
Dr. Gill V. Byrd

LETTER 5035

Dear Sir,

I believe that Illinois is the best location for the new super collider. In Illinois, at Fermi Lab, there is the land to build this machine on and the people to operate it. The people here have the necessary experience for working with this machine. Why should we build the collider elsewhere, like Texas, if Illinois meets all of the requirements needed to build it? This would just be a more expensive movement for all Americans. We would have to pay for a brand new location and for the moving of many people from the already existing Fermi Lab to Texas. This is unnecessary. Therefore, since Illinois has all of the factors needed for the super collider it should be built here.

Thank you,

Meghan Bucket
526 Ca-Crest Dr
Shorewood, IL 60431

LETTER 5036

STATE OF MICHIGAN

JAMES J. BLANCHARD, Governor

DEPARTMENT OF COMMERCE

DOUG ROSS, Director

Superconducting Super Collider Commission

Suite 100
320 N. Washington Square
Lansing, Michigan 48913
517-334-6407

October 18, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
Office of Energy Research
ER-65, GTN
U.S. Department of Energy
Washington, D.C. 20545

Dear Dr. Hess:

Comments on the air quality section of the DEIS for the Stockbridge, Michigan site were not included with the State of Michigan's response to the draft statement. The enclosed October 5, 1988 letter from David Yanachko of the Air Quality Division of the Department of Natural Resources was to be included in our formal response to the Draft Environmental Impact State ent from the State of Michigan. We are formally requesting that these comments prepared by the state's air quality experts be included in the comments to be considered for the draft EIS.

Some flexibility in accepting comments after the deadline of October 17, 1988 is referred to in the DEIS. These comments are of a substantial nature and should provide the necessary technical basis upon which the air quality in the vicinity of the Michigan Stockbridge SSC site should be judged.

Sincerely,

James R. Heinzman

James R. Heinzman
Associate Director, Geologist
SSC Commission Office

Enclosure

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

October 5, 1988

TO: Jim Heinzman, DNR SSC Coordinator

FROM: David Yanochko, Air Quality Division David Yanochko

SUBJECT: Review of Air Quality Issues in the Draft Environmental Impact Statement (EIS) for the Superconducting Super Collider (SSC). Stockbridge, Michigan Site

As a result of your request, we have reviewed the Department of Energy's draft EIS for the SSC proposed Stockbridge, Michigan site with regard to the air quality issues. The following are our comments with reference to the specific statements in the draft EIS:

1. Volume I, Chapter 3, Section 3.7.4, page 3-67, "The Illinois, Michigan, and Tennessee sites are within Regions that are designated as non-attainment for ozone and/or carbon monoxide. Increases in pollutant emissions may result in further degradation of air quality."

COMMENT: The air quality region in which the Stockbridge site is located is designated as non-attainment for ozone only. Ozone is a regional air pollution problem resulting fr m chemical reactions involving volatile organic compounds (VOC's) and nitrogen oxides (NO_x) in the presence of sunlight. These reactions generally occur over significant time and distance from the original aource. The magnitude of expected VOC and NO_x emissions from the SSC project would not be expected to have a significant impact on ozone air quality in the project area.

2. Volume I, Chapter 3, Section 3.7.4, page 3-67, "Michigan will have regional exceedances of the NAAQS carbon monoxide (CO) limits resulting in further degradation of air quality".

COMMENT: The analysis used to reach this conclusion does not consider a representative existing air quality background concentration for CO. Had background concentrations representative of the Stockbridge area been used, the analysis would have predicted continued attainment with the National Ambient Air Quality Standard (NAAQS) for CO. This is explained further in Comment No. 5.

3. Volume I, Chapter 4, Table 4-6, page 4-27, "Comparison of Ambient Air Quality Data for Site Alternatives".

COMMENT: This table shows the background ambient air quality data used to reach the conclusions stated in the draft EIS. This data is not representative of the air quality in the Stockbridge area. The table below shows the data used in the draft EIS and the representative air quality background data based on the Air Quality Division's review. The representative background data should be used in the EIS.

Pollutant	NAAQS (ug/m^3)	Background Concentration in Draft EIS (ug/m^3)	Representative Background Concentration Based on AQD Review (ug/m^3)
TSP 24-hr Avg.	260	107	64
TSP Annual Avg.	75	45	21
SO_2 24-hr Avg.	365	99	70
SO_2 Annual Avg.	80	15	20
NO_x Annual Avg.	100	34	15
CO 1-hr Avg.	40,000	23,700	10,000
CO 8-hr Avg.	10,000	10,400	5,000
Ozone 1-hr Max.	235	253	177
Lead Quarterly Avg.	1.5	0.06	0.05

4. Volume I, Chapter 5, Section 5.2.4, page 5.2-3, "Regional exceedances of NAAQS CO limits resulting from SSC related emissions will occur in Michigan".

COMMENT: If the analysis had considered representative CO background concentration exceedances of the NAAQS for CO would not be predicted nor should they be expected. See comment No. 5.

5. Volume IV, Appendix 5.4, Section 5.4.4, Table 5.4.4-3, page 49, "Ambient Air Pollutant Allowable Concentrations and Background Levels" (copy attached).

COMMENT: The air quality background estimates used in the draft EIS are not representative of the air quality in the area of Stockbridge, Michigan. There are no monitors operating in the immediate Stockbridge area. Therefore, some analysis of the other existing air quality data is required. The draft EIS uses the "highest representative regional value" which is based solely on the closest monitor to the proposed site. The monitors used are in the metropolitan areas of Detroit and Lansing. To directly use measurements from urban areas to obtain background air quality estimates in a rural area such as Stockbridge is inappropriate. Of particular concern is the use of Detroit CO monitors, located in a CO non-attainment area, to directly predict background CO concentrations in a rural CO attainment area. The result is predicted violations of the CO NAAQS, not due to the impacts

of the SSC project as stated in the draft EIS, but due to the use of non-representative background air quality data.

The estimates provided by the Air Quality Division, but not used in the draft EIS, incorporated monitors in Lansing and Jackson but balanced those measurements with data from rural areas that are similar to the Stockbridge area. Where Lansing or Jackson did not have a monitor for a particular pollutant, the data from monitors in the most representative locations were used exclusively. All of the estimates provided by the Air Quality Division are considered conservative. In other words, existing air quality in the Stockbridge area may in fact be better than reflected in the "representative" numbers shown in Comment 3, but these background concentrations should be used in the EIS due to a lack of site specific air monitoring data.

6. Volume IV, Appendix 8, Section 8.4.4.1b, Table 8-33, page 38, "Worst Case Pollutant Concentrations Resulting From Construction, Michigan SSC Site" (copy attached).

COMMENT: Again, the background air quality estimates used in this table are not representative of the Stockbridge area. For the first and only time in the report it is noted in footnote 1 of the table that the background data used is not representative of the proposed site.

With the exception of the background data used in the draft EIS, our evaluation indicates that the methods, data, and assumptions used to evaluate the air quality impacts from the SSC are based on reasonable engineering judgement. We would recommend that the final EIS be corrected to incorporate the representative background data estimates previously provided by the Michigan Department of Natural Resources and shown in Comment 3.

The draft EIS indicates that the operation of the SSC project will have little adverse air quality impact in Michigan. The non-attainment status of the proposed site with regard to ozone, should not be considered to affect the acceptability of the Stockbridge site because expected VOC and NO_x emissions will be small, and the impact of these emissions on local ozone levels are expected to be insignificant. Local short-term particulate impacts have been predicted during the construction phase of the project at all seven site alternatives, including Stockbridge, Michigan. These impacts may have been overestimated due to the conservative nature of the emission estimates and dispersion modeling used to evaluate fugitive dust emissions from construction activities. In any case, these impacts can be minimized to reduce the local impacts to an acceptable level by strict application and enforcement of the fugitive dust control procedures detailed in the draft EIS. These short-term construction phase impacts should not be considered to affect the acceptability of the Stockbridge site.

DMY:ja
Enclosures
cc: Michael Moore
Rick Johns
Michael Koryto
Dorothy Bailey

Table 5.4.4-3

AMBIENT AIR POLLUTANT ALLOWABLE
CONCENTRATIONS AND BACKGROUND LEVELS

Pollutant Averaging Time	NAAQS Standard µg/m³	Background Concentration µg/m³	Point Measured at
TSP-24-hr	260	107*	Holy Cross School, Lansing, 1986
TSP-annual geo. mean	75	45	Holy Cross School, Lansing, 1986
SO_2-3-hr	1,300	144*	Eastern High School, Lansing, 1986
SO_2-24-hr	365	99*	Eastern High School, Lansing, 1986
SO_2-annual	80	15	Eastern High School, Lansing, 1986
NO_2-annual	100	34	Osborn High School, Detroit, 1986
CO-1-hr	40,000	23,700*	Stopel Park, Detroit, 1986
CO-8-hr	10,000	10,400*	West Union, Detroit, 1986
O_3-1-hr	235	253*	Lansing, 1986
Pb-calendar quarter	1.5	0.06*	Lansing, 1986

* Highest representative regional value given.

Source: Air Quality Report 1986, Air Quality Division, Michigan Department of Natural Resources.

Table 8-33

WORST CASE POLLUTANT CONCENTRATIONS RESULTING FROM CONSTRUCTION
MICHIGAN SSC SITE

Pollutant	Average Time	Background	µg/m³ SSC Concentration*	Total	NAAQS
CO	1-hour	23,700	1,178	24,876	40,000
CO	8-hour	10,400	948	11,348[1]	10,000
NO_x	Annual	34	42	76	100
SO_2	24-hour	99	38	137	365
SO_2	Annual	15	5	20	80
TSP	24-hour	107	305	412	260
TSP	Annual	45	37	82	75
PM_{10}	24-hour	N/A	156	>150	150
PM_{10}	Annual	N/A	19	>19	50

* Receptor location 150 meters from edge of E or F area.
1. Exceedance caused by high background not representative of SSC site.

8.4.4.2 Operations

A. Emissions

Two types of activities would generate air pollutant emissions during operations: 1) combustion of natural gas for building heating and cooling, and 2) operations staff commute traffic.

1. Natural Gas Combustion

Natural gas combustion emissions were calculated by using AP-42 (EPA 1986) emissions factors and by adjusting the site-independent design basis of 55 x 10^6 Btu/h by the ration of heating degree days for the site to that of the design basis as shown in Table 8-28. The emissions are shown in Table 8-34.

2. Operations Commute Traffic

Table 8-34 also shows the emissions resulting from operations staff commute traffic.

LETTER 5037

Dr. Wilmott Hess,

I'm a student in the state of Illinois and I think it would be a good idea to have the Super Collider in Illinois. Some reasons would be with Fermilab, scientists are available. The land is already bought. The United States could save billions of dollars.

Sincerely,
Joan Hesvick

LETTER 5038

Dear Sir,

A scientific dispute I'm concerned about is where the Super Collider is built. I believe the best place is in Illinois.

First of all, Illinois has the space. An excellent place is Fermi Lab.

Secondly, the people are already here. To build the collider out of this state would cost the government a lot of money. This money would pay for relocating the equipment and personnel. This is an unnecessary cost which in the end is payed for by the people. Nobody likes wasting money so why would you force America to do ~~so~~ that by deciding against Illinois.

I appreciate you taking the time to read this, and I hope you decide on Illinois as the location of the Super Collider. This is a wise decision for the better of all American people.

Sincerely,
Nicole Ungaro
Joliet West High School
Joliet, Illinois

LETTER 5039

Dear Sir,

Please put the superconsider in Illinois because.

1. The EPA has approved it
2. All the scients are in Illinois
3. The land has been bought
4. Roads are planned
5. Other world give it easy ones.

Thank you.

Carmen Klein

LETTER 5040

THE UNIVERSITY OF CHICAGO
CHICAGO · ILLINOIS 60637
THE ENRICO FERMI INSTITUTE
5640 ELLIS AVENUE
312-702-7102 telephone

14 October 1988

Dr. Wilmot Hess
U.S. Department of Energy
Washington, DC 20545

Dear Dr. Hess:

Enclosed is a copy of a letter relevant to siting of the SSC from V. Soergel.

Sincerely,

Jim

James W. Cronin

/mps

IIA.3- 117

LETTER 5040 (CONTINUED)

DEUTSCHES ELEKTRONEN – SYNCHROTRON **DESY**

NOTKESTR. 85 · 2000 HAMBURG 52 · TEL. 040/89 98-0 · TELEFAX 89 98-33 87 · TELEX 2 15 134 desy d

Prof. James W. Cronin
The University of Chicago
The Enrico Fermi Institute
5640 Ellis Avenue
Chicago, IL 60637

October 6, 1988

Dear Jim,

Thank you for your letter of Sept. 23rd, 1988 reaching me unfortunately only yesterday, in which you invite my opinion about the site for the SSC.

In my point of view the most logical site for the SSC would be Fermilab, as I have often expressed towards many American colleagues and also to members of the Committee for Science, Technology and Space of the US-Congress at two or three occasions.

Compared to all other sites under discussion, I see many many advantages, of which I just mention a few:

- the Fermilab-infrastucture could be immediately used for SSC, which would allow a faster start and important savings
- at least part of the existing accelerator scheme, probably including the Tevatron, could serve as injection scheme, allowing again for great savings and perhaps avoiding a considerable technical effort which would go on top of the tremendous challenge to build the SSC
- the full experience available with the operation of the superconducting accelerator which will be gained at Fermilab at the moment when the SSC-operation will start, will be available from first hand on site
- Fermilab as a site and as a laboratory has by now been well accepted by the international community

As you know, we followed at DESY and at CERN the philosophy of attaching the new large facilities, HERA and LEP, to existing laboratories. I think it can be stated already now that this was a wise decision.
I appreciate that many things work differently in the United States but nevertheless feel that Fermilab would be the only logical choice as site for the SSC.

I hope that these comments will be useful for your discussions on this important subject.

Yours sincerely,

V. Soergel

LETTER 5041

166 Milford Ln
Joliet, IL 60436
October 17, 1988

SSC Draft EIS Comments
Doctor Vincent Hess Chairman
SSC Site Task Force
ER-65 GTN
Office of Energy Research
US Dept. of Energy
Washington D.C. 20545

Dear Sir,

I'm a Student from Joliet West High School. I am writing you to ask you to put the Super Accelerator in Illinois. The reasons For This is That it will save money, The Scientists are already here and their kids are in School in Illinois, And the Biggest reason is That. The U.S. has the Land already. Thank you for your time

Yours, Truly,
Tom Janik

LETTER 5042

Dear Sir or Madam,

I am writing to you about the Super Collider, I feel it should be built in Illinois, because the land has already been bought. The site is perfect. There are five universities for the children of the scientists to attend to. Last of all it is cheaper to build the Super Collider in Illinois than Texas or any other state for that matter. I hope I hear from you soon. Thank you,

Sincerely,
Madhu Patel

LETTER 5043

Oct. 21, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
Office of Energy Research
ER-65, GTN U.S Dept. of Energy
Washington, D.C. 20545

Dear Dr. Hess,

I support the SSC and hope that you will pick Michigan for it's location. Michigan needs the growth that the SSC would bring. I am in the construction industry and know that we can build the SSC on time and within budget.

Sincerely, Carl LaVanway

11082 Large
Bridgman, Michigan 49106

LETTER 5044

Dear Dr. Hess

I strongly urge you to select the most logical, cost effective site available to build the SSC: ILLINOIS

I fully concur with the findings in the draft Environmental Impact Statement that indicate the proposed site at Fermilab

offers known, consistent geology for tunnel construction;

has a strong established infrastructure of roads, airports, schools, hospitals, and utilities that would have to be built from scratch at some other sites;

Features an established, single source of electrical power with sufficient capacity to meet the energy needs of the SSC at a relatively low cost.

I urge you to [illegible]

LETTER 5044 (CONTINUED)

Review these points when you make a decision on the SSC. I know that you will agree that Illinois is the best choice.

Sincerely,

Chris Edelings
10'c Murphy Dr.
JOLIET ILLINOIS
60435

LETTER 5045

October 18, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
Office of Energy Research
ER-65, GTN
U.S. Dept. of Energy
Washington, DC 20545

Dear Dr. Hess:

SUBJECT: SSC PROJECT
SITE LOCATION

The purpose of this letter is to express my support for locating the Superconducting Super Collider Project in the State of Michigan.

It is my understanding that the Stockbridge, Michigan site has very desirable geological, as well as geographical qualities. My personal observations confirm overwhelming local support from local residents including those most effected by the project.

As a Professional Engineer with over 37 years in the energy production design field and a resident adjacent to the Stockbridge site, I again express my support for locating the Superconducting Super Collider Project in the State of Michigan.

Thank you for your consideration in this matter.

Yours very truly,

W. E. Richards P.E.

W. E. Richards, P.E.

IIA.3-124

LETTER 5046

22-OCT-1988

Dear Dr Hess

Your Environmental Impact Statement on the SSC does not cover manpower requirements for the SSC. There is presently a gross shortage of accelerator physicists in this country. There simply is not enough manpower to build the complete SSC and to keep Fermilab producing physics if any other site except Illinois is picked. The CDG had to import Fermilab physicists just to do the design report. A high level CDG person admitted to me last week that the CDG has not put any real thought into the injector and that it would be much easier from the manpower situation to use Fermilab as the injector to the SSC.

The Illinois proposal is a solid proposal and should be picked. If it is not I fear that it would take so long to build the SSC and it would take so much manpower so that no other physics could be done in the meantime. Furthermore CERN would probably scoop us. Thus if you pick any other site you will probably ruin American high Energy Physics and end up wasting a lot of tax payers money.

You must pick Illinois as the site for the SSC. Do not let politics ruin high energy physics in the USA.

Sincerely Yours
William L Marsh

William L Marsh
1216 Larkspur
Batavia Il
60510

LETTER 5047

Roofers Union Local No. 149

P. O. Box 32800

Telephone
(313) 961-6093

Detroit, Michigan 48232

Dr. Wilmot Hess, Chairman
SSC Site Task Force
Office of Energy Research
ER-65, GTN
U.S. Dept. of Energy
Washington, D.C. 20545

Dear Dr. Hess,

I'm writing in regards to the Superconducting Super Collider to be awarded to a State of your choose. Speaking for myself and the people I represent, Michigan would be the ideal place. We definitely would support the project to it's fullest.

As you are well aware of, Michigan has all the natural resources for such a project. We would hope you and your committee would seriously consider MICHIGAN, The Great Lakes State for the SSC project.

With best regards,

Alex Bodnariuk

Alex Bodnariuk, Business Manager
ROOFERS UNION LOCAL NO. 149
1640 Porter St.
Detroit, MI 48216

AB/vmp

cc: John S. Herrington, Secretary
U.S. Department of Energy

LETTER 5048

October 23, 1988

Dr. Wilmot Hess - Chairman
SSC Task Force
ER-65-GTN
Office of the Energy Research
US Dept. of Energy
Washington, D.C. 20545

Dear Dr. Hess,

Several weeks have passed since the DOE's scoping hearings were held in Illinois for the siting of the SSC, and I would like share a couple followup thoughts.

First, I would like to commend the members of the panels for their patience and attentiveness, both at these hearings and those held in February. I have been impressed at the level of active listening skills demonstrated by the panel members, even into the early hours of February 19, 1988 when I had the opportunity to share my concerns. I would like to thank them for giving those of us who will be tremendously impacted a chance to participate in this most important decision-making process.

It is my testimony on October 7 in the gymnasium of Waubonsie Valley High School in the late afternoon that has actually prompted my writing. I shared with the panel concerns over drainage and flooding that could occur should the tile systems of

Big Rock Drainage District 2 be disrupted.
While the content stated is of major significance, I would like to apologize to the panel members for my attitude during the presentation. I do not know what actually was conveyed by my non-verbal communication, but I was clearly feeling anger in my emotions and my attitude. While this is clearly an emotional issue for many of us facing relocation and the loss of our community as we know it, this does not excuse my anger directed towards the panel members.

Shortly after the hearings, the Lord reminded me that as a Christian, I had failed to represent Him in a way worthy of His name. So I ask that you please extend this apology to the three gentleman taking testimony in the gymnasium that afternoon. Please also express to them that I am continuing to pray for them and you, for wisdom in this decision-making process. Thank You!

Sincerely,

Jeanette Wampach
Box 57
Kaneville, Il. 60144

LETTER 5049

RE: Super Collider (1) 10/13/88

To Whom it May Concern.

After many phone calls to EPA, Wetlands Preservation, Sierra Club, the State of Michigan - Governor's Office, I am still AGAINST the building of the Super Conducting Super Collider in Michigan.

One of Michigan's strongest features is its natural beauty. In spite of the promise of jobs;

(2)
The threat to the environment, the abduction of even more farming land, the rearranging of people from their homes all add up to a negative.

In addition, this weeks newspapers have shown the public that D.O.E. does not take enough care of the safety of those

(3)

around nuclear power plants (witness the Southern Ohio plant & DOE.'s neglect for 10 years). I don't want the people of Michigan & my family & friends to need to trust D.O.E. on this project.

NO for Michigan

Thank You.
Katherine Esmay

P.S. I know this was due Oct. 18. Please accept it now.

Thank You.

LETTER 5050

Oct. 23, 1983

Zwettler
11681 Waterloo-Munith
Munith, MI 49259

Dear Jr. Wildlife Biologist,

I am writing to express my deep reservations about the proposed siting of the S.S.C in the Stockbridge, Michigan area. As a masters candidate in geography at Michigan State University. I was impressed by the extensive cataloguing of local resources in the Environmental Impact Statement. Sir as an observer of political language (propaganda) and paternalistic scientific rhetoric, I had to be repulsed by the minimizing of the serious social and ecological consequences of constructing the S.S.C. here.

Where, did you find the wildlife biologist to make the absurd claim that sandhill cranes would

quickly adjust to the disruptions and loud noises
involved with constructing this facility? How can the
preparers of this draft accept unquestioningly the
facile statements of Michigan officials that destruction
of wetlands can be mitigated or replaced?

As a property owner neighboring the proposed
beam about area south of Stockbridge, I fear for
the fate of my wetlands. I have observed the consequences
of relatively minor drainage operations within this watershed.
On our lake (Barry Lake) our wetlands have dried and
diminished considerably over the past 20 years on our
120 acres. I can only speculate as to the effect of
a 150 foot deep trench for peat cut and cover operation

When I notice the harmful results on our lake level of a drainage ditch on a neighbors field

Unfortunately, I had no opportunity to express my reservations about this project or to question the methods of the E.I.S. at the September 26 E.I.S. hearing in Stockbridge By the time I heard about a speakers list, all slots were occupied. Most speakers at the hearing were representatives of potential project beneficiaries; university reps, engineering and construction contractors, etc, whose cheerleading comments had no relationship to the E.I.S. report

Recent news reports of D.O.E mismanagement of nuclear weapons facilities in South Carolina and

LETTER 5050

Colorado only confirm our abhorrence of the prospect of having the D.O.E. as a neighbor. Why not spend the proposed S.S.C billions on the massive clean up of your already contaminated sites before fouling our beautiful home?

If the Stockbridge site is chosen, the local opposition will seek all means legally possible to hamper or prevent the construction of the S.S.C. here

Sincerely

Mark Ziegler
Howard P. Ziegler
Andrew Ziegler M.D.
Ruth Ziegler
1706 S University
Ann Arbor MI 48104

LETTER 5051

Illinois Historic
Preservation Agency

Old State Capitol • Springfield, Illinois 62701 • (217) 782-4836

217/785-4512

SSC DEIS COMMENTS

October 27, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
Office of Energy Research
U.S. Department of Energy
Washington, D. C. 20545

Dear Dr. Hess:

Thank you for the opportunity to comment on the referenced document. Considering the scope and timetable for the project it was very well prepared.

Our review of the document was limited to the possible effects on sites of historic, architectural and archaeological significance on or eligible for the National Historic Preservation Act of 1966, as amended.

Should Illinois be selected as the project site, we anticipate negotiating a Memorandum of Agreement delineating agreed upon treatments of historic properties. Treatment options which we anticipate exploring with the Department of Energy include, but may not be limited to, avoidance, rehabilitation, adaptive use and data recovery (including documentation of historic buildings and structures) and technical comments concerning the archaeological survey and cultural history summary:

DEIS Volume IV, Appendix 15

1) Page 25, paragraph 2, lines 7 and 14 -

the correct temporal designation is Upper Mississippian rather than Middle Mississippian.

2) Page 28, Table 15-4 -

a) Column labelled "Candy Stripe" totals 17 rather than 16,

Illinois Historic
Preservation Agency

Old State Capitol • Springfield, Illinois 62701 • (217) 782-4836

b) Column labelled "P-Ring" states that 24 sites are on Fermilab property; this contradicts the statement on page 29, paragraph 1 that twenty-five (25) sites are located on Fermilab property.

3) Page 25, paragraph 3, line 3 -

Potawatomi is misspelled (Pottawatomie).

4) Page 32, paragraph 6, line 10 -

Oklahoma is misspelled (Oklahow).

Thank you for this opportunity to comment. We look forward to working with you in the future.

Sincerely,

Theodore Hild

Theodore W. Hild
Deputy State Historic
Preservation Officer

TWH:AMH:TEE:bv

cc: Stan Yonkauski, IDENR

LETTER 5052

United States Department of the Interior

OFFICE OF ENVIRONMENTAL PROJECT REVIEW
WASHINGTON, D.C. 20240

ER 88/815

SSC DRAFT EIS COMMENTS
Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65, GTN
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

Dear Dr. Hess:

The Department of the Interior has reviewed the draft environmental impact statement for the Superconducting Super Collider (SSC) and has the following comments.

General

The Department has no preference at this time for any proposed site. However, we believe the final statement should contain site-specific details such as direct, indirect, and secondary impacts to wetlands; habitat fragmentation; degradation of surface water supplies; and secondary impacts, including accelerated growth in nearby communities and subsequent effects on natural resources, including fish and wildlife. The ultimate disposition of millions of cubic yards of excavated material will need to be carefully tracked at any site that is selected, although we recognize that at this stage of the project, certain aspects of project planning must be generalized. However, we recommend the nature of the disposal sites should be carefully described, as well as the controls placed on the ultimate use of the excavated materials.

Further, we believe the decision to prepare a supplement to the final statement to address the selected site in greater detail is appropriate as it will provide a more useful format with which to address site-specific impacts.

Format

The document was difficult to follow with regard to environmental impacts due to the number of volumes, chapters, and appendices and the duplication of information within these segments. For example, each subject area, such as water quality, is repeatedly addressed with slightly different information in different areas of the document. This makes the review of water quality and other issues difficult and sometimes confusing. Accordingly, we recommend that the document be revised to correct this problem. Consideration should be given to revising the document so that a subject area is contained within a single section. However, the data for each subject area should be consistent. To further minimize confusion, the document should include central lists containing the scientific name of each species mentioned in the text.

Fish and Wildlife Resources

Specific details on the impacts of constructing and operating the SSC and alternatives to mitigate those impacts have not been provided at this stage of planning. Based on the information contained in the draft statement, we are unable at this time to assess specific impacts of the 53 mile long facility on refuges in the National Wildlife Refuge System. Enclosed is a map of the National Wildlife Refuge System to assist you in preparing the final statement and supplementing documents.

We note that the draft statement provides an adequate, general, description of project related impacts to fish and wildlife resources. The final statement should contain a detailed assessment of potential project impacts to endangered species, and a determination of effect. Also, site specific assessments of impacts to fish and wildlife resources should be included with descriptions of measures that will be implemented to mitigate for losses of such resources. The U.S. Fish and Wildlife Service (Service) is committed to continuing to provide assistance during the detailed design stage to ensure that impacts to natural resources are minimized and to identify adequate mitigation measures. However, mitigating measures, with regard to avoiding or reducing the impact, are suggested but are not adopted. The Service recommends no net loss of fish and wildlife habitat occur. We believe the final statement should clearly state which mitigation measures will be implemented and which will not be implemented so that impacts to fish and wildlife habitat can be evaluated.

Mineral Resources

Mineral resources, and the effects of resource development both within and near each of the SSC alternative sites are described in the statement. The Colorado and Michigan sites involve numerous active oil and gas wells, some of which will be abandoned and sealed, and others will be shut down during the construction and 25-30 year operation of the SSC; however, the volume of oil and gas affected and the number of wells involved were not calculated for the statement.

Several of the sites, however, appear to be in the proximity of pipelines. The final statement should indicate whether the pipelines would be impacted; if so, the final statement should describe what measures would be taken to mitigate the impacts. Affects to mineral production or potential should be considered in the selection of the site.

Threatened and Endangered Species

We recommend that the final statement include information concerning proposed species and candidate species in all endangered species sections.

Air Quality

We note that Table 1-1, Major Environmental Impacts of Constructing and Operating the SSC at the Site Alternatives, indicates that the 24 hour Total Suspended Particulate (TSP) National Ambient Air Quality Standard (NAAQS) would be exceeded at each of the seven sites by at least 59 percent, and by more than double at four of the sites. There is no explanation of where these percentages were derived, much less any further discussion of the new particulate standard (PM-10) which is replacing the TSP standard, or any

other pollutant for which NAAQS have been established. There is no discussion of possible adverse air quality impacts of the proposed SSC on mandatory Class I areas and there is no discussion of control technology to be used to reduce or eliminate the air pollutants. The final statement must include that information.

Further, on page 1-6, it states the SSC may emit very small amounts of radionuclides and possibly other hazardous air pollutants which are regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAPS). Then it indicates that the DOE would be required to notify the Environmental Protection Agency (EPA) of its intent to construct and operate the SSC. That is only the first step. Again, DOE must comply with the NESHAPS, which means discussing the types of hazardous pollutants emitted, their concentrations, and the control technology to be used to meet the NESHAPS requirements. The final statement should include this information.

Air quality data should be updated and potential impacts to air quality should be determined using recent data and presented in the final statement.

Impacts to Surface Water

Throughout the document, individual actions that may cause increased erosion and sedimentation are analyzed as having temporary impacts on local surface water quality. We do not agree with this conclusion. Many project area streams presently carry heavy sediment loads and increased sediment loading from the project could result in more than minor incremental water quality degradation and loss and/or further degradation of benthic habitat. In addition, we believe that the cumulative effect of multiple adverse impacts on water quality may be significant. Further consideration should be given to this issue.

Throughout the document, "percent watershed disturbed," "percent forested wetlands impacted" and other project area habitats are presented in percenteges and are used to forecast the local/regional effect of specific adverse impacts. This method for impact assessment does not take into consideration the quality of the impacted habitat or the relationship between topography, other habitats and water quality. It also does not identify the effects of forest fragmentation and the loss of certain high quality habitats such as forested wetlands. The habitat type and amount of habitat loss associated with each disturbance should be provided in the final statement.

As noted in Volume IV, Appendix 5, page 28, the "continued reliability of the surface water sources, especially under drought conditions, is a significant water resources issue in the area." Despite this determination, certain sections of the text imply that excess reservoir water is sufficient for non-project and project related demands and that anticipated demands for water use is not considered a significant impact. This discrepancy should be resolved. Appropriate sections on surface water use should identify the relationship between project related water demands and area water supplies during drought conditions.

Impacts to Groundwater

The final statement should describe the mitigation procedures to be followed during abandonment of water wells in order to protect deeper aquifers against possible contamination that might move down the casings or the annuli of improperly abandoned

wells. If deep cathodic protection wells are to be used to alleviate corrosion and damage to steel tunnel liners or ot er corrodible equipment in the soil-water environment the final statement should provide the details of the r design.

In addition specific comments are enclosed for further consideration. We hope these comments will be helpful to you.

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

Enclosures 2

Specific Comments

Tennessee Site

The proposed site in Tennessee contains habitat that supports valuable fish and wildlife resources, unique communities of endemic species, and several federally endangered and candidate species. The Stones, Duck, and Harpeth Rivers are important aquatic resources; and forested areas contain habitat for numerous terrestrial species that provide both consumptive and nonconsumptive recreational opportunities. Construction and operation of the proposed facility could have significant impacts on these resources. The Service expressed concerns regarding this site to DOE by letter of May 16, 1988, and during an onsite investigation of June 15, 1988. The draft statement indicates, and the site visit confirms, that no significant wetland areas occur in the vicinity of the proposed Superconducting Super Collider in Tennessee. However, construction and operation of surface and subterranean facilities could have adverse impacts on surface waters and terrestrial habitats. The collider ring would cross the West Fork of the Stones River, Harpeth River, and tributaries of the Duck River. Riparian vegetation along these waters may provide habitat for a number of game and nongame species, including the federally endangered Indiana bat. The Stones River may contain a population of the tan riffle shell, a critically endangered freshwater mussel. Although the Duck River is not likely to be directly affected, runoff from construction sites and surface facilities could impact important aquatic resources in that river. Also of concern are impacts of the proposed project on cedar glades. These unique plant communities contain species endemic to central Tennessee, including the endangered Tennessee purple coneflower. A number of cedar glades may be impacted by the project. The project area also contains numerous sinkholes and caves. One, Herring Cave, is known to support a population of the federally listed gray bat. Although no impacts to this cave are expected, the species may occur in other caves in the area.

Michigan Site

We are concerned with the number of wetlands to be impacted by the proposed site in Michigan. However, we believe the acreage figures given in the text may be misleading. We do not believe that 2,800 acres of wetlands will be unavoidably lost (page 5.4-1) as a result of building the project at this site, since only 620 acres of any land type will be needed, either permanently or temporarily, during construction. We are also uncertain whether 2,800 acres of wetlands occur within lands needed for fee simple purchase, based on maps presented in the statement. To clarify the extent of wetland impacts, we strongly recommend these acreages be recalculated and the information more clearly presented in the final statement, separating acres of wetlands within fee-simple lands, acres of wetlands within stratified-fee lands, and acres of wetlands that are likely to be directly impacted.

Haehnle Wildlife Sanctuary, located in Michigan along the southern boundary of the proposed collider ring, provides major migratory staging habitat for the Eastern North American population of sandhill cranes. Over 2,300 cranes have been counted at this site. Since the closest surface disturbance proposed for the project is one mile away, our

only concern is the effect of tunnelling on the wetlands at this site. If Michigan is selected as the preferred alternative, we strongly recommend that extensive subsurface surveys be conducted and special precautions taken in this area to prevent accidental drainage of surface wetlands.

Black Spruce Bog National Natural Landmark is located in Jackson County, Michigan, approximately 3 miles southwest of Stockbridge just inside the loop of the upper and lower arcs of the high energy boosters (HEB). This boreal bog forest is a nationally significant natural resource. Special efforts should be made to prevent its disturbance by either construction or operation of the proposed project.

The preliminary site chosen for the construction and development of the SSC in the State of Michigan encompasses parts of Ingham and Jackson Counties. Within this location, 22 recreation sites have either been acquired or developed with monies from the Land and Water Conservation Fund (LWCF). They are:

Ingham County

26-00888	Mason Tennis Courts
26-01023B3	Mason West Site Park
26-01060G1	Dansville Community Park
26-01190	Leslie Tennis Courts

Jackson County

26-00080	Waterloo Recreation Area
26-00095	Waterloo Recreation Area
26-00184	Waterloo Recreation Area
26-00186	Rotary Playground
26-00253	Waterloo Recreation Area
26-00410	Waterloo Recreation Area
26-00415	Jackson North Street Recreation Center
26-00468	Waterloo Recreation Area
26-00554	Waterloo Recreation Area
26-00578	Waterloo Recreation Area
26-00680	Maple Grove Road Access
26-00684	Trestle Bridge Public Access
26-00788	Pleasant Lake County Park
26-00919	Waterloo Recreation Area
26-01023B	Grass Lake Township Park
26-01037	Waterloo Recreation Area
26-01060K1	Nixon Memorial Park
26-01199	Jackson Optimist Playground

The DOE must consult with the official who administers the LWCF program in the State of Michigan to determine the potential conflicts with Section 6(f)(3) of the LWCF Act, as amended. Section 6(f)(3) states: "No property acquired or developed with assistance

under this section shall, without the approval of the Secretary (of the Interior), be converted to other than public outdoor recreation uses." The administrator of the LWCF program for the State of Michigan is Mr. O. J. Scherschligt, Chief, Recreation Division, Department of Natural Resources, P.O. Box 30028, Lansing, Michigan 48909. Evidence of consultation should be provided in the final statement.

Illinois Site

The proposed SSC project in Illinois could require land from the Kane County Forest Preserve District's Great Western Trail, which is developed with Land and Water Conservation Fund (LWCF) assistance under project 17-00538OC1. The DOE should consult with the official who administers the LWCF program in Illinois to determine the potential conflicts with Section 6(f)(3) of the LWCF Act, as amended. The official to contact in Illinois is Mr. Mark Frech, Director, Department of Conservation, Lincoln Towers, Suite 425, 524 South Second Street, Springfield, Illinois 62706. Again, evidence of consultation should be provided in the final statement.

North Carolina Site

According to the text and its summary, the water supply sources for North Carolina are listed as Lake Butner and Lake Michie. We believe the water supply sources are Lake Butner and Mayo Lake. This issue should be resolved in the final statement.

Texas Site

The Service was recently informed of a proposal by Rocket Water Supply Corporation to construct a dam and impound waters on Red Oak Creek, northeast of the City of Waxahachie in Ellis County, Texas. We understand it is to be part of a proposed three reservoir tandem operation. We believe the dam of the initial reservoir would be located in your fee simple acquisition area. This proposal should be discussed in the final statement.

Volume I

Page 3-28, Table 3-3: The comments on project water supply presented here are not consistent with water supply discussions in other sections (i.e., page 3-34, Section 3.4.2 paragraph 5 and Section 3.7.3, page 3-66). The document should be clear and consistent as to the ability of the Morgan County, Colorado wells to supply the Superconducting Super Collider's needs.

Pages 3-52, 3-68, 5.1.5-17, 5.2.-4, and 5.6-11: The wetland statistics on these pages should be verified and conflicting statements clarified.

Page 3-61: For the North Carolina site alternative, the document should include a commitment similar to commitments made for the Michigan and Texas sites to restore/replace wetlands that are adversely affected during project construction, operation and decommissioning.

Pages 3-61 and 62: The inclusion of committed mitigation measures into the document is strongly supported by this Department. The following recommendations are offered with the intent of further strengthening DOE's commitment to minimize project impacts.

1) Item No. 4, Wetland Damage and Loss - This section should be expanded to include riparian habitat as well as wetlands. Avoidance of wetland impacts should be discussed prior to use of restoration and replacement as mitigation for unavoidable impacts. Additionally, DOE should commit to in-kind mitigation of wetland/riparian habitat values for unavoidable impacts.

2) Item No. 6, Threatened and Endangered Species (Colorado) - The avoidance of wetlands near Barr Lake is important and we appreciate the commitment by DOE to do so. The Service will continue discussions with the DOE and the State of Colorado regarding threatened and endangered species issues. We wish to point out, however, that any consultation under Section 7 of the Endangered Species Act would include DOE as the lead Federal agency. We acknowledge and support your commitment to avoid impacts to the Colorado and Platte River systems.

3) Item No. 7, Surveys - Completion of a survey for endangered species will not offset impacts. This section should be reworded to indicate the status of surveys as precursors to development of effective measures to avoid or offset impacts, if required.

4) A commitment to survey for and avoid raptor nests to the greatest extent possible should be added to this section.

5) The DOE should make a commitment in the Final Statement to provide mitigation for secondary and cumulative impacts to fish and wildlife resources which result from the siting of the project in Colorado and elsewhere.

Pages 3-62, 63, and 64:

1) Items Nos. 2 and 3 - Runoff and Erosion Control and Surface Water Quality should be included within Section 3.6.2, Committed Mitigation.

2) Item No. 8 - State Listed Species should also be included in Section 3.6.2.

3) Item No 8 - Disruption of Animal Movement and Migration should also be included in Section 3.6.2.

Page 3-65: Close coordination should be developed with the Service and the North Carolina Wildlife Resources Commission to develop methods by which adverse impacts to important fish and wildlife wetland corridors can be minimized.

The large volume of sand and gravel required by Collider construction may result in significant impacts to aquatic, wetland and riparian habitats in Colorado and elsewhere. A majority of Colorado's supply of aggregate is located in or adjacent to river drainages. Extraction facilities are often located within the active river channel or divert the flow through a new channel to facilitate mining. These operations can lead to direct loss of wetland/riparian habitat and indirect loss from the erosion which results from streambed degradation. The reduction of sediment load which accompanies instream mining may also have impacts to threatened and endangered species along the Platte River through Nebraska. Recent studies by the U.S. Bureau of Reclamation indicate reduction of bedload in the Platte River may have contributed to vegetative encroachment into the channel. The report entitled "Platte River Channel Characteristics in the Big Bend Reach", (Lyons and Randall, U.S. Department of the Interior, U.S. Bureau of Reclamation) may be of use in your evaluation of this potential impact. In order to avoid impacts to Colorado habitats and to the Platte River in Nebraska, the Service recommends that DOE commit to purchasing aggregate resources from existing mines which are outside of the present 100-year floodplain. This will significantly reduce impacts to the South Platte and Platte River from project induced aggregate mining. The DOE's evaluation of this subject should include the cumulative impacts of the SSC in addition to the other large projects planned for the Denver metropolitan area.

Page 4-8, Section 4.1.5: It may be helpful to note the last occurrence of an earthquake at each site.

Page 4-46: Table 4-16 should be expanded to include upland forests, deciduous mixed conifer forest, and lowland forest. In addition, the wetland listing should include forested, scrub/shrub, and emergent wetlands as described in Cowardin, Carter, Golet and LaRoe (1979), Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31, 108 pp.

Page 4-49: In addition to streamsides and emergent growth areas around reservoirs and ponds, project area wetland communities are found in upland depression swamps. The final statement should include this information.

Page 4-52: The table of federally listed species should include species formally proposed for listing and candidate species. For instance, in North Carolina, harperella (a plant) is formally proposed for listing as endangered.

Page 4-53: North Carolina has no listed threatened and endangered species in the project area; however, harperella, which is found in the project area, is formally proposed for listing as endangered.

Page 4-55: Under North Carolina in Table 4-17, the classification "(C1)" for harperella should be changed to "(PE)". The "(R)" classification for the remaining North Carolina species should be changed to "(C2)". The classification "(PE) = Proposed for listing as endangered" should be added to the table's footnote. "Kittentails" is listed as a category C1 candidate species. This should read C2.

Page 4-56: Change "Marperella" to "Harperella". The document should be changed to reflect that harperella (Ptilimnium nodosum) is formally proposed for listing as endangered under the Endangered Species Act of 1973. It is listed both as "harperella" and as "bishop's weed" in the document. "Bishop's weed" should be replaced by

"harperella" wherever it occurs in the text. Similarly, the "dwarf wedge mussel" also is called "ancient floater" in the document. "Ancient floater" should be replaced by "dwarf wedge mussel" wherever it occurs in the document. To avoid confusion, it is important to be consistent in the common names that are used throughout the text. With regard to the dwarf wedge mussel reference, the term "review status" should be deleted to avoid confusion. The dwarf wedge mussel is a candidate species. Finally, the coppercheek darter does not occur in North Carolina.

Page 4-57: Table 4-18 identifies state-protected plant species in the vicinity of the project site. Please note that three of these species in Michigan are also Category 2 candidate species for Federal listing: bog bluegrass (Poa paludigena), log sedge (Carex decomposita) and prairie fringed orchid (Plantanthera leucophaea). All three are found in Jackson and/or Ingham Counties, but our records do not indicate sightings in the immediate project vicinity. Under North Carolina, the classification "(PP)" should be substituted for all species classified as "(C1)". Within the table's footnote, "(S)" should be described as "Special Concern" and "(PP)" as "Primary Proposed".

Page 4-65: The document should also state that the dwarf wedge mussel, a state-protected species found within the project area, is sensitive to increased sedimentation.

Pages 4-67 and 68; page 5.1.5-28; and Volume IV, pages 70 and 71: Consideration should be given to classification of wetland associations according to Cowardin, Carter, Golet and LaRoe (1979) Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31 108 pp.

Page 5.1.1-3: Change "MC" to "NC" for the appropriate State heading.

Page 5.1.2-3, paragraph 2: In the last sentence the word "could" should be changed to "will". Revegetation with native grasses should be required.

Page 5.1.2.2, Section 5.1.2.1: Given the slow restoration time for native desert vegetation, the "temporary" disturbance of 500 acres in Arizona is misleading.

Page 5.1.2.-30, Section 5.1.2.4: Is that portion of the Vekol Valley in Maricopa County, Arizona, considered part of an Active Management Area or of an area that may be designated in the near term?

Page 5.1.5-2, Section 5.1.5.1: Gila monsters generally inhabit plains and desert tortoises frequent bajadas or rocky slopes.

Page 5.1.5-3, Colorado: Native prairie areas should be included as sensitive habitat.

Page 5.1.5-10: The document uses the term "migratory waterfowl" to describe the piping plover, whooping crane and least tern. These species are not classified as waterfowl. We suggest that the term "waterbirds" or a similar term be used to describe these species. Augmentation requirements should be explained here and the reader referred to Appendix 7, Section 7.1.3.2 Colorado, for further information. Black-footed ferret surveys will be required for only those prairie dog colonies which meet the size and location criteria of the Service guidelines. A copy of the survey guidelines has been provided to DOE.

Page 5.1.5-11: The North Carolina section should include information on the occurrence of proposed species and candidate species that may occur within the project area.

Page 5.1.5-35: Potential wetland impacts should be estimated for the entire project, including secondary development and the construction of ancillary facilities and any necessary access roads to spoil disposal sites.

Page 5.1.5-39, Section 5.1.5.4: In Arizona, we would expect some effect to raptors due to disturbance and destruction of nest sites.

Page 5.1.6-1: Along with human health impacts, we recommend that radiological and hazardous material impacts to fish and wildlife populations be considered in this section.

Page 5.1.7-5: For North Carolina, permanently removed farmlands should read "593" acres.

Page 5.6-11: As mentioned for the other candidate sites, loss of wetlands, forested uplands and prime farmland will occur. The document should be modified so that impacts on these resources are identified.

Page 6-2, Section 6.21: For the purpose of Section 404 of the Clean Water Act, many desert washes are considered to be waters of the United States and permits for disposal of dredge and fill material may be required.

Page 6-13: Section 6.2.17 indicates that the Fish and Wildlife Coordination Act only applies to activities affecting water bodies, including wetlands, greater than 10 acres. This is incorrect. The Act applies to activities in existing waters of any size, except for those projects intended to create impoundments less than 10 acres.

Volume IV, Appendix 1

Page 7: Tunnel and floor invert drain pipes should be monitored for radioactivity and other contaminants. A plan should be formulated to divert contaminated water from the surface drainage to a containment area until treated or disposed of safely.

Pages 47 and 50: Project layout descriptions should include the types and amounts of wetlands at each site, and the degree of impact to each wetland community identified.

Pages 47 through 57: This section should include the actual acreages required for rights-of-ways for all project utility lines and highways and the type and amount of wetlands that may be impacted.

Volume IV, Appendix 5A-Arizona

Page 72, Section 5.1.9.2: Should there be a reference in the parenthesis after the first sentence?

Page 77, Section 5.1.9.5: The endangered Tumamoc globeberry was recently discovered in Vekol Valley, Maricopa County, 3 miles south of Interstate 8, in the proposed construction area for the Arizona alternative.

Volume IV, Appendix 5b

Page 53: Section 5.4.5.2 describes noise sources in the project area as including road traffic, small aircraft, farm machinery and wildlife. We would appreciate some elaboration on the intensity, timing, and extent of the latter noise source.

Page 82-3: As mentioned earlier, the prairie fringed orchid, log sedge and bog bluegrass are also candidate species for Federal listing as threatened or endangered.

Page 89: The wildlife discussion should note that a great blue heron rookery is found on the Fermi Laboratory.

Page 98 and Appendix 11, Page 16: These appendices identify the lakeside daisy as a candidate species for Federal listing as a threatened or endangered species. The lakeside daisy is no longer a candidate since it was recently federally listed as threatened.

Volume IV, Appendix 5c

Page 24: North Carolina classifications of surface water quality should be defined within the text.

Page 63: The document should address options for solid waste disposal facilities once area facilities have reached capacity.

Page 72: The document states that approximately 60 species of amphibians and reptiles are found within project area wetlands. Given the much greater percentage of uplands that the project will affect, information should be given for upland species. Species lists should be provided for project area vertebrates, including the 35 species of mammals and 135 species of birds mentioned in the document. Information sources also should be documented.

The document also fails to address the fact that the project area is one of the few remaining areas in the piedmont region of North Carolina that supports large hardwood forests with limited human access. As such, this area supports one of several remaining wild turkey populations in this region of North Carolina. The value of the project area in this regard should be addressed.

Page 74: The document should state that project area headwaters are extremely important distribution corridors for aquatic species and that these areas may also be used for spawning and nursery habitat. Also, wild turkey should be identified as a recreationally important species.

Page 75: Records of known occurrences for candidate species are kept by the North Carolina Natural Heritage Program. However, additional surveys should be conducted for these candidate species within the project impact area. For Carolina madtom, the correct genus is Noturus.

Page 77: For Table 5.5.9-3, the "Neuse River dog" should be replaced by "Neuse River Waterdog".

Volume IV, Appendix 6

Page 96, Section B.1: What provision is being made to ensure the Super Collider can meet the no overdraft provisions in the Arizona groundwater laws?

Volume IV, Appendix 7

Pages 28 and 29: In general, this section was well written and provides valuable information to the Service. We recommend that augmentation requirements and procedures be more fully explained in this section. The concept of consumptive use should be discussed. What are the "off-site" uses mentioned in the last paragraph of section G-1?

Page 143, Section 7.2.3.7: This section entitled "Water Levels/Overdraft" states that new groundwater wells will be necessary to serve the facility. It further states that impacts to the groundwater will be long term, unavoidable and measurable at the Regional level. Depletion of groundwater by this project from the Twin Mountains and Woodbine aquifers would promote the increased development of surface water for municipal water supplies. This would result in the destruction of fish and wildlife resources. The document should discuss projected surface water requirements that would result from aquifer depletion and project fish and wildlife losses as closely as practical.

Volume IV, Appendix 10

Pages 3 and 20, Section 10.2: The document should be modified to address containment of leachate from excavation spoils. Also, interim methods designed to stabilize stockpiled topsoil and spoil until the site is stabilized with vegetation, should be identified.

Page 31, Section 10.2.3: The disposal of marl, either by filling four groups of existing quarries or at landfills, will impact fish and wildlife resources. The Corps of Engineers, as stated in the document, has jurisdiction over disposal in gravel pits (quarries). Gravel pits in this area of Texas, oftentimes, provide quality wetland/aquatic habitat for a diversity of fish and wildlife resources. A more detailed analysis is necessary to determine the extent of impacts on these habitats.

Page 15, Section 10.3.3.2: Solid waste disposal areas are not appropriate for sludge from sewage treatment plants. Sludge material can dissolve with rainfall and groundwater seepage and ultimately reach streams and surface water. This may not be desirable for fish and wildlife resources. Sludge may be appropriate for overland disposal, depending on its content. If toxic wastes are present, disposal would require appropriate protective measures.

Additionally, use of a solid waste disposal area for sludge would decrease the life of a landfill for its intended use. Additional and larger landfills would be required with subsequent impacts to fish and wildlife resources.

Volume IV, Appendix 11

Page 2: The document states that assessments include state-listed species as well as federally listed and candidate species. Species formally proposed for Federal listing should also be included in the assessments.

Pages 21, 22, and 23: Please verify wetland statistics used in these sections and clarify conflicting statements.

Page 21: Last line on page is missing.

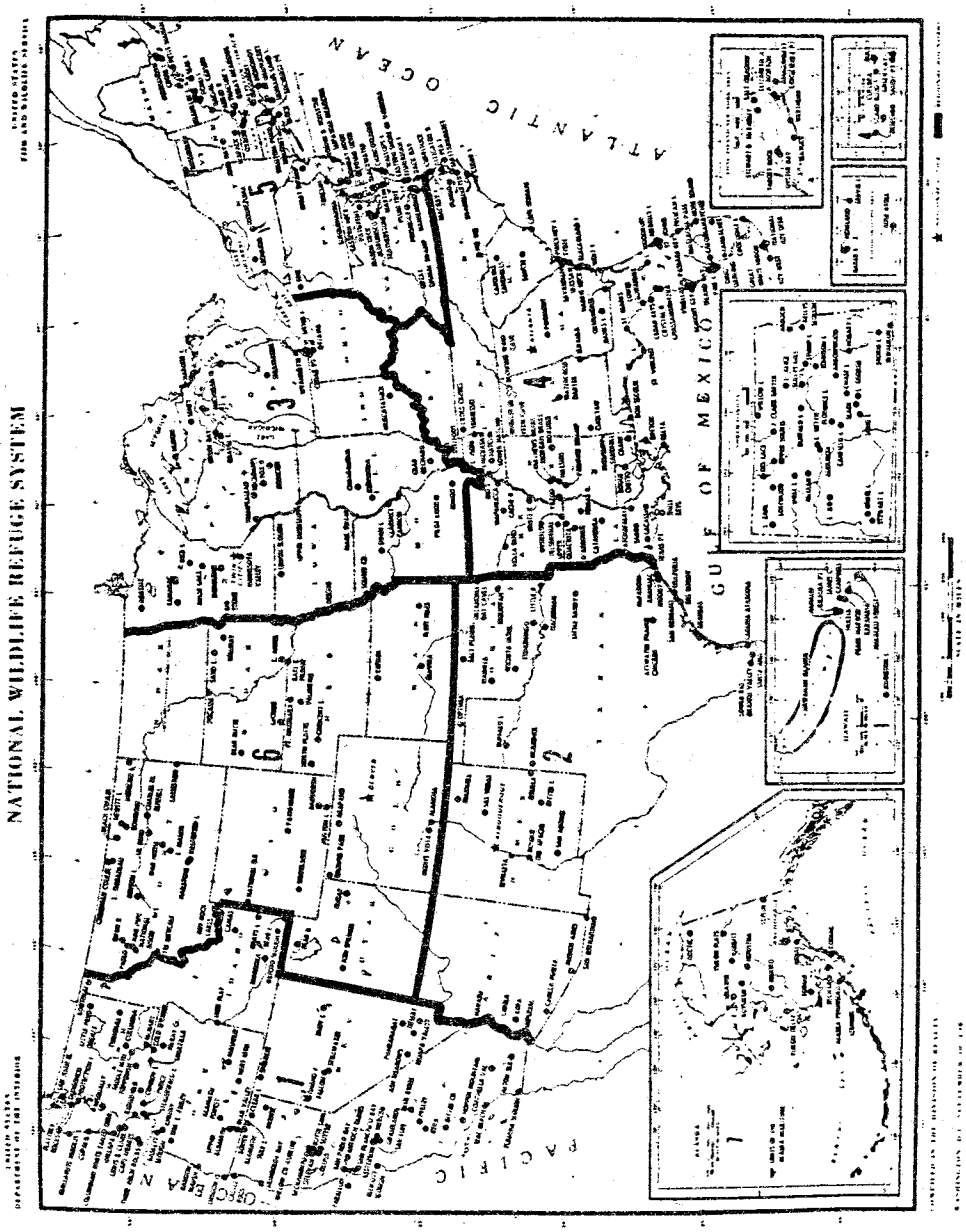
Page 22: Only three plant species protected by State law are mentioned in this section. In the Statement and in Appendix 5b, 25 State-protected species are described as being in the area. Please clarify this discrepancy.

Page 32: Mitigation for wetlands unavoidably altered by the project could also include creation of new wetlands using excess groundwater pumped from tunnel sites.

Page 37: We agree that there are no federally listed endangered or threatened plant species known from the vicinity of the proposed Superconducting Super Collider site. However, one proposed species and three candidate species are found near or in the project vicinity. The document should be modified to contain this information.

Pages 50-54, Section 11.3.7: This section discusses sensitive terrestrial and aquatic resources, impacts, and mitigation. Mitigation for site J4 is discussed in terms of relocating the site. A telephone conversation with DOE staff disclosed that the site could be relocated 2,000 feet away. It is unclear if the relocation would result in crossing Chambers Creek. More specific information about relocation should be provided in the final statement.

Attachment B: This attachment, a Sea World Report on noise levels affecting nesting birds, is missing from the documents.


NATIONAL WILDLIFE REFUGE SYSTEM
ATLANTIC OCEAN
GULF OF MEXICO
PACIFIC OCEAN

LETTER 5053

C.A.T.C.H.-Illinois

Citizens Against the Collider Here

Oct. 6, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

Attn: SSC DEIS Comments---Subjectivity of Reviewers

Dear Sir:

Another situation where the subjectivity of the EIS writers is apparent occurs whenever the EIS specifically describes a potential problem and then sums everything up by saying its insignificant because the problem already exists anyway. For example, let's take the very serious problem of ground-water supplies. Sec. 5.1.2, pages 28 and 29 discuss in great detail how Illinois has a regionally overdrafted water supply. In other words, that usage exceeds replenishment of supplies. The EIS also explains how the operations phase of of the SSC will worsen the overall groundwater situation. The EIS also indicates that plans for municipalities to switch to surface water sources basically do not exist, so a switch to Lake Michigan water cannot be viewed as a possible mitigating measure.

However, in the very next sentence, the EIS writers indicate that this potential long-term negative effect of the SSC is insignificant anyway, because of the wide area over which the effect will be felt. They say that major aquifers are already overdrafted and that the project would only add to an already existing situation. This type of logic is nonsensical. It's like telling a person dying of lung cancer that they just discovered a brain tumor, but don't worry about it, it's insignificant because you're going to die anyway.

This type of logic is used throughout the EIS and is an indication of the lack of concern for people and our environment on the part of the EIS preparers. These EIS writers cannot be allowed to make such broad judgements on the overall value of this SSC project. The writers viewpoints or opinions toward a subject's net value should be of little concern to the DOE in deciding where to place this project. All that matters are the facts. And the facts are that the EIS writers are biased, opinionated people and their viewpoints are the

P.O. Box 104, Wasco, Illinois 60183 Phone:312-584-4244

ones which everyone is being asked to accept. Well, we will not accept them! The EIS writers continually make assumptions and value judgements which should not be allowed. Just because they think that the overdrafted groundwater situation at the Illinois site is insignificant does not, in and of itself, mean this situation is in fact insignificant. On the contrary, it is very significant to those of us who obtain our water supply from individual wells --- and that's over 30,000 people in the affected area. What the EIS writers believe and feel is of little concern to us and it should also be of little concern to you scientists of the DOE. All you should care to see in the EIS are the facts -- and the EIS is obviously lacking as far as the facts are concerned.

Sincerely,

Donna Stoebuck

LETTER 5054

northeastern illinois planning commission
400 West Madison Street Chicago, Illinois 60606 (312)454-0400

October 31, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force (STF)
ER-65/GTN
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

Re: Draft Environmental Impact Statement,
Superconducting Super Collider (SSC)

Dear Dr. Hess:

We appreciate the opportunity to review the environmental impact statement on this important project. The Commission has consistently supported locating the SSC in our region. The issues mentioned in this letter can be handled with a cooperative design and construction process. Indeed, because we are preparing for urban development in this area in any case, we are in a good position to accommodate the proposed SSC.

The Commission's staff have briefly reviewed the subject document and believe that it adequately covers the range of impacts associated with the proposed location of the SSC. Limits on the Commission's staff and resources have not permitted a thorough review and verification of the information provided. Please accept the following general comments:

1. Socio-economics

The figures used to describe current socio-economic conditions in the Illinois impact area are the best available. However, the interpretation presented in Volume I Section 5.2.12.3 understates the economic activity in DuPage and Kane Counties. In fact, the portions of those two counties directly affected by the SSC will be the most rapidly growing areas in northeastern Illinois, with or without the SSC.

While the SSC is expected to provide a desirable economic impact on the northeastern Illinois region, its population and land use impacts will be relatively minor, as noted elsewhere in Volume I.

We see this as a positive finding, as much of the infrastructure needed to service the SSC will also be needed to accommodate the natural growth of the metropolitan area in this direction.

2. Land Use Plans, Policies, Controls

Appendix 5 (p.105) properly presents the Commission's plans and policies. We believe, however, the text on that same page is confusing with regard to the importance of home rule. The authority for land use control in incorporated areas rests with municipalities, whether or not they are home rule units.

3. Water Resources

Appendix 7 (Section 7.1.3.3) describes very thoroughly the water resources conditions affecting the site in Illinois. Stormwater management has become an issue of increasing concern in northeastern Illinois, both for flood prevention and for water quality purposes. The Commission would expect that construction related to the SSC would follow appropriate standards relative to stormwater: no incursions or modifications to existing floodways, compensatory storage for incursions into flood fringe areas, appropriate standards for erosion control, and detention storage for control of both quantity and quality of stormwater. The Commission would like to work with the design team on these matters, and involve the DuPage County Stormwater Committee and a similar organization forming in Kane County.

4. Ecological Resources

Similar considerations apply to wetlands, which are treated in Appendix 11. Mitigation is required for any essential disruption of wetlands, not only to protect scientifically important flora and fauna, but also to protect the functions of the wetland for flood control and water quality.

Sincerely,

Lawrence B. Christmas

Lawrence B. Christmas
Executive Director

LBC:dr

cc: Mr. Tom Jacobius, Illinois SSC
Site Proposal Coordinator

LETTER 5055

ADVANTAGE
HOUSING, INC.

September 16, 1988

Dr. Wilmot Hess
Chairman
SSC Site Task Force
Department of Energy
Washington, D.C. 20545

Dear Mr. Hess:

The firm of ADVANTAGE HOUSING, INC. is pleased to reply to the Draft Environmental Impact Statement concerning the possible siting of the Superconducting Super Collider (SSC) in Ellis County, Texas.

We strongly support a Federal Decision to locate the SSC in Ellis County, Texas. The positive economic impacts of building and operating the SSC facility will benefit not only the region but Texas as a State. We look forward to being host State to the research and the scientific break throughs which the SSC will generate.

Texans are rightfully known for our "can-do" spirit and work ethic. These qualities of our people and our businesses will insure not only timely, quality construction and operation of the SSC by the skill pools here in Texas, but also long-term public support for the SSC program for years to come.

Please record our favorable response to the socioeconomic impact of the SSC being sited in Ellis County, Texas.

Sincerely,

Don Simonson
General Manager

DS/jlc

* Additional Points Attached

324 North Beckley
Lancaster, Texas 75146
(214) 223-1023

We also feel the beneficial impacts of the scientific community which will grow with the SSC are important to the Metroplex region and to Texas. By affiliating Texas's Universities and our private sector research capabilities with SSC programs, a mutual benefit both to SSC development as well as for our technology base will result.

Texas is the best location nationally for the SSC because our right-to-work tradition, our young workforce, and our rapid growth as a high-tech (State) will guarantee the Department of Energy the most productive, qualified staffing which could be found.

LETTER 5056

10-17-88

Dear Dr. Hess,

I am writing to tell you that I support the building of the SSC in Illinois. I think it would be a terrible mistake if the plans for this site were built anywhere else. The research, which has already been completed for Illinois, cost millions of dollars. This is unnecessary expense for the tax payers. The families of the scientists who are working for the lab are installed in Illinois schools. These people shouldn't be uprooted from their homes. Thank you very much for your time on this matter.

Sincerely,
Shannon Bryant

LETTER 5057

Mr Chairman,

Our science class has been researching the SuperConductor Issue, and we have come up with a relatively good idea of why the Super Conductor should be in Illinois. The Super Conductor would be placed in an area where the scientists from University of Illinois, University of Chicago, Fermi-lab and Northwestern can easily get information and discover more discoveries. I know that a major part of this decision depends upon the 1988 Presidential Campaign and President Reagan, but think of how the scientists of Illinois will be more informed and more knowledge able, all credit due to the Super Conductor. There are people who don't want it here but, they possibly don't realize how our area will be improved by the Conductor. Please listen, as I am one of the upcoming adults in this world.

Sincerely,
Janaya Crudup

LETTER 5058

semcog

November 2, 1988

Dr. Wilmot Hess, Chairman
SSC Site Task Force
ER-65/GTN
Office of Energy Research
U.S. Department of Energy
Washington, D.C. 20545

RE: Draft EIS - Superconducting Super Collider
SEMCOG file: EN 880330

Dear Dr. Hess:

SEMCOG, the Southeast Michigan Council of Governments, has reviewed the above Draft Environmental Impact Statement. As you may be aware, SEMCOG has federal and state designation for water quality, air quality, solid waste, transportation, and land use planning for a seven county Southeast Michigan region which includes Wayne, Oakland, Macomb, Washtenaw, Monroe, St. Clair and Livingston Counties. Our comments and those of affected local government agencies are contained herein.

The following local government agencies were contacted as part of our review:

-Washtenaw County Metropolitan Planning Commission
-Oakland County Planning Division
-Wayne County Planning Division
-Macomb County Planning Commission
-Monroe County Planning Commission
-St. Clair County Metropolitan Planning Commission
-Livingston County Planning Department

As of this date the Wayne County Planning Division, Oakland County Planning Division, Macomb County Planning Commission, and the Monroe County Planning Commission have responded with generally favorable written comments.

Attached is a memo from SEMCOG's Areawide Water Quality Board staff which identifies impacts on wetlands. While concern is raised for loss of wetlands; there is a recognition that mitigation measures are in place through state regulatory agencies.

Southeast Michigan Council of Governments · 1900 Edison Plaza · 660 Plaza Drive · Detroit, Michigan 48226 · (313) 961-4266

IIA.3-162

SEMCOG staff reviewed the Draft EIS and is very supportive of this project. The social and economic benefits will help to buffer the ups and downs of a cyclical automotive manufacturing dominated state economy. No significant environmental impacts have been reported which cannot be mitigated or avoided. We found no apparent drawbacks identified in the Draft EIS which would adversly affect the siting of the Superconducting Super Collider facilities in Michigan.

Sincerely,

Edward J. Hustoles, PCP, AICP
Deputy Executive Director for Planning

EJH/daa

cc: Wayne County Planning Division
Oakland County Planning Division
Macomb County Planning Commission
Monroe County Planning Commission
MERB

Edward H. McNamara
County Executive

DEPARTMENT OF JOBS & ECONOMIC DEVELOPMENT
Wayne County

Gloria W. Robinson
Director
Planning Division

October 12, 1988

Mr. Richard Pfaff
SEMCOG
1900 Edison Plaza
660 Plaza Drive
Detroit, MI 48226

Dear Mr. Pfaff:

RE: EN 880330

Please be advised that we have reviewed the Draft Environmental Impact Statement for the Superconducting Super Collider, as submitted by the SSC Site Task Force, and fully support its location at the proposed Stockbridge site.

It is our understanding that all environmental concerns can be either satisfied and/or mitigated. Its location in the State of Michigan, we believe, will prove invaluable to the local economy.

Sincerely,

Othello Colecchia

Othello Colecchia
Dept. Exec. I

OC:ca

L-14 Wayne County Building • 600 Randolph • Detroit, Michigan 48226 • (313) 224-5018

LETTER 5058 (CONTINUED)

OAKLAND
COUNTY MICHIGAN
DEPARTMENT OF COMMUNITY
AND ECONOMIC DEVELOPMENT

Daniel T. Murphy, Oakland County Executive
PLANNING DIVISION
Philip W. Dondero, Manager
REAL ESTATE / DEVELOPMENT DATA
NATURAL RESOURCE DATA
COMMUNITY PROJECTS
AERIAL PHOTOGRAPHY
MARKETING DATA
DEMOGRAPHICS
LAND USE
ZONING
MAPS

October 10, 1988

Mr. Richard Pfaff
SEMCOG
1900 Edison Plaza
660 Plaza Drive
Detroit, MI 48226

Re: Superconducting Super Collider, Draft EIS
SEMCOG Code No.: EN 880330
County Code No.: 88-108

Dear Mr. Pfaff

Our office has received and reviewed the above project as submitted by SSC Site Task Force, Office of Energy Research, U.S. Department of Energy.

As a part of our review process, our office sent information on this project to Oakland County Economic Development Division. To date we have not received a response. Please note the attached comments from our staff environmental planner, Mr. Mark Brownlie.

This project does not conflict with the plans and/or policies of the County Planning Division and we recommend approval.

Sincerely,

Philip W. Dondero, AICP, PCP
Manager

PWD:hh

Attachment

cc: D. Schutt

Executive Office Building • 1200 North Telegraph Road • Pontiac, Michigan 48053 • (313) 858-0720

LETTER 5058 (CONTINUED)

OAKLAND
COUNTY MICHIGAN
DEPARTMENT OF COMMUNITY
AND ECONOMIC DEVELOPMENT

Daniel T. Murphy, Oakland County Executive
PLANNING DIVISION
Philip W. Dondero, Manager
REAL ESTATE / DEVELOPMENT DATA
NATURAL RESOURCE DATA
COMMUNITY PROJECTS
AERIAL PHOTOGRAPHY
MARKETING DATA
DEMOGRAPHICS
LAND USE
ZONING
MAPS

MEMORANDUM

TO: Debbie Schutt, Regional Liaison, O.C. Planning Div.

FROM: Mark Brownlie, Environmental Planner, O.C. Planning Div.

DATE: September 26, 1988

SUBJECT: Superconducting Super Collider Draft EIS

The proposed Michigan site for the Superconducting Super Collider (SSC) is relatively removed from Oakland County. Therefore, the proposal does not conflict with any plans or programs of our office. However, I would like to comment on the wetlands issues associated with the SSC.

A total of 2800 wetland acres are listed in the draft EIS to be affected by the proposed Michigan SSC site. Since publication of the draft EIS, the Michigan Department of Natural Resources (DNR) has attempted to clarify that number. After a more thorough review of the qualifications for wetland designation, the DNR arrived at a figure of 890 acres in the proposed SSC area, with just a small fraction of that figure being affected by construction. Instead of just identifying hydric soils as wetlands, the DNR considered hydrology and wetland vegetation as well. The new wetland figures should be much more accurate.

Knowing of DNR's tough stance on wetlands protection, I am confident that every precaution will be taken to minimize wetland loss during construction. Furthermore, I am sure special consideration will be given to mitigating any wetland loss by the creation of new wetlands within the same watershed.

The Michigan site appears to be very competitive with the six other sites. None of the environmental impacts listed in the draft Environmental Impact Statement appear to hamper the Michigan site as a good candidate.

Executive Office Building • 1200 North Telegraph Road • Pontiac, Michigan 48053 • (313) 858-0720

IIA.3-1666

Macomb County Planning Commission

115 S. Groesbeck Highway, Mount Clemens, Michigan 48043
(313) 469-5285

October 7, 1988

Mr. John M. Amberger
Executive Director
Southeast Michigan Council
of Governments
1900 Edison Plaza
660 Plaza Drive
Detroit, MI 48226

Re: Draft Environmental Impact Statement
#EN 880330
Super Conductor Super Collider Site
U.S. Department of Energy
Super Conductor Super Collider Site Task Force

Dear Mr. Amberger:

In accordance with Presidential Executive Order #12372 Clearinghouse procedures, we have reviewed the Draft Environmental Impact Statement from the Super Conductor Super Collider Site Task Force for assistance through the U.S. Department of Energy.

The Macomb County Department of Planning, Community and Economic Development has reviewed the proposal and is not aware of any conflicts with any plans currently in our office. On this basis, we would recommend favorable consideration by the U.S. Department of Energy.

If there are any questions with regard to these comments, please contact our office.

Sincerely,

Bernard E. Giampetroni
Executive Director

BEG/jsr

LETTER 5058 (CONTINUED)

(313) 243-7093

monroe county planning department & commission
royce r. maniko, aicp, director
bernard j. felder, commission chairman

October 13, 1988

Southeast Michigan Council of Governments
1900 Edison Plaza
660 Plaza Drive
Detroit, MI 48226

ATTENTION: Richard Pfaff, Jr.

SUBJECT: Regional Clearinghouse Code: EN 880330 - Superconducting Super Collider, Draft EIS
Our File No: 200.2-10-88-42

Dear Mr. Pfaff:

We have completed our review of the above prefaced subject matter and advise as follows:

"Motion by Mr. Weiss, supported by Mr. Meiring, that the the Monroe County Planning Commission continue its support for the State of Michigan's bid to have the SSC located at the Stockbridge, Michigan site." MOTION CARRIED.

We further enclose a copy of staff memorandum in this regard to indicate the consideration which went into the resolution of this issue.

Thank you for allowing us this opportunity to respond to the subject matter as it affects areawide plans adopted by our Planning Commission.

Sincerely,

Royce R. Maniko DAA
Royce R. Maniko, AICP
Planning Director

RRM/pjl

Enclosure

125 east second street ■ monroe, michigan 48161

1988

ATTACHMENT M

Federal Program Review

Presidential Executive Order 12372 - Intergovernmental Review of Federal Programs

Monroe County, Michigan

MEMORANDUM

DATE: October 5, 1988

TO: Monroe County Planning Commission

FROM: Staff

SUBJECT: Case-200.2- 10-88-42

PROJECT: Superconducting Super Collider Environmental Impact Statement (EIS)

DESCRIPTION

The SSC Site Task Force, Office of Energy Research, has submitted a draft Environmental Statement (EIS) for the seven remaining sites in the SCC final site selection process to the U.S. Department of Energy. Of particular interest to us is the Stockbridge Michigan site. The draft EIS provides information on the potential environmental impacts of the proposed construction and operation of the SSC of each of the seven alternative sites. The SSC facility will be used to study high energy physics and at 53 miles in circumference would be the largest scientific instrument ever built. The proposed tunnel which would be at least 30 feet below ground would contain circulating beams of protons within two groups of superconducting magnets. The two beams would then be made to collide. The results would be studied by scientists to probe the properties of matter beyond what is currently available. The ring is the main feature of the SSC. Other facilities would include a campus area, laboratories, as well as various access and service areas around the ring.

While the basic purpose of the SSC is to gain a better understanding and knowledge of the fundamentals structure of matter, the purpose of the draft EIS is to assist in selecting a site for the facility.

Following selection of a site for the SSC, it will be necessary for the Department of Energy to prepare a supplement to the EIS to address in much more detail the potential impacts of construction and operation of the SSC of that particular site, their suggested alternatives to mitigate those impacts. The Final EIS is expected to be published in December 1988. It will include any written or oral comments received on the Draft EIS.

ANALYSIS

The seven (7) locations still remaining under consideration include:

1. Arizona, Maricopa County - Approximately 30 miles southeast of Phoenix.
2. Colorado, Adams, Morgan and Washington Counties - Approximately 65 miles northeast of Denver
3. Illinois, Kane, DuPage and Kendall Counties - Approximately 40 miles west of Chicago
4. Michigan, Ingham and Jackson Counties - Approximately 35 miles northwest of Ann Arbor
5. North Carolina, Person, Granville and Durham Counties - Approximately 15 miles north of Durham
6. Tennessee, Bedford, Marhsall, Rutherford and Williamson Counties - Approximately 30 miles southeast of Nashville
7. Texas, Ellis County - Approximately 25 miles south of Dallas

Table 1-1

MAJOR ENVIRONMENTAL IMPACTS OF CONSTRUCTING AND OPERATING THE SSC AT THE SITE ALTERNATIVES

Impacts	Arizona	Colorado	Illinois	Michigan	North Carolina	Tennessee	Texas
Water Resources							
Loss of water wells	0	16	320	80	9	350	2
Water supply	Groundwater supply: incremental increase to local over-draft	Groundwater supply: purchase of groundwater now going to other uses	Groundwater supply: incremental increase to regional over-draft	Groundwater supply: incremental increase to local over-draft	Surface water supply: use of large fraction of excess capacity	Surface water supply: use of large fraction of excess capacity	Surface water supply: use of small fraction of excess capacity
Air Quality							
Construction TSP emissions ambient air quality[1] (% of TSP 24-hr NAAQS)	178	180	220	159	216	225	225
Ecological Resources							
Wetlands in fee simple areas	None	20 acres	650 acres	2,800 acres	250 acres	<10 acres	<10 acres
Habitat loss: threatened and endangered species	Tumamoc globeberry	Bald Eagle	Prairie brush clover; Indiana bat	Indiana bat	None	Tennessee purple cone-flower; Indiana bat	Black-capped vireo
Socioeconomics							
Number of jobs							
Total[2], peak yr Construction % increase[3]	9,886 0.66	9,835 0.87	10,956 0.27	9,869 0.43	9,717 0.94	9,331 1.33	9,651 0.45
Total[2], first yr Operations % increase[3]	6,160 0.14	6,381 0.37	7,044 0.17	6,322 0.27	6,390 0.55	6,806 0.85	6,513 0.28
			210	221	111	116	224

Table 2-1

NAS/NAE RECOMMENDED BQL AND STATED FAVORABLE CONDITIONS FOR SITING THE SSC

	Cited Favorable Conditions
Arizona	Favorable geology; minimal dewatering or groundwater impacts; requisite regional resources and strong technical labor base at or near the site; minimal environmental degradation; few affected landowners
Colorado	Simple, predictable geology; minimal groundwater impacts; strong regional resources of Denver and Boulder (although somewhat distant); good transportation; minimal environmental degradation; few required relocations
Illinois	Geological formation in which there is extensive tunneling experience; excellent regional resources; extensive transportation system; beneficial infrastructure associated with Fermilab
Michigan	Favorable geology; essential regional resources at or near the site; excellent industrial base; limited environmental degradation
New York/ Rochester*	Favorable predictable geology; requisite regional resources at or near the site; advanced technology industrial base; limited environmental degradation
North Carolina	Favorable geology; strong local attributes, including Research Triangle Park; good regional conditions, including climate
Tennessee	Generally favorable geology; requisite regional resources nearby; minimal environmental degradation; moderate climate; good regional conditions
Texas/Dallas Fort Worth	Excellent geology; regional resources and technological base of major urban center; moderate number of affected landowners; good regional conditions

*Withdrawn by the proposer.

semcog
memo

TO: Richard W. Pfaff, Jr., Coordinator
SEMCOG Regional Review Office

FROM: Patrick Brunett and Sue Evola
Areawide Water Quality Board

SUBJECT: Superconducting Super Collider, Draft EIS
(Regional Clearinghouse Code: EN 880330)

DATE: November 3, 1988

Staff has reviewed the proposed Superconducting Super Collider, Draft EIS. As the project directly affects almost 900 acres of wetlands in Ingham and Jackson counties, our concern is that wetland losses be minimized losses anywhere in Michigan and that any wetlands permanently disrupted be replaced with comparable wetlands.

We refer to John F. Hanieski's comments from an SSC press release:

> "There should be no net loss of high-quality wetlands because of Michigan's policy of avoidance where possible, alternative construction techniques and in-kind replacement of impacted wetlands."

We are encouraged by Mr. Hanieski's reference to plans to replace any wetland acreage lost to the project with the creation of new comparable wetlands either on the SSC site or on nearby state-owned property, such as in the Waterloo Recreation area. Since permits required under Act. 203, Wetlands Protection Act, must be obtained prior to construction. We are confident that DNR will require appropriate mitigation measures.

We urge the SSC Management to work closely with the MDNR on these issues in order to ensure quality replacement wetlands, and minimal adverse impacts.

/gmf

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Final Environmental Impact Statement
Superconducting Super Collider

Volume II
Comment/Response Document
A. Comments
3. Letters Postmarked After 10/17/88

December 1988