Scientific Name

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Oct 22 2020

Table C-6 Vascular Plant Species Identified at the Mayo Site

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LYCOPODIACEAE Lycopodium flabelliforme Running Pine ASPIDIACEAE Polystichum acrosticoides Christmas Fern PINACEAE Pinus virginiana P. echinata P. taeda CUPRESSACEAE Juniperus virginiana TYPHACEAE Typha latifolia POACEAE Andropogon virginicus Uniola sp. ARACEAE Arisaema triphyllum COMMELINACEAE Commelina communis JUNCACEAE Juncus effusus LILIACEAE Allium vineale Yucca filamentosa Smilax bona-nox Erythronium americanum Polygonatum biflorum DISCOREACEAE Discores villoss IRIDACEAE Iris verna SALICAEAE Salix nigra Populus alba

Virginia Pine Shortleaf Pine Loblolly Pine

Common Name

Eastern Red Cedar

Common Cat-tail

Broom Sedge

Jack in the Pulpit

Dayflower

Juncus

Field Garlic Bear Grass Greenbrier

Dog-tooth Violet Solomon's Seal

Wild Yam

Dwarf Iris

Black Willow White Poplar

Range in N.C.*

Throughout

Throughout

Mountains, Piedmont Throughout Piedmont, Coastal Plain

Throughout

Throughout

Throughout

Throughout

Throughout

Throughout

Piedmont, Coastal Throughout Piedmont, Coastal Plain Throughout

Throughout

Throughout

Piedmont, Coastal Plain

Throughout Throughout

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(continued) Table C-6 Scientific Name JUGLANDACEAE Carya glabra C. ovata C. cordiformis C. tomentosa Juglans nigra BETULACEAE Betula nigra Alnus serrulata Carpinus caroliniana Ostrya virginiana FAGACEAE Fagus grandifolia Quercus rubra Q. veluntina Q. coccinea Q. falcata Q. marilandica Q. phellos Q. alba Q. nigra Q. stellata Q. michauxii Q. prinus ULMACEAE Ulmus americana U. alata U. rubra Celtis occidentalis ARISTOLOCACEAE Hexastylis virginica POLYGONACEAE Polygonum sp.

PHYTOLACCACEAE Phytolacca americana

CARYOPHYLLACEAE Stellaria pubera " Common Name

Pignut Hickory Shagbark Hickory

Bitternut Hickory Mockernut Hickory Black Walnut

River Birch Tag Alder Ironwood Hop Hornbeam

Beech Northern Red Oak Black Oak Scarlet Oak Southern Red Oak Black Jack Oak Willow Oak

White Oak Water Oak

Post Oak Swamp Chestnut Oak

Rock Chestnut Oak

American Elm

Winged Elm

Slippery Elm Hackberry

Heart Leaf

Knotweed

Poke

Chickweed

C-9

Range in N.C.*

Throughout Piedmont, Coastal Plain Throughout Throughout Throughout

Throughout Throughout Throughout Throughout

Throughout Throughout Throughout Throughout Throughout Piedmont, Coastal Plain Throughout Piedmont, Coastal Plain Throughout Piedmont, Coastal Plain Mountains, Piedmont

Piedmont, Coastal Plain Piedmont, Coastal Plain Mountains, Piedmont Piedmont, Coastal Plain

Throughout

Throughout

Mountains, Piedmont

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Table C-6 (continued)

Scientific Name

RANUNCULACEAE <u>Hepatica acutiloba</u> <u>Thalictrum thalictroides</u> <u>Delphinium ajacis</u>

Liverleaf Windflower Larkspur

May Apple

Yellow Poplar

Common Name

*

BERBERIDACEAE Podophyllum peltatum

MAGNOLIACEAE Liriodendron tulipifera

LAURACEAE Sassafras albidum

PAPAVERACEAE Sanguinaria canadensis

BRASSICACEAE <u>Cardamine</u> angustata Barbarea verna

SAXIFRAGACEAE <u>Tiarella</u> cordifolia

HAMAMELIDACEAE Liquidamabar styraciflua Hamamelis virginiana

PLATANACEAE Platanus occidentalis

ROSACEAE <u>Prunus serotina</u> <u>P. angustifolia</u>

> P. avium P. americana Amelanchier arborea Rosa palustris Malus angustifolia Potentilla simplex Rubus argutus R. flagellaris Geum virginianum Fragaria virginiana Craetagus flava

FABACEAE <u>Pueraria</u> <u>lobata</u> <u>Trifolium</u> repens Sassafras

Bloodroot

Toothwort Winter Cress

Foamflower

Sweet Gum Witch Hazel

Sycamore

Black Cherry Chickasaw Plum

Sweet Cherry Wild Plum Juneberry Swamp Rose Crab-apple Potentilla Blackberry Dewberry Avens Strawberry Hawthorn

Kudzu White Clover Range in N.C.*

Mountains, Piedmont Throughout

Throughout

Throughout

Throughout

Throughout

Piedmont Throughout

Mountains, Piedmont

Throughout Throughout

Throughout

Throughout Piedmont, Coastal Plain

Mountains, Piedmont Throughout Throughout Throughout Throughout Throughout Throughout Throughout Throughout Throughout Throughout

Throughout Throughout

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Table C-6 (continued)		
Scientific Name	Common Name	Range in N.C.*
FABACEAE (con t)		
Gleditsis triscanthos	Honey Locust	Mountaing Pladmont
Robinia pseudo-acacia	Black Locust	Throughout
Cercis canadensis	Redbud	Throughout
Vicia caroliniana	Vetch	Throughout
V. angustifolia	Vetch	Throughout
Vicia dasvcarpa	Vetch	Throughout
Lespedeza repens	Lespedeza	Throughout
Trifolium arvense	Rabbit Foot Clover	Throughout
OXALIDACEAE		
Oxalis florida	Wood Sorrel	Throughout
0. dillenii	Wood Sorrel	Throughout
GERANIACEAE		
Geranium carolinianum	Cranesbill	Throughout
SIMAROUBACEAE		and the second
Ailanthus altissima	Tree of Heaven	Throughout
ANACARDIACEAE		
Rhus copallina	Winged Sumac	Throughout
R. radicans	Poison Ivy	Throughout
AQUIFOLIACEAE		
Ilex opaca	Holly	Throughout
ACERACEAE		and the second sec
Acer rubrum	Red Maple	Throughout
A. negundo	Box Elder	Throughout
A. saccharum spp. floridanum	Southern Sugar Maple	Piedmont, Coastal Plain
RHAMNACEAE		
Ceanothus americanus	New Jersey Tea	Throughout
VITACEAE		-
Vitis sp.	Grape	Throughout _
VIOLACEAE		-
Viola papilionacea	Violet	Throughout
ONAGRACEAE		and the second second
Oenothera fruticosa	Sundrops	Throughout
0. speciosa	Evening Primrose	Piedmont, Coastal Plain
NYSSACEAE	Darah Gra	-
Nyssa sylvatica	BLACK GUM	Inrougnout
CORNACEAE		
Cornus florida	Flowering Dogwood	Throughout
C. amomum	Bush Dogwood	Throughout

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Table C-6 (continued)

Scientific Name

ERICACEAE Oxydendrum arboreum Vaccinium atrococcum V. stamineum Chimaphila maculata Kalmia latifolia Azalea nudiflorum

EBENACEAE Diospyros virginiana

OLEACEAE Fraxinus pennsylvanica F. americana

GENTIANACEAE Gentiana vilosa

APOCYNACEAE Amsonia tabernaemontana

ASCLEPIADACEAE <u>Asclepias</u> incarnata <u>A. syriaca</u> <u>A. tuberosa</u>

CONVOLVULACEAE Ipomea purpurea I. pandurata

BORAGINACEAE Mertensia virginica

LAMIACEAE <u>Prunella</u> <u>vulgaris</u> Monarda fistulosa

SOLANACEAE Solanum carolinense Physalis virginiana

SCROPHULARIACEAE Agalinis purpurea Verbascum thapsus

CELASTRACEAE Euonymous americanus Common Name

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Range in N.C.*

SourwoodThroughoutBlack Highbush BlueberryThroughoutSquaw-HuckleberryThroughoutSpotted WintergreenThroughoutMountain LaurelThroughoutWild AzaleaThroughout

Persimmon

Green Ash American Ash

Gentian

Blue Star

Swamp Milkweed Milkweed Butterfly-weed

Common Morning Glory Man-root Morning Glory

Virginian Cowslip

Prunella Monarda

Nightshade Ground Cherry

Gerardia Wooly Mullein

Strawberry Bush

Throughout

Piedmont, Coastal Plain

Throughout

Throughout

Throughout

Throughout Mountains, Piedmont Throughout

Throughout Throughout

Rare

Throughout Mountains, Piedmont

Throughout

Throughout Throughout

Throughout

Table C-6 (continued) Scientific Name Common Name Range in N.C.* BIGNONIACEAE Trumpet vine Throughout Campsis radicans PLANTAGINACEAE English Plantain Plantago lanceolata Throughout P. aristida Plantain Throughout RUBIACEAE Bluets Throughout Houstonia caerula Bedstraw Gallium tinctorum Throughout CAPRIFOLIACEAE Black Haw Viburnum prunifolium Throughout V. acerifolium Viburnum Mountains, Piedmont Sambucus canadensis Elderberry Throughout Symphoricarpos orbiculatus Coral-berry Mountains, Piedmont Lonicera sempervirens Coral Honeysuckle Piedmont, Coastal Plain L. japonica Japanese Honeysuckle Throughout CAMPANULACEAE Venus Looking-glass Specularia perfoliata Throughout ASTERACEAE Chicorium intybus Chicory Moustains, Piedmont Parthenium integrifolium Wild Quinine Throughout Mountains, Piedmont Carduus discolor Thistle Eupatorium capillifolium Dog-fennel Piedmont, Coastal Plain Mist Flower E. coelestinum Throughout Gnaphallium obtusifolium Rabbit Tobacco Throughout Chrysanthemum leucanthemum Ox-eye Daisy Throughout Heterotheca graminifolia Heterotheca Throughout H. mariana Heterotheca Throughout Rudbeckia laciniata Coneflower Throughout Aster pilosus Frost Aster Throughout Green and Gold Chrysogonum virginianum Throughout Antennaria plantaginifolia Pussy-toes Piedmont, Coastal Plain var. arnoglossa Milfoil Achillea millefolium Throughout

*According to Radford, et al., 1968

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Table C-7

Amphibian and Reptilian Species Collected and/or Observed at the Mayo Site, July 1976 Through July 1977*

Common Name

Scientific Name

AMPHIBIANS (17 species)

2

Red-spotted newt Four-toed salamander Red-backed salamander Slimy salamander Northern dusky salamander Red or Mud salamander Southern two-lined salamander Three-lined salamander American toad Fowler's toad Eastern narrow-mouthed toad Northern cricket frog Northern spring peeper Southern leopard frog Green frog Bullfrog Pickerel frog

Notophthalmus viridescens viridescens Hemidactylium scutatum Plethodon cinereus cinereus Plethodon glutinosus glutinosus Desmognathus fuscus fuscus Pseudotriton sp. Eurycea bislineata cirrigera Eurycea longicauda guttolineata Bufo americanus Bufo woodhousei fowleri Gastrophryne carolinensis Acris crepitans crepitans Hyla crucifer crucifer Rana utricularia Rana clamitans melanota Rana catesbeiana Rana palustris

REPTILES (14 species)

Snapping turtle Eastern box turtle Northern fence lizard Five-lined skink Northern water snake Eastern garter snake Smooth earth snake Red-bellied snake Northern ringneck snake Eastern worm snake Northern black racer Black rat snake Eastern kingsnake Southern copperhead Chelydra serpentina Terrapene carolina carolina Sceloporus undulatus hyacinthinus Eumeces fasciatus Natrix sipedon sipedon Thamnophis sirtalis sirtalis Virginia valeriae Storeria occipitomaculata Diadophis punctatus edwardsi Carphophis amoenus amoenus Coluber constrictor constrictor Elaphe obsoleta obsoleta Lampropeltis getulus getulus Agkistrodon contortrix contortrix

*Nomenclature follows Conant (1975)

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Table C-8

Avifauna Species Observed and Expected to Occur at the Mayo Site*

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			Source	
Common Name	Scientific Name	CP&L Field Studies	Audubon Christmas Bird Counts ²	Federal Breeding Bird Surveys
Horned grebe	Podiceps auritus		X	
Pied-billed grebe	Podilymbus podiceps		X	
Canada goose	Branta canadensis		X	
Mallard	Anas platyrhynchos		x	
Black duck	Anas rubripes		X	
Gadwall	Anas strepera		X	
American wigeon	Mareca americana		X	
Green-winged teal	Anas carolinensis		x	
Wood duck	Aix sponsa	х	x	
Redhead	Aythya americana		x	
Ring-necked duck	Aythya collaris	-	X	
Common goldeneye	Bucephala clangula		X	
Bufflehead	Bucephala albeola		x	
Ruddy duck	Oxyura jamaicensis		x	
Hooded merganser	Lophodytes cucullatus		X	
Turkey vulture	Cathartes aura	x	x	x
Black vulture	Coragyps atratus		X	x
Goshawk	Accipiter gentilis		X	
Cooper's hawk	Accipiter cooperii		X	
Sharp-shinned hawk	Accipiter striatus	х	x	х
Marsh hawk	Circus cyaneus		X	
Red-tailed hawk	Buteo jamaicensis	X	x	х
Red-shouldered hawk	Buteo lineatus	х	X	x
Broad-winged hawk	Buteo platypterus	X		X
American kestrel	Falco sparverius	X	x	
Wild turkey	Meleagris gallopavo	х		
Bobwhite	Colinus virginianus	x	x	X
Great blue heron	Ardea herodias	X		X
Green heron	Butorides virescens	X	X	х
American bittern	Botaurus lentiginosus	x		
American coot	Fulica americana		x	
Killdeer	Charadrius vociferus		x	x
Solitary sandpiper	Tringa solitaria			х
American woodcock	Philohela minor		х	
Common snipe	Capella gallinago	X	х	
Ring-billed gull	Larus delawarensis		х	
Rock dove	Columba livia		x	x
Mourning dove	Zenaidura macroura	X	X	x
Yellow-billed cuckoo	Coccyzus americanus	X		x
Screech owl	Otus asio		x	x

Table C-8

(continued)

			Source	
Common Name	Scientific Name	CP&L Field 1 Studies	Audubon Christmas Bird Counts ²	Federal Breeding Bird Surveys ³
	P. L. utualatanua		x	x
Great horned owl	Bubo Virginianus	Y	x	x
Barred owl	Strix varia	A		x
Chuck-will's-widow	Caprimulgus carolinensis			Y
Whip-poor-will	Caprimulgus vociferus	A		X
Common nighthawk	Chordeiles minor	X		v
Chimney swift	Chaetura pelagica	X		*
Ruby-throated humming-	Archilochus colubris	x		
Balted kingfisher	Megaceryle alcyon	X	X	X
Common flicker	Colaptes auratus	X	X	x
Pilested woodnecker	Dryocopus pileatus	X	X	X
Pad-ballied woodnecker	Centurus carolinensis	X	X	X
Red-baded woodpecker	Melanerpes erythrocephalus		x	
Yellow-bellied sap-	Sphyrapicus varius	x	x	
BUCKER	Dendrocopus villosus	x	X	X
Hairy woodpecker	Dendrocopus nubescens	X	X	X
Downy woodpecker	Tursnous tyrannus	X		X
Great crested fly-	Mylarchus crinitus			X
catcher	a state at a the	Y	x	x
Eastern phoebe	Sayornis phoese	Y	-	x
Acadian flycatcher	Empidonax virescens	A.		x
Eastern wood pewee	Contopus virens	x	T	*
Horned lark	Eremophila alpestris		*	x
Tree swallow	Iridoprocne bicolor			x
Rough-winged swallow	Stelgidopteryx ruricoilis			Y
Barn swallow	Hirundo rustica	Å		Y
Purple martin	Progne subis	A	-	×
Blue jay	Cyanocitta cristata	X	A.	×
Common crow	Corvus brachyrhynchos	X	A.	•
Black-capped chickadee	Parus atricapillus		A	
Carolina chickadee	Parus carolinensis	X	A	A
Tufted titmouse	Parus bicolor	X	Å	A.
White-breasted nuthatch	Sitta carolinensis	x	X	A
Red-breasted nuthatch	Sitta canadensis		X	-
Brown-headed nuthatch	Sitta pusilla		X	A
Brown creeper	Certhia familiaris	х	X	
House wren	Troglodytes aedon			x
Winter wren	Troglodytes troglodytes	X	X	
Carolina wren	Thryothorus ludovicianus	X	X	x
Mockingbird	Mimus polyglottos	X	X	x
Grav catbird	Dumetella carolinensis	X	X	x
Brown thrasher	Toxostoma rufum	X	X	x
American robin	Turdus migratorius	X	X	X
Wood thrush	Hylocichla mustelina	X		x
Hermit thrush	Hylocichla guttata	X	X	
Swainson's thrush	Hylocichla ustulata	X		100
Fascern bluebird	Sialia sialis	X	X	X

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Source

Table C-8

(continued)

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Common Name	Scientific Name	CP&L Field Studies	Audubon Christmas Bird Counts ²	Federal Breeding Bird Surveys
Blue-gray gnatcatcher	Polioptila caerulea	X	-	x
Golden-crowned kingler	Regulus satrapa	X	X	
Ruby-crowned kinglet	Regulus calendula	x	X	
Water pipit	Anthus spinoletta		X	
Cedar waxwing	Bombycilla cedrorum		X	
Loggerhead shrike	Lanius Iudovicianus	x	X	X
Starling	Sturnus vulgaris	х	X	X
Solitary vireo	Vireo solitarius		х	1.11
White-eyed vireo	Vireo griseus	x		X
Yellow-throated vireo	Vireo flavifrons			X
Red-eyed vireo	Vireo olivaceus			X
Warbling vireo	Vireo gilvus			х
Black-and-white warbler	Mniotilta varia		X	
Northern parula warbler	Parula americana			х
Yellow warbler	Dendroica petechia			X
Myrtle warbler	Dendroica coronata	х	X	
Yellow-throated warbler	Dendroica dominica	x		х
Black burnian warbler	Dendroica fusca	x		
Pine warbler	Dendroica pinus	х	X	x
Prairie warbler	Dendroica discolor	X		X
Palm warbler	Dendroica palmarum		x	
Ovenbird	Seiurus aurocapillus			х
Louisiana waterthrush	Seiurus motacilla			X
Common vellowthroat	Geothlypis trichas	X	x	X
Yellow-breasted chat	Icteria virens			X
Kentucky warbler	Operernis formesus			x
Hooded warblur	Wilsonia citrina			х
American redstart	Setophaga ruticulla			х
House sparrow	Passer domesticus	x	x	X
Fastern meadowlark	Sturnella magna	x	x	X
Red-winged blackbird	Agelaius phoeniceus	x	x	x
Rusty blackbird	Euphagus carolinus		x	
Brever's blackhird	Euphagus cyanocephalus		x	
Common grackle	Outscalue outscula	x	Y	x
Brown-headed coubird	Molothrus ater	Y	X	X
Orchard ortole	Totamic enuring	A	A	Y
Northern origin	Teterus galbula		Y	4
Saarlat tanagar	Dirence oliveras		a	v
Cummer tanager	Dirange Tubra	x		Y
Comdinal	Piebrandona condinalia	v	v	A.
Cardinal Secondary	Richmondena cardinaris	A	A V	A
Evening grosbeak	Resperiphona vespertina		A.	
Blue grosbeak	Guiraca caerulea		A	A
Indigo buncing	Passerina cyanea	X		x
rurple finch	Carpodacus purpureus	X	X	
House finch	Carpodacus mexicanus		X	
rine siskin	Spinus pinus	-	X	
American goldfinch	Spinus tristis	x	x	x
Kurous-sided towhee	Pipilo erythrophthalmus	x	X	х

Table C-8 (continued)

	4 4		Source	Federal
		CP&L	Christmas	Breeding
Common Name	Scientific Name	Studies1	Counts ²	Surveys ³
Savannah sparrow	Passerculus sandwichensis	x	x	
Grasshopper sparrow	Ammodramus savannarum	x		X
Dark-eyed junco	Junco hyemalis	x	X	
Tree sparrow	Spizella arborea		x	
Chipping sparrow	Spizella passerina	X	x	X
Field sparrow	Spizella pusilla	x	x	x
White-crowned sparrow	Zonotrichia leucophrys		х	
White-throated sparrow	Zonotrichia albicollis	X	х	
Fox sparrow	Passerella iliaca	X	X	
Swamp sparrow	Melospiza georgiana		X	
Song sparrow	Melospiza melodia	x	x	x

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*Scientific nomenclature follows Robbins et al. (1966)

¹From Table C-9 ²1973-1976 ³1970-1976

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Table C-9

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C-19

Results of Quarterly Avifauna Surveys and Notations on Other Bird Observations at the Mayo Site, July 1976 Through July 1977

					Number	Obser	ved									
	1976			1977				-	1977			1977				
	10/13	10/14	10/14	10/15	1/26	1/27	1/27	1/28	4/4	4/5	4/6	4/7	7/25	7/26	7/26	7/27
Species	PM	AM	PM	AM	PM	AM	PM	AM	PM	PM	AM	AM	PM	AM	PM	AM
Wood duck	*	*	*	*												
Turkey vulture Sharp-shinned hawk	*	*	*	*	*	*	*	*		4				1		
Red-tailed hawk		1			*	*	*	*		1			*	*	*	*
Red-shouldered havk Broad-winged hawk							1									
American kestrel Wild turkey	*	*	*	*							1	1				
Bobwhite	*	*	*	*						7		4				
Bobwhite call Great blue heron													7	5	5	10
Green neron									+							
Common enine									*	*	*	*				
Mourning dove	38	42	18	16	8	8	6	4	21	8	15	19	13	17	19	25
Mourning dove coo	50	4-	**	10	•			-	5	•	8	13	7	8	7	7
Yellow-billed cuckoo									-		Ů			1	i	i
Common nighthawk														1		
Barred owl									*	*	*	*				
Chimney swift													6	3	13	3
Belted kingfisher				1					*	*	*	*				
Ruby-throated hummingbird	1															1
Common flicker	4	12	1	4	3	4		5		1	3	6		1		2
Pileated woodpecker									*	*	*	*				
Red-bellied woodpecker				2		1	1		2		3	5	*	*	*	*
Yellow-bellied sapsucker																
Hairy woodpecker			1						*	*	*	*	1			
Downy woodpecker	1	2			2		1				4		*	*	*	¥
Eastern kingbird													2		1	2

Duke Energy Progress, LLC E-2**TSH12**21**0-9** (continued)

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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
10/13 10/14 10/14 10/15 1/26 1/27 1/27 1/28 4/4 4/5 4/6 4/7 7/25 7/26 7/26 7/27 7/26 7/27 7/26 7/27 7/26 7/27 7/26 7/26 7/27 7/26
Eastern phoebe 2 1 * * * * * * * * * * * 1 3 Acadian flycatcher Purple martin 1 1 1 1 2 1 2 1 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 3 2 3 3 2 3 3 3 2 3 <td< th=""></td<>
Accolain TryCatcher 1 1 Purple martin 1 1 1 Eastern wood pewee 3 2 Barn swallow 3 2 Blue jay 5 14 1 27 26 2 8 5 1 12 18 2 8 3 11 Common crow 1 16 4 18 21 1 17 6 10 12 1 11 2 19 Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted titmouse * * * * * * 2 2 Brown creepert Winter wrent 1 1 1 3 3 2 2 4 1 Gray catbird 1 1 1 1 3 3 2 2 4 1 Brown thrasher - - - - - 1 2
Further marcin 2 Barn swallow 3 Blue jay 5 14 1 27 26 2 8 5 1 12 18 2 8 3 11 Common crow 1 16 4 18 21 1 17 6 10 12 1 11 2 19 Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted timouse * * * * * * * 2 2 White-breasted nuthatch 5 2 1 1 1 3 3 2 2 4 1 Brown creeper ¹ Winter wren ¹ 1 1 1 3 3 2 2 2 4 1 Gray catbird 1 1 1 1 3 3 2 2 2 4 1 Gray catbird 1 1 1 </td
Barn swallow 3 2 Blue jay 5 14 1 27 26 2 8 5 1 12 18 2 8 3 1 Common crow 1 16 4 18 21 1 17 6 10 12 1 11 2 19 Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted titmouse * * * * * * * 2 2 White-breasted nuthatch 1 4 * * * 2 2 Winter wren1 1 1 1 3 3 2 2 4 1 Gray catbird 1 1 1 1 3 3 2 2 4 1 Gray catbird 1 1 1 1 3 3 2 2 4
Barn swallow 5 14 1 27 26 2 8 5 1 12 18 2 8 3 11 Common crow 1 16 4 18 21 1 17 6 10 12 1 11 2 19 Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted titmouse * * * * 1 4 * * * 2 2 2 White-breasted nuthatch 1 1 4 * * * 2 2 2 Winter wren ¹ 1 1 1 3 3 2 2 2 4 1 Carolina wren 2 6 1 1 1 3 3 2 2 2 4 1 Gray catbird 1 1 1 1 1 3
bille jay 5 14 1 27 26 2 8 5 1 12 18 2 8 3 11 Common crow 1 16 4 18 21 1 17 6 10 12 1 11 2 19 Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted titmouse * * * * * * * * * * * 2 2 2 White-breasted nuthatch 1 4 * * * * 2 2 2 Winter wren ¹ 1 1 1 3 3 2 2 4 1 1 2 1 2 2 4 1 1 2 1 2 1 2 1 1 1 1 1 1 1 1 1 1
Common crow 1 16 4 18 21 1 17 6 10 12 1 11 2 19 Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted titmouse * * * * * 1 4 * * * 2 2 White-breasted nuthatch 1 4 * * * 2 2 Winter wren ¹ 6 1 2 1 2 1 2 2 4 1 Gray catbird 1 1 1 1 3 3 2 2 4 1 1 Brown thrasher ¹ 37 83 45 33 15 6 8 21 27 5 8 8 9 Wood thrush 1 1 1 1 2 5 8 9 9 4
Carolina chickadee 5 2 12 2 5 3 1 8 1 5 4 5 3 9 Tufted titmouse * * * * * * * * 2 2 White-breasted nuthatch 1 4 * * * * 2 2 Winter wren ¹ 1 2 1 2 1 2 1 2 Mockingbird 1 1 1 1 3 3 2 2 4 1 Gray catbird 1 1 1 3 3 2 2 4 1 Brown thrasher
Tufted titmouse*****14***22White-breasted nuthatchBrown creeper11<
white-breasted nuthatch 1 Brown creeper ¹ Winter wren ¹ Carolina wren 2 6 1 2 1 2 Mockingbird 1 1 1 3 3 2 2 4 1 Gray catbird 1 1 1 3 3 2 2 4 1 Brown thrasher 1 1 1 6 8 21 27 5 8 8 9 Wood thrush 1 1 1 5 6 8 21 27 5 8 8 9
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American robin 37 83 45 33 15 6 8 21 27 5 8 9 Wood thrush 4 1 1 2 2 1 1 2
Wood thrush 4 1 1 2
Swainson's thrush ⁺
Eastern bluebird 1 4 5 1 2 2 1 2 2
Blue-gray gnatcatcher * * * *
Golden-crowned kinglet 5
Ruby-crowned kinglet 19 3
Lougerhead shrike * * * * * 1 1
Starling 3 2 12 1 4 9 5 9 5
White-eved vireo
Myrtle warhler 2
Yellow-throated werbler * * * * 1
Blackburnian warbler
Preirie warbler t t t t t
Pine worbler 1
Common vallevebroat ¹
Common grackie o 12 9 / 19 28 2
Hermit thrush / I

c-20

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Table C-9

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(continued)

					Number	Obser	ved									
		19	76			1977			1977				1977			
	10/13 PM	10/14 AM	10/14 PM	10/15 AM	1/26 PM	1/27 AM	1/27 PM	1/28 AM	4/4 PM	4/5 PM	4/6 AM	4/7 AM	7/25 PM	7/26 AM	7/26 PM	7/27 AM
Summer tanager																1
Cardinal	2	3	2	6	12	10	10	7	13	1	17	12	1	6	6	3
Indigo bunting												1	9	22	15	12
Purple finch					2											
American goldfinch				2							2		2			4
Rufous-sided towhee Savannah sparrow ¹ Grasshopper sparrow ¹		2		4	2		2	2	1		3	9	9	13	4	4
Dark-eyed junco	1				37	18	48	50								
Chipping sparrow																1
Field sparrow	2		1	1						2		3	*	*	*	*
White-throated sparrow				6	3	15	11	7	3	2		1				
Fox sparrow	*	*	*	*												
Song sparrow	*	*	*	*	5	3	1	1								
Unidentified birds	5	11	4	12	4	4	4	1	27	6	3	8	2	4	3	6
TOTAL BIRDS NUMBER OF SPECIES	106	210	88	196	90	141	93	125	117	J5	166	186	90	121	138	144
PER SURVEY	11	15	12	21	15	15	14	16	15	18	23	24	20	22	20	25

Four individual surveys were conducted during each quarterly sampling period.

*Indicates that the species was observed during the respective quarterly sampling trip, but not during the quantitative avifauna survey.

¹Species observed during July 1976 through July 1977 study period, but not during a quarterly sampling trip.

²Reported to occur within project area, but not observed during field study.

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Table C-10 Estimated Average Annual Retrieved Duck Harvest During 1961-70 for Person County, North Carolina, Based on Federal Waterfowl Parts Collection Survey*

Dabbler Species	No. Harvested
Mallard (Anas platyrhynchos)	68
Black duck (Anas rubripes)	33
American wigeon (Mareca americana)	9
Green-winged teal (Anas carolinensis)	52
Pintail (Anas acuta)	8
Wood duck (Aix sponsa)	126
Total dabblers	296

Total dabblers

Diver Species

Lesser scaup (Aythya affinis)	55
Ring-necked duck (Aythya collaris)	60
Bufflehead (Bucephala albeola)	19
Hooded merganser (Lophodytes cucullatus)	39
Total divers	173

Total dabblers and divers

*From Carney and Sorensen (1975)

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Table C-11 '

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Mammalian Species Observed at the Mayo Site, July 1976 Through July 1977

Common Name

Scientific Name

(20 species)

Opossum Shorttail shrew Eastern mole Raccoon Striped skunk Red fox Gray fox Woodchuck Eastern chipmunk Eastern gray squirrel Beaver Eastern harvest mouse White-footed mouse Golden mouse Hispid cotton rat Pine vole Meadow vole Muskrat Eastern cottontail Whitetail deer

Didelphis marsupialis Blarina brevicauda Scalopus aquaticus Procyon lotor Mephitis mephitis Vulpes vulpes Urocyon cinereoargenteus Marmota monax Tamias striatus Sciurus carolinensis Castor canadensis Reithrodontomys humulis Peromyscus leucopus Peromyscus nuttali Sigmodon hispidus Microtus pinetorum Microtus pennsylvanicus Ondatra zibethica Sylvilagus floridanus Odocoileus virginianus

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APPENDIX D

Responses to the Comments on the Proposed Mayo Electric Generating Plant Prior to the Issuance of the Draft EIS

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APPENDIX D

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APPENDIX D

A. Government Agencies

(1) U.S. Department of the Interior

a. <u>Comment</u>: In a May 26, 1977 letter to you concerning Carolina Power and Light Company's application (SAWC077-N-073-006-0311) for a Department of the Army permit to place fill material in the waters of Mayo Creek, I requested an opportunity to review an environmental assessment referenced in the public notice and advisement of action taken regarding this permit. I would still appreciate receiving that material because the project has great potential for adverse impact on fish and wildlife resources.

Response: The District Engineer announced in this public notice dated 8 December 1977 that an EIS would be prepared on the proposed project. The Department of the Interior has been furnished with a copy of this statement. In addition, the Department of the Interior has been furnished with a copy of the CP&L's assessment.

b. <u>Comment</u>: Based upon information provided by Carolina Power and Light, approximately 2,800 acres will be required for the make-up water reservoir; 300 acres for the ash pond, plant and related facilities; 1,793 acres for transmission corridors; and 3,000 acres for unspecified uses. Because 2,800 acres of terrestrial wildlife habitat will be permanently inundated and an additional 300 acres permanently committed to the sole purpose of electricity generation, mitigation is imperative. The 3,000 acres for unspecified uses consists of land bordering the reservoir that could be managed under the Wildlife Resources Commission Game Lands Program to offset the inundation of this habitat.

Response: Section 1.5.8 of the DEIS indicates that CP&L plans to manage approximately 1800 acres of wildlife habitat at the site in cooperation with the N.C. Wildlife Resources Commission. The land consists of a 500-acre auxiliary ash pond site west of US 501 and the 1300 acres of land surrounding the reservoir that is to be used for flood storage and passage. The remaining 1200 acres or so of land mainly surrounds the ash pond and plant site. CP&L has indicated that This area will probably not be managed as game lands because the parcels are too small, or hunting in the larger areas close to the plant would create a safety hazard.

c. <u>Comment</u>: Creation of a reservoir fishery is expected to compensate for the loss of the existing Mayo Creek fishery. However, the hydrology of the project and design of the ash pond discharge system create a potential for concentration of selenium, heavy metals and other pollutants which may preclude a sustained fish population in the make-up water reservoir. Of particular concern is the discharge of treated ash pond effluent containing 0.03 ppm selenium into the make-up water reservoir. Water retention time in conjunction with the concentrating effects of the cooling towers present a very definite potential for selenium buildup in the reservoir. Although little is known concerning the toxicity of selenium, investigations conducted at Belews Lake indicate that concentrations of 0.05 ppm or less inhibit reproduction in game fishes. Thus, a contingency plan is needed that specifies action the applicant will take should a similar problem occur at the proposed Mayo Creek Plant.

Response: As indicated in Section 4.3.2.1.2.2, the N.C. Division of Environmental Management is the state agency that handles the National Pollutant Discharge Elimination System (NPDES) permits. This agency is aware of the potential selenium problem and has the authority to deny or condition the NPDES permit as necessary to protect water quality.

d. Comment: Because the Wildlife Resources Commission shares these concerns, the Commission and the Fish and Wildlife Service have worked together with Carolina Power and Light in an attempt to find satisfactory solutions to these problems. A program of mitigation for terrestrial wildlife habitat losses and assurance that adequate water treatment measures will be taken to sustain a fishery in the reservoir must be incorporated into the project plans if unacceptable adverse effects specified in Section 404 are to be avoided. Discussions with Carolina Power and Light to develop a cooperative program of mitigation were unproductive because of purported restrictions (cited by CP&L) imposed by N.C. Utilities Commission regulations governing the holding of land for purposes other than generation of electricity. As a result, the Wildlife Commission and Fish and Wildlife Service jointly requested a ruling from the Utilities Commission to determine if their regulations do in fact prohibit or limit mitigation by Carolina Power and Light through dedication of lands to wildlife conservation. A response in the near future is anticipated.

Response: The N. C. Utilities Commission responded to the Wildlife agencies comments on 14 November 1977. This letter basically indicated that a new electric generation facility may include a reasonable amount of land for mitigation into the rate base if the land is required for environmental protection. A member of the Commission staff was contacted on 10 February 1978 for a clarification of this letter. According to the staff member, reasonable would be established by the Commission based on information presented to it. The required aspect means mitigation land required by a State or Federal authority.

However, regardless of the mitigation acreage that may be required by a State or Federal authority, the Commission would not necessarily allow the total acreage to be included in the rate base. The amount that may

be required over that approved by the Utilities Commission would have to be absorbed by the CP&L stockholders.

e. <u>Comment</u>: We will continue to work with the applicant to resolve the problems which have been discussed above and to coordinate our efforts with the N.C. Wildlife Resources Commission.

Response: Noted

f. <u>Comment</u>: It is requested that the applicant develop mitigation programs for fish and wildlife losses and a contingency plan addressing the potential selenium problem for review by and approval of the N.C. Wildlife Resource Commission and this office prior to any further action on the permit.

Response: The applicant's mitigation plan is indicated in Section 1.5.8 of the EIS.

Regarding the potential selenium problem, the N.C. Division of Environmental Management will send a public notice to the Wildlife Commission and U.S. Fish and Wildlife Service when the draft NPDES permit on the Mayo project is available for review and comment.

(2) U.S. Department of Commerce

<u>Comment</u>: Based on information in the (public) notices and our experience with similar projects, we believe the proposed work may adversely affect fishery resources for which the National Marine Fisheries Service is responsible. However, because of current workload, our biologists are unable to adequately investigate the proposed projects. Therefore, we cannot offer specific comments at this time.

Response: A representative of the National Marine Fisheries Service (NMFS) was contacted by telephone in order to have someone from the agency visit the site. However, during the conversation the representative recognized that no marine fishes such as anadromous species had access to the site since urstream migration was blocked by the Roanoke Rapids, Gaston and John H. Kerr dams on the Roanke River. Thus, the project was determined to be out of the NMFS area of responsibility and they would have no official comments on the project.

(3) Commonwealth of Virginia, Council on the Environment

<u>Comment:</u> Based on discussions with personnel of CP&L with representatives of the Virginia State Water Control Board and from information provided to the Board by CP&L we find that the project

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will offer no significant deterioration of the Mayo Creek water quality in Virginia. It is our understanding that CP&L intends to augment the 7 day/10 year low flow of 0.1 cubic feet per second to no less than 2 cubic feet per second, a factor of 20 times, except during extremely unusual drought conditions which might threaten plant operation. The Section 401 Certification issued by the State of North Carolina also has a requirement that releases from the impoundment will have a minimum dissolved oxygen concentration of 5.0 mg/1.

We found the environmental information provided to be quite sufficient and based upon our review felt that the project is environmentally acceptable.

Response: Noted

(4) N.C. Department of Natural Resources and Community Development

a. <u>Comments:</u> <u>Wildlife Resources Commission</u> strongly recommends that this letter should not provide a final state viewpoint. Further, the commission reports that it has made an effort to discuss two key issues with Carolina Power and Light Company and discussion is ongoing with the applicant. However, to date, there remains unanswered questions on the matter. The two issues of primary concern to the commission are:

1. The mitigation of wildlife losses from inundation of approximately 2800 acres from reservoir construction and;

2. The potential loss of reservoir fishery that could result from the concentration of selenium and other pollutants which can occur as a result of the discharge of the ash pond effluent into the main reservoir.

Response: See response A(1)(b) above.

b. <u>Comment</u>: The commission considers the above issues as being unresolved and requests that no action be taken on the pending Section 404 permit until a final State position is presented.

Response: Noted.

c. Comment: Water Quality Section, Division of Environmental Management reports that a Section 401 Certificate has been issued.

Division of Highways, Department of Transportation submits no objection pending final agreement on the treatment of road adjustments required by reservoir construction. Preliminary studies have been made and proposed treatment furnished to Carolina Power and Light by the Division of Highways. Division of Health Services, Department of Human Resources reports that such project represents a potential for mosquito breeding and in order to reduce that threat, compliance with the "Rules for the Control of Impounded Water" is required.

Division of Earth Resources finds that an erosion control plan must be filed with the Department of Natural Resources and Community Development at least 30 days prior to commencing land disturbing activities. The plan must be approved before the construction can begin.

Response: These items have been indicated in Section 1.8 of the EIS.

d. <u>Comment:</u> <u>Division of Archives and History</u> reported in June of this year that the agency was reviewing an archaeological/historical report on the project. No further response has been submitted.

Response: As indicated in Section 2.5 none of the archaeological or historic sites located at the project site are on the National Register of Historic Places or considered of significance for inclusion. The Fontaine House was the only site on which the historical agencies have expressed concern. However, in a letter of 29 November 1977 to the Advisory Council on Historic Preservation, the State Historic Preservation officer suggested that the Fontaine House not be considered for eligibility to the National Register.

e. <u>Comment</u>: Due to the complex nature of this project and the apparent need of further study and negotiation, the information presented herein should not be considered as a final State viewpoint.

Response: Noted.

B. Citizen Groups

Mayo Area Conservationists

a. <u>Comment</u>: Many people are being and have been forced to relocate many miles away from the community of their parents and grandparents, and perhaps as many as a dozen farmers face the prospect of finding other employment because workable land for their operation will no longer be available.

Response: Unfortunately the production of electric power is not always compatible with the desires of all the public. In the proposed project, the State Utilities Commision issued a Certificate of Public Convenience and Necessity in March 1977. This certificate was issued

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after having public hearings and considering the overall public need including the impacts on the local citizens.

The Certificate of Public Convenience and Necessity authorized construction of the CP&L plant and cleared the way for purchase and/or condemnation of the land involved. Also see Section 4.2.3.5 of the DEIS.

b. <u>Comment</u>: We would like to respond to CP&L's Environmental Assessment and would like to formally request that you notify us when the paper is available. We will send someone to Wilmington to review the assessment if copies cannot be found locally.

Response: The availability of the CP&L assessment was announced in our 23 June 1977 public notice. A copy of the Corps DEIS has been sent to the Mayo Area Conservationist.

c. <u>Comment</u>: There has been a lack of information received about the proposed project. Despite numerous requests of CP&L and the Utilities Commission we have never been told directly where the lake, ash pond and generating facility will be located nor have we seen a usable map of the project. We have been told by Larry Lilly of CP&L that final decisions have not been made. We find it hard to believe that the Utilities Commission, you or anyone else could responsibly determine the effects of the plant until this information is available.

Response: These items have been addressed in the DEIS.

d. <u>Comment</u>: As you know, CP&L has a generating facility only a few miles from the Mayo site. We have seen first-hand the environmental effects of the smoke which constantly springs forth from one or more of the four towers. Homeowners in the area have complained of a constant ash covering their houses, lawns, cars, even laundry left on the line. Tobacco and other crops have been adversely affected we are told. The Mayo facility would be considerably larger than Hyco and we are quite concerned about these problems in our area.

<u>Response</u>: The Mayo plant will actually be smaller than the Eyco plant since Mayo is to produce 1,440 MW while Hyco now produces 1,720 MW and is to produce 2,440 MW.

According to the State Air Quality Section of N.C. Division of Environmental Management, Roxboro (Hyco) unit 3 is operating in violation of particulate and visible emission standards. Although mechanical improvements have been made to the precipitators on this unit under a previous compliance order, the required collection efficiency has not been demonstrated. In recent conferences with Environmental Protection Agency officials, CP&L indicated that a program to improve precipitator efficiency by use of "flue gas conditioning" will be implemented. This work will probably take about a year to complete. Contingency plans are also being formulated.

The precipitators proposed for new Mayo facility are of a different make and should have the benefit of more recent technological advances. The division has issued a permit for the construction and operation of electrostatic precipitators to be installed on the coal-fired steam generating units at this facility. As required by Federal regulations, an analysis of the impact of air emission from this source has been conducted. A copy of the review report is in Appendix B along with the permits issued for the facility and concurrence by EPA.

e. <u>Comment</u>: We are also rather concerned about locating two such facilities so close together. The area is already constantly cloudy and there appears to be an increase in rainfall. Would not the location of another plant so close together seriously and permanently alter the climate of our area? Also, steam constantly pours out of the two cooling towers at Hyco. We understand at least two more are planned there, plus another four at Mayo. Could not these towers create essentially a rain forest connecting the two plants, where trees and other vegetation were wet with water during warm weather and covered with ice during cold? Residents of Hyco say this is beginning to happen already. We are also concerned about the far-reaching environmental and climatic dangers that could result from so many manmade bodies of water so close together, these being Kerr Lake, Hyco Lake and the proposed Mayo Lake.

Response: The anticipated impacts of the proposed cooling towers are discussed in Section 4.3.1.1.5. We are not aware of any evidence available that indicates that waterbodies the size of the ones surrounding the Roxboro area have a significant effect on the local environment.

f. <u>Comment</u>: We are also worried about the effects of one concern owning such an enormous amount of land in one county. At Mayo anywhere from 4,800 to 7,000 acres we have been told will be taken over and taken out of crop production forever. The economy of our area and the county as a whole depends on tobacco and other crops. With Hyco and then Mayo, it is beginning to look like CP&L wants to take as much of Person County's land out of production as possible and then pollute the air so the rest of the land won't produce. The situation to us looks as if economic disaster could be just around the corner. In very personal terms, CP&L is taking our land to make electricity and will then turn off ours because we can no longer pay our light bills.

Response: As indicated in Section 4.2.3.5 and Table 2.3-1 a combination of 700 acres of cropland and pastureland is to be taken out of production. Air pollution is not anticipated to be a problem as indicated in response d. of this section. Also, see response a. of this section.

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g. <u>Comment</u>: We are concerned about the necessary ash pond and a potential pollution of the creek upstream. Some of us own property just north of the site in Virginia and the stream is used to water cows that are kept on the land. No one wants to wake up one morning and find their entire income for the next several years to come is laying dead by a polluted stream. Also we understand that virtually no water would be discharged from the reservoir into Mayo Creek. Would not this transform this natural flowing waterway into a dead river, fit only for breeding mosquitos and certainly not fit for watering animals? The proposed dam would also mean that CP&L would have virtual control over all the natural waterways in Person County.

Response: See response A(1)(c) above regarding the potential pollution problem.

The project should not turn Mayo Creek into a "dead river" as indicated in your comment. As indicated in Section 4.3.1.2 an average of 24 cfs will be discharged from the reservoir during normal conditions and 2 cfs during drought conditions.

Under severe drought conditions flow in Mayo Creek has historically stopped. The release of 2 cfs could help alleviate this situation. However, when the level in the reservoir becomes critical to the operation of the plant, the 2 cfs discharge will be reduced to 0.1 cfs. CP&L reservoirs would control a significant amount of the Person County watershed but many streams and rivers are unaffected by CP&L such as South Flat and North Flat Rivers, Deep Creek, Tar River, Castle and Storys Creeks, etc.

h. <u>Comment</u>: We are concerned about the divisive effects the plant would have, and already has had, in our community. Roads would be closed that we need to get to church, to keep established ties and to farm our land. If, for example, the roads are closed as requested by CP6L a less than five minute drive would suddenly become a major half hour trek into Virginia and back to reach the same spot. You can see what this would mean to farmers whose farms are being separated and to those cut off from churches, stores, family and friends. There are six churches involved.

Response: As indicated in Section 1.6.1.2 and Figure 1.6.3, all major roads except SR 1501 are to be relocated across the reservoir near or at the existing alignments. SR 1501 is to be relocated below the dam in North Carolina.

i. <u>Comment</u>: To us, the Mayo Creek area is a unique, beautiful and restful place. It sits atop the Triassic Ridge and offers a terrain not found elsewhere in this area. The area is generally known to be

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the best hunting in Person County with deer, fox, rabbits, and a number of other animals roaming almost at will. The flowing creek has supplied Sunday dinners for generations of local residents and is still doing so. The natural peace of the area would be forever disrupted by the sound of two 720 megawatt plants. And where would the deer and other animals go? Perhaps a few miles west into the Hyco Reservoir.

Response: All the animals within the plant site and reservoir area will be displaced or destroyed. Some of the larger animals such as deer, squirrels, and rabbits that should be able to escape to adjacent areas will establish in these new areas. However, some will perish due to increased competition.

CP&L's mitigation plan as outlined in Section 1.5.8 of this EIS, may partially offset this impact. However, as noted above, there will be some unavoidable changes.

j. <u>Comment</u>: Though we have no place registered in the National Registry of Historic Places, there are several items we feel are of significant historical interest. One of the several ash pond sites which CP&L has mentioned would cover two large cemeteries. We believe these to be slave graveyards with graves dating well back into the 18th century. Davis Mill, an old water run gristmill we believe has historic interest and several of the older houses and farmsteads certainly are significant historically for the region, and may well have significance beyond the region.

Response: The Research Laboratories of Anthropology of the University of North Carolina, Chapel Hill (Ward and Trinkley, 1977), performed a historic and prehistoric survey of the Mayo project site. None of the sites discussed in this report including Davis Mill were considered of such significance for inclusion in the National Register.

Also see Section 2.5.2 and 4.2.2.3 of the DEIS regarding gravesites.

k. <u>Comment</u>: We also question whether the plant is necessary at all. CP&L estimates of future demand of electricity have already been proved far high over the past few years. Demand has grown far less than they anticipated and we think with the emphasis on energy conservation, demand will grow even less. Is it worth it to destroy one of the few remaining completely natural areas, disrupt our lives and community, to provide something that may not even be needed?

Response: The N. C. Utilities Commission considers that there is a public need for the project since they issued a Certificate of Public Convenience and Necessity in March 1977.

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C. Individuals

(1) John H. Merritt

a. Comment: I notice that the area to be covered with water in this proposed project will be 28,000 acres. CP&L already has 3,750 acres covered with water in the Hyco reservoir. There will not be much land left in Person County.

<u>Response:</u> The Mayo Reservoir will impound 2,800 acres, not 28,000 acres. The two reservoirs combined would comprise less than 3% of the county area.

b. <u>Comment</u>: I am concerned greatly about the ash pond on Crutchfield Branch and the pollution in the drainage from this ash pond. I have some 625 acres of land just north of the proposed main dam and the ash pond dam that is being used for the production of purebred Angus cattle. The ash pond would overflow into the Crutchfield Branch just south of the North Carolina-Virginia line, flow through my farm and enter Mayo Creek on my farm. This branch is used as a source of water for the cattle. If CP&L is allowed to dump polluted water and waste in this branch it will render a large part of my farm unfit for its present use. It also seems it would effect the quality of the water in Mayo where Crutchfield Branch enters Mayo.

I would like to be assured of a normal flow of water in Crutchfield as well as Mayo with the assurance that the quality of water would not be below a level that would be harmful to livestock as well as wildlife and fish.

Response: The N. C. Department of Natural Resources and Community Development, Division of Environmental Management, have been informed of your situation. They indicated that they will investigate your operation and take it into consideration prior to the issuance of a NPDES discharge permit.

(2) Mary M. Winstead

a. <u>Comment</u>: I did not receive a readvertisement of the public notice dated 28 April 1977, but I live within four miles of the proposed Carolina Power and Light plant on Mayo Creek and five miles from the Hyco Carolina Power and Light plant. I indeed request a public hearing before any permit is issued for this Mayo Plant.

Response: Your name has been placed on our Mayo Creek project mailing list and you will receive all future notices. A hearing is planned on the project. You will be notified of time and place. 13

b. <u>Comment</u>: The air pollution in northern Person County is already bad. A heavy smut settlement is constantly on everything we have coming from the west of us, Hyco CP&L. This is a beautiful green farming area but what will be the effect to crops with more of this ash and soot rolling down on us from the northeast.

Our chief crop is tobacco, the tobacco companies are not to buy tobacco with sand on it this year. The sand only effects the bottom leaves but this ash and soot will miss none of the plant. If the tobacco companies refuse to buy such tobacco the economy of Person County is immediately destroyed.

Response: See response B(1)(d) above.

c. <u>Comment</u>: This area is rich in history. Old houses are hand hewn and pegged together. One such house CP&L has already torn down. A graveyard, either Indian or slave, will be destroyed also.

Response: See response B(1)(j) above.

d. <u>Comment</u>: The wild animals are plentiful, deer, wild turkeys, quail, etc. When CP&L takes their natural homes, they will be driven into the cornfields and eventually destroyed.

Response: See response B(1)(i) above.

e. <u>Comment</u>: Do you know of another area where two plants are only 8 miles apart? If so what is the environmental impact?

Response: We are not aware of any coal-fired plants in this region that are as close as the Roxboro and Mayo plant. However, we feel that the impacts of the project are adequately addressed in this DEIS.

f. <u>Comment</u>: Why was not the public better informed on their right to respond to your said public notice?

Response: Our public notices are sent to everyone who has expressed interest in a project, to affected property owners, to local officials, post offices, etc. Unfortunately when compiling a mailing list of several hundred individuals, sometimes someone is inadvertently overlooked.

(3) Mr. and Mrs. G. W. Kane

a. <u>Comment</u>: I own property in this area which is my only source of income. This is farm property used to produce tobacco. I would like to know how an additional plant will affect the area. Response: All pertinent impacts of the proposed plant are discussed in this DEIS. However, I believe your basic concern probably deals with the ash from the stacks. This should not be a problem as indicated in response B(1)(d) above.

b. <u>Comment</u>: Is it the custom for the power company to buy the land, displace the people, and cause all of this stress and distress before even applying for the permit, and before giving the people who live in the area a chance to comment on the project? We do feel that we need a hearing on this entire process.

Response: The N.C. Utilities Commission issued CP&L a Certificate of Public Convenience and Necessity in March 1977 after considering the overall public interest and need. This certificate cleared the way for CP&L to obtain the land necessary either by direct purchase or condemnation. Applying for a Department of the Army permit to the Corps of Engineers has no bearing on those acquisition procedures.

A public hearing is planned on the proposed project under Corps of Engineers authority and your comments are requested on this DEIS. You will be notified of time and place of the hearing.

(4) Travis W. Peed

a. <u>Comment</u>: Carolina Power and Light Company has already placed dams in Mayo Creek, which divert the flow from its natural position, without consideration being given to landowner's property or rights to the use of the stream. Such blatant disregard for the involved public is apparently congruent with their failure in assuring "full and adequate notification of the general public" of their application to the Army Corps of Engineers, making necessary the notice dated 23 June 1977. Even this final notification though has missed people who are directly concerned.

Response: CP&L diverted the flow prior to our regulatory authority coming into effect in Mayo Creek.

The lack of notification in our 28 April 1977 public notice was inadvertant and was corrected by our 23 June 1977 public notice. However, when dealing with hundreds of names and addresses sometimes an individual may be missed.

b. <u>Comment</u>: In the description of the proposed work submitted by the applicant, there is not enough detail or accuracy in the plans to determine the full extent of the detriment this project would bring about. However, as yet Carolina Power and Light Company does not own the land where they propose an ash pond, nor have they even made a survey to determine if the area is suitable for its construction. How could anyone expect to be granted an application for something that so little Ŧ

is known about? In the same light the main dam on Mayo Creek is thought to be located on or near a fault. Is this item that easily overlooked? Likewise, what about the possibility of bad water flowing with the Crutchfield Branch on into Virginia given all types of weather conditions?

Response: All these items are addressed or discussed in detail in this DEIS. Additional information on the ash pond has been requested as indicated in Section 4.3.1.3. The fault is discussed in Section 2.2.1.2.2.1. Comments from the State of Virginia regarding water quality are indicated in comment A(3) above.

c. <u>Comment</u>: What happens to the incomes of the farmers who must relocate? Where are their new lands to come from? Sure the county would get more taxes, but county taxes do not feed your family!

Response: See response B(1)(a) above.

d. <u>Comment</u>: The natural beauty and richness of the free flowing stream, the only habitat in which some animal life can survive, will be taken from our area forever.

Response: The impacts of the project on the natural system is discussed in Sections 4.2.2 and 4.3.2 of the EIS.

e. Comment: Have the old graveyards and mill site been considered?

Response: See response B(1)(j) above.

f. <u>Comment</u>: Isn't the proposed project tapping the last unused water supply in the area.

Response: See responses B(1)(g) and C(1)(a) above.

g. <u>Comment</u>: In summary I would like to request the preparation of a full Environmental Impact Statement under Section 102(2)(c) of the National Environmental Policy Act of 1969.

Response: This DEIS was prepared to comply with NEPA.

(5) Blanche B. Clay

<u>Comment</u>: In reference to the petition dated June 14, 1977 (Mayo Area Conservationists), expressing certain reservations with regard to Carolina Power and Light Company's proposed Mayo Creek Project which I signed for myself and also signed as spokesperson for Clem E. Clay, Roxie B. Hughes, Reva B. Parham, Isaac Bowman, Jr., and Paul H. Hughes, I would like to withdraw all the names I signed in the petition. We have reached a settlement with Carolina Power and Light Company on lands necessary for the project that we own.

Response: Noted

Letters with comments similar to the ones indicated above were received from the following:

Mr. Alan Johnson Route 5, Springhill 21 Chapel Hill, NC 27514

Mrs. H. Whorton Winstead Route 5, Box 188 Roxboro, NC 27573 (Second letter, first letter included in Section C(2) above)

These letters have not been included in this appendix since they are similar to other comments received.

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LETTERS COMMENTING ON THE PROPOSED MAYO ELECTRIC GENERATING PLANT PRIOR TO THE ISSUANCE OF THE DRAFT EIS

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United States Department of the Interior

NOV 1 1977

FISH AND WILDLIFE SERVICE

Division of Ecological Services 310 New Bern Avenue, Room 468 Raleigh, North Carolina 27601

October 28, 1977

District Engineer U.S. Army Corps of Engineers P.O. Box 1890 Wilmington, North Carolina 28401

Dear Sir:

In a May 26, 1977 letter to you concerning Carolina Power and Light Company's application (SAWCO 77-N-073-006-0311) for a Department of the Army permit to place fill material in the waters of Mayo Creek, I requested an opportunity to review an environmental assessment referenced in the public notice and advisement of action taken regarding this permit. I would still appreciate receiving that material because the project has great potential for adverse impact on fish and wildlife resources.

Our primary concerns associated with the proposed Mayo Creek Generating Plant center around the loss of approximately 3,100 acres of wildlife habitat and the potential for buildup of pollutants in the make-up reservoir.

Based upon information provided by Carolina Power and Light, approximately 2,800 acres will be required for the make-up water reservoir; 300 acres for the ash pond, plant and related facilities; 1,793 acres for transmission corridors; and 3,000 acres for unspecified uses. Because 2,800 acres of terrestrial wildlife habitat will be permanently inundated and an additional 300 acres permanently committed to the sole purpose of electricity generation, mitigation is imperative. The 3,000 acres for unspecified uses consists of land bordering the reservoir that could be managed under the Wildlife Resources Commission Game Lands Program to offset the inundation of this habitat. Creation of a reservoir fishery is expected to compensate for the loss of the existing Mayo Creek fishery. However, the hydrology of the project and design of the ash pond discharge system create a potential for concentration of selenium, heavy metals and other pollutants which may preclude a sustained fish population in the make-up water reservoir. Of particular concern is the discharge of treated ash pond effluent containing 0.03 ppm selenium into the make-up water reservoir. Water retention time in conjunction with the concentrating effects of the cooling towers present a very definite potential for selenium buildup in the reservoir. Although little is known concerning the toxicity of selenium, investigattions conducted at Balews Lake indicate that concentrations of 0.05 ppm or less inhibit reproduction in game fishes. Thus, a contingency plan is needed that specifies action the applicant will take should a similar problem occur at the proposed Mayo Creek Plant.

Because the Wildlife Resources Commission shares these concerns, the Commission and the Fish and Wildlife Service have worked together with Carolina Power and Light in an attempt to find satisfactory solutions to these problems. A program of mitigation for terrestrial wildlife habitat losses and assurance that adequate water treatment measures will be taken to sustain a fishery in the reservoir must be incorporated into the project plans if unacceptable adverse effects specified in Section 404 are to be avoided. Discussions with Carolina Power and Light to develop a cooperative program of mitigation were unproductive because of purported restrictions (cited by CP&L) imposed by N.C. Utilities Commission regulations governing the holding of land for purposes other than generation of electricity. As a result, the Wildlife Commission and Fish and Wildlife Service jointly requested a ruling from the Utilities Commission to determine if their regulations do in fact prohibit or limit mitigation by Carolina Power and Light through dedication of lands to wildlife conservation. A response in the near future is anticipated.

We will continue to work with the applicant to resolve the problems which have been discussed above and to coordinate our efforts with the N.C. Wildlife Resources Commission. However, we reiterate our earlier position that the permit be held in abeyance until the Corps of Engineer's environmental assessment can be reviewed. Further, it is requested that the applicant develop mitigation programs for

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fish and wildlife losses and a contingency plan addressing the potential selenium problem for review by and approval of the N.C. Wildlife Resources Commission and this office prior to any further action on the permit.

Please advise us of the current status of this permit.

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Sincerely yours, Ru 1001

Bob A. Robinson Field Supervisor

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 322 of 565



UNITE:) STATES DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration NATIONAL MARINE FISHERIES SERVICE Duval Building 9450 Gandy Boulevard JUL 5 1977 St. Petersburg, FL 33702

July 1, 1977

Colonel Homer Johnstone District Engineer, Wilmington District Department of the Army, Corps of Engineers P. O. Box 1890 Wilmington, NC 28401

Dear Colonel Johnstone:

We have reviewed the following public notices regarding applications for Department of the Army permits.

Based on information in the notices and our experience with similar projects, we believe the proposed work may adversely affect fishery resources for which the National Marine Fisheries Service is responsible. However, because of current workload, our biologists are unable to adequately investigate the proposed projects. Therefore, we cannot offer specific comments at this time.

Should future changes in these projects require additional permits or amendments, we would appreciate the opportunity to offer our comments.

NOTICE NO.	APPLICANT	DATE_	DATE
77-N-019-237-0415 77-N-073-006-0311	Carolina Power and Light Co. Carolina Power and Light Co.	6-2-77 6-23-77	7-5-77
77-N-066-004-0466	Carolina Telephone and Telegraph Co.	6-23-77	7-25-77
77-N-041-006-0470 77-N-032-006-0469	N.C. Dept. of Transportation N.C. Dept. of Transportation	6-23-77 6-23-77	7-25-77 7-25-77

Sincerely,

am H. Stevenson

Regional Director





Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 323 of 565

SEP 1 6 1977



COMMONWEALTH of VIRGINIA

SUSAN T. WILBURN

Council on the Environment

903 NINTH STREET OFFICE BU RICHMOND 23219 604-785-4500

September 8, 1977

Mr. Paul J. Traina Director Enforcement Division U.S. Environmental Protection Agency Region IV 345 Courtland Street Atlanta, Georgia 30308

SUBJECT: Carolina Power and Light Company (CP&L) Earthen Dams in Mayo Creek (SAWKO 77-N-073-006-0311)

Dear Mr. Traina:

This is in reference to your letter dated July 22, 1977, advising the Commonwealth of Virginia of CP&L's intention to impound waters of Mayo Creek. Mayo Creek as you are aware flows into Virginia and becomes a tributary of Hyco River.

It is noted from a review of data provided relative to the hydrology and water budget for the project that a 2,800 acre impoundment will be placed on Mayo Creek with a drainage area at the dam site of 52.2 square miles which provides an average flow of about 44 cubic feet per second at the dam site. It is also noted that project water requirements during an average year would reduce the flow from about 44 cubic feet per second to about 24 cubic feet per second. Particular note is made of the fact that the project's water requirement represents a water allocation from the drainage area made possible through the storage capacity of the reservoir and that the regulation of stored water is a decisive factor in the project's viability for electric power generation.

Based on discussions with personnel of CP&L with representatives of the Virginia State Water Control Board and from information provided to the Board by CP&L we find that the project will offer no significant deterioration of the Mayo Creek water quality in Virginia. It is our understanding that CP&L intends

Mr. Paul J. Traina September 8, 1977 Page two

to augment the 7 day/10 year low flow of 0.1 cubic feet per second to no less than 2 cubic feet per second, a factor of 20 times. except during extremely unusual drought conditions which might threaten plant operation. The Section 401 Certification issued by the State of North Carolina also has a requirement that releases from the impoundment will have a minimum dissolved oxygen concentration of 5.0 mg/1.

We found the environmental information provided to be quite sufficient and based upon our review feel that the project is environmentally acceptable.

We are appreciative of the opportunity provided us to comment with respect to this matter.

Sincerely yours,

Susan T. Wilburn Acting Administrator

STW:dja

Mr. Charles W. Hollis-Wilmington District, Army Corps of cc: Engineers Mr. W. E. Knight-North Carolina Water Resources Carolina Power and Light Company Honorable Earl J. Shiflet, Secretary of Commerce and Resources Mr. Raymond Bowles, State Water Control Board

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NOV 2 3 1977



North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

November 21, 1977

Dennis B. Bulger LTC, Corps of Engineers P. O. Box 1890 Wilmington, N. C. 28401

Dear Colonel Bulger:

In accordance with your request, this office has circulated to interested state review agencies Corps Notice ...0311 dated 28 April 1977 in which is described a project proposal by Carolina Power and Light Company of Raleigh, The project involves dam construction, channel relocation and related initial work in and about Mayo Creek and adjacent/contiguous wetlands in Person County. This preliminary work is for construction of the Mayo Steam Electric Plant.

The considerable delay in responding to the subject public notice is due primarily to a request for additional information and to the implication that an EIS may be forthcoming. This delay has been discussed from time to time with members of your staff. Due to the complex nature of this project and the apparent need of further study and negotiation, the information presented herein should not be considered as a final state viewpoint.

Information on the Mayo Creek project received to date and the agency submitting same follows:

Wildlife Resources Commission - strongly recommends that this letter should not provide a final state viewpoint. Further, the Commission reports that it has made an effort to discuss two key issues with Carolina Power and Light Company and discussion is ongoing with the applicant. However, to date, there remains unanswered questions on the matter. The two issues of primary concern to the Commission are:

- the mitigation of wildlife losses from unundation of approximately 2800 acres from reservoir construction and ;
- the potential loss of reservoir fishery that could result from the concentration of selenium and other pollutants which can occur as a result of the discharge of the ash pond effluent into the main reservoir.

The Commission considers the above issues as being unresolved and request that no action be taken on the pending Section 404 permit until a final state position is presented Carolina Power & Light Co. Corps Notice ...0311 November 21, 1977 Page 2

Water Quality Section, Division of Environmental Management reports that a Section 401 Certificate has been issued, a copy of which is attached.

Division of Highways, Department of Transportation - submits no objection pending final agreement on the treatment of road adjustments required by reservoir construction. Preliminary studies have been made and proposed treatment furnished to Carolina Power and Light by the Division of Highways.

Division of Health Services, Department of Human Resources reports that such project represents a potential for mosquito breeding and in order to reduce that threat, compliance with the "Rules for the Control of Impounded Water" is required. A copy of these rules is attached.

<u>Division of Earth Resources</u> - finds that an erosion control plan must be filed with the Department of Natural Resources and Community Development at least 30 days prior to commencing land disturbing activities. The plan must be approved before the construction can begin.

Division of Archives & History - reported in June of this year that the agency was reviewing an archaeological historical report on the project. No further response has been submitted.

We trust this preliminary report will facilitate progress toward a mutually satisfactory solution. We look forward to further contact with your office on this important matter.

Very sincerely,

Parker,

Permit Coordinator

JRPjr:sh

cf: Agencies listed

Enclosures

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 327 of 565 77-03//

June 14, 1977

District Engineer D. S. Army Corps of Engineers P. D. Box 1890 Wibmington, North Carolina 28401

Mage Area Conservationisto Pe Bux 1580 Rev borg Noc 27573

Attention Mr. Cliff Winefordner

Dear Mr. Winefordner,

We learned of your request for public comment on CP&L's request for a permit to dam Mayo Creek in Person County following a telephone conversation with Wayne Wright on June 9th. Though the time is past for receiving comment, he indicated that our thoughts would still be considered.

We are all landowners in the Mayo Creek area and would be directly affected by the proposed generating facility. Our comments would have reached you earlier but none of us, or anyone else we have asked, had any knowledge of your request for public comment.

In a word, we are more than a little bit concerned about the far-reaching and irreparable damage that may be done to our land and community by CP&L. We think the environmental, social and economic impact of the Mayo Creek facility might very well prove disastrous to those who are now living and working in the area.

We say are now living and working because many are being and have been forced to relocate many miles away from the community of their parents and grandparents, and perhaps as many as a dozen farmers face the prospect of finding other employment because workable land for their operation will no longer be available.

Due to the lack of notice, we have not had time to more precisely list each of our concerns, nor have we had time to ask our neighbors for their comments, but we would like to do so in response to CP&L's Environmental Assessment and would like to formally request that you notify us when that paper is available. We will send someone to Wilmington to review the assessment if copies cannot be found closer to home.

Page 2

We are concerned about potential severe and damaging effects on our lives

: by the proposed Mayo Creek plant for the following reasons:

- There has been a lack of information received about the proposed project. Despite numerous requests of CP&L and the Utilities Commission we have never been told directly where the lake, ash pond and generating facility will be located nor have we seen a useable map of the project. We have been told by Larry Lilly of CP&L that final decisions have not been made. We find it hard to believe that the Utilities Commission, you or anyone else could responsibly determine the effects of the plant until this information is available.
- 2. As you know, CP&L has a generating facility only a few miles from the Mayo site. We have seen first hand the environmental effects of the smoke which constantly springs forth:from one or more of the four towers. Home owners in the area have complained of a constant ash covering their houses, lawns, cars, even laundry left on the line. Tobacco and other crops have been adversely affected we are told. The Mayo facility would be considerably larger than Hyco and we are quite concerned about these problems in our area.
- 3. We are also rather concerned about locating two such facilities so close together. The area is already constantly cloudy and there appears to be an increase in rainfall. Would not the location of another plant so close together seriously and permanently alter the climate of our area? Also, steam constantly pours out of the two cooling towers at Hyco. We understand at least two more are planned there, plus another four at Mayo. Could not these towers create essentially a rain forest connecting a the two plants, where trees and other vegetation were wet with water during warm weather end cowered with fee during cold2 : Residents of Hyco say this is beginning to happen already. We are also concerned about the far-reaching environmental and climatic dangers that could result from so many large man-made bodies ciewater so close together, these being Kerr Lake, Hyco Lake and the proposed Mayo Lake.
- 4. We are also worried about the effects of one concern owning such an enormous amount of land in one county. At Mayo anywhere from 4,800 to 7,000 acres we have been told will be taken over and taken out of crop production forever. The economy of our area and the county as a whole depends on tobacco and other crops. With Hyco and then Mayo, it is beginning to look like CP&L wants to take as much of Person County's land out of production as possible and then pollute the air so the rest of the land won't produce. The situation to us looks as if economic disaster could be just around the corner. In very personal terms, CP&L is taking our land to make electricity and will then turn off ours because we can no longer pay our light bills.

- 5. We are concerned about the necessary ash pond and a potential pollution of the creek upstream. Some of us own property just north of the site in Virginia and the stream is used to water cows that are kept on the land. No one wants to wake up one morning and find their entire income for the next several years to come is laying dead by a polluted stream. Also we understand that virtually no water would be discharged from the reservoir into Mayo Creek. Would not this transform this natural flowing waterway into a dead river, fit only for breeding mosquitos and certainly not fit for watering animals? The proposed dam would also mean that CP&L would have virtual control over all the natural waterways in Person County.
- 6. We are concerned about the divisive effects the plant would have, and already has had, in our community. Roads would be closed that we need to get to church, to keep established ties and to farm our land. If, for example, the roads are closed as requested by CP&L a less than five minute drive would suddenly become a major half hour trek into Virginia and back to reach the same spot. You can see what this would mean to farmers whose farms are being separated and to those put off from churches, stores, family and friends. There are mix churches involved.
- 7. To us, the Mayo Creek area is a unique, beautiful and restful place. It sits atop the Triasic Ridge and offers a terrain not found elsewhere in this area. The area is generally known to be the best hunting in Person County with deer, fox, rabbits and a number of other animals roaming almost a will. The flowing creek has supplied Sunday dinners for generations of local residents and is still soing so. The natural peace of the area would be forever disrupted by the sound of two 720 megawatt plants. And where would the deer and other animals gc? Perhaps a few miles west into the Hyco Reservoir.
- 8. Though we have no place registered, in the National Registry of Histori Places, there are several items we feel are of significant historic. interest. One of the several as: wond sites which CF6L has mentioned would cover two large cemeteries. We believe these to be slave graveyards with graves dating well back into the 18th Century. Davis Mill, an old water run gristmill we believe has historic interest and several of the older houses and farmsteads certainly are significant historically for the region, and may well have significance beyond the region.
- 9. We also question whether the plant is necessary at all. CP&L estimates of future demand of electricity have already been proved far high over the past few years. Demand has grown far less than they anticipated and we thing whith the emphasis on energy conservation, demand will grow even less. Is it worth it to destroy one of the few remaining completely natural areas, disrupt our lives and community, to provide something that may not even be needed?

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Page 4

For these and other reasons, we the undersigned residents of the Mayo Creek project area, think the issuance of a permit is directly contrary to the public interest, and we would like to comment further upon CP&L's Environem**tal**. Assessment.

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Jinny Wade Mardy Diade 11 Jary 6. 21 W

Rt 5 Box 189 Roxboro, N. C. 27573 5 July 1977

Department of the Army Wilmington District Corps of Engineers R. O. Box 1890 Wilmington, N. C. 28401

Attn: Mr. Cliff Winefordner Re: C. P. & L. Mayo Project in Person County

I notice that the area to be covered with water in this proposed project will be 28000 acres. C. P. & L. already has 3750 acres covered with water in the Hyco reservoir. There will not be much land left in Person County.

I am concerned greatly about the ash pond on Crutchfield Branch and the polution in the drainage from this ash pond. I have some 625 acres of land just north of the proposed main dam and the ash pond dam that is being used for the production of purebred Angus cattle. The ash pond would overflow into the Crutchfield Branch just south of the N.C.-Va. line, flow through my farm and enter Mayo Creek on my farm. This branch is used as a source of water for the cattle. If C.F.& L. is allowed to dump poluted water and waste in this branch it will render a large part of my farm unfit for its present use. It also seems it would effect the quality of water in Mayo where Crutchfield Branch enters Mayo.

I would like to be assured of a normal flow of water in Crutchfield as well as Mayo with the assurance that the quality of water would not be below a level that would be harmful to livestock as well as wildlife and fish.

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John H. Merritt

Royhors DC. July 6, 1977 Wilmington Dist, Carps of Engineere jul 8 1977 Wilmington D.C. 28401 Vien Sir, I did not recure a readantisement of the "public metice" dated april 28, 1977 but I line with in four miles of the prepased Curelena Farer and high first on May Crickand fine mules from the Hype incoles a tamer and Fight first I adick nequiata judice herring lifere try firmit is accuid for this may Te + The der falication in Merthern Tewin Ci. is already tord. a knew pronet settement to conditatly and every thing end time

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Coming from the exist of us, Xlyce C. P. J. This te a heariteful green farming area but what will the effect to creps he will more of this and and sant hasterny law to us from the north East. Ain chief Crep in tehacar, the filicies Component an mat to may tabacce with the Lattorn knowes bit the ask and part build mus none of the spect of the takasco l'esperies infance to they such volacies The second of "won"e a consisting timbered. "I are which in conteng til here in i From and Beg and in siler law such time Citivit. Lis altering the due di gun "prod tother todan in stone mil to

The Wild animals are plistight, dier, wild Jurkeys, quarke etc when CPV & takes their natural Comes they will be diesen ento The Carn fields and eventually destroyed. the do need eque linist Consideration Please times our request for a public terring. Do you town of insufer area to have tiro pliste are only 8 miles apart? I Ro what is the environmental songest? they was not the public atter informed on their right to respond to your said public notice ? Was the the fault of the large of Engineers ar Carlina Famer Light? april lealy The Mary M. Westerd Et 5 Bed 188 Raybaro 7. C. 27513

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Mr. . mus. N. W. Kalage 335 of 565 8 1977 825 S. William St. - _ Casper of - Engeneral Tunderson n.C. - - - Wilmington - n.C. 27536 - - second your matice concerning the - fact that Caralina Pewer and Light Las - applied for a permit to build another case burning plant in Person county on - Mayo crick. I am interested and - Concerned about this because I do own property in this area which is my only source of income. This is farm property used to produce tobacco. I would like to know how an additional plant will affect the - area. I have been very concerned at the way the property awners have been treated by the pawer companyrepresentatives, and very law prices tring puid for the land under the ti not of Condemnation. She serious-ness of the problem is manifested in the disturbance of their religions and social "ife. Is it the custom for the parmer company to buy the

land, displace the people, and come all of this stress and dictures there even applying for the pumit, and the giving the . perte who live in the area a chance "to" comment on the project? The do fil that not mind a having on the colore

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PAGE 14A

Researchers Pressed For Answers On Coal

By The Associated Press

President Carter's call for greater use of coal has intensified the pressure on research-ers, trying to avoid the poten-tially deadly dangers of noxious sulfur dioxide.

Studles have concluded that ncentrations of sulfur dioxide in the air cause serious and possibly fatal health problems, in addition to damaging venetation, buildings and equipment.

The Environmental Protec-tion Agency in the Research Triangle Park already has made a multimillion-dollar investment in this decade to develop de-vices to meet EPA standards for sulfur-dioxida emission controi.

But Carter's energy plans and increasing pressure from environmentalista have forced EPA efficials to accelerate their development timetables.

"Before, we were more long-term oriented in finding ways to burn coal cleanly," said Nor-bert Jaworski, deputy director of the EPA's industrial-environmental research laboratory here, "But now ue're going to have to concentrate on the short range, and look for some immediate answers."

"Our standards are uscless if we don't have the technology with which to meet them" added Wade Ponder, a senior chemical engineer at the EPA's fortness-like complex in the Re-search Park searcis Park.

Since 1970, the EPA has spent more than 500 million to devel-op equipment for a process called flue gas desulturization, which can be used by public and private utility companies that burn coal to generate electricity.

It is the most economical and It is the most economical and efficient process yet developed, but it is still costly. EPA offi-cials said the equipment in-volved can be expected to hike electric bills between eight and 10 per cent.

Without devices to reduce subfur dioxide emissions, power plants alone will emit about 90 inition tons of the invisible polsually by the year 2001, accordine Carter energy plan was announcert,

Corrent EPA standards require new coal-burning power plants to remove about 80 per cent of the sulfur dioxide from their emissions. But environmental groups have petitioned the EPA to make the standards even more stringent.

Using a mechanism called a "scrubber" the flue gas derulfurization process treats the gases released by coul com-bustion with a liquid a half noterial, which reinutes most of the sultur dioxide and the ash-

like particles before the emis-sions reach the atmosphere. Currently, 16 such systems are in operation, and 60 more are expected to be completed by 1980, servicing about one-third of the nation's cost-burn-ber descript execution ing electric generators.

A recently completed desulfu-In recently completen desuti-rization system serving Gary, ind, cost more than \$12 million and covers 20,000 square feet, Yet it can still serve only one of the four coal boilers in the Gary power plant.

The typical power plant would require several such units to control all its subur dioxide emissions. Virtually all power plants built in the future will be required by FPA stand. will be required by EPA stand-

will be required by EPA stand-ards to have such equipment. However, newly developed desulturization equipment — in-cluding the unit installed in Gary — removes the sultur dioxide in such a way that it can us reduced to liquid forms of elemental sultur or sulfuric seld acid.

of certificity and the of administration of the process can be sold by utility com-panies, cutting the overall costs of desulfurinstion. At the Garv-plant alone, 25 tons of virtually pure sulfur products are car-ried away daily. Little of the actual research and production of desulfurias lion technology is being don-by the EPA itself, Jaworsk said, About 95 per cent is cor tracted out to private firms, is cluding Alifed Chemical. TRW Bechtel and other corporation Theoretical research in ti Theoretical research in the area is being conducted by number of universities and a search instantions in Nor (prolina

Other methods of desulfuri tion that are now feasible clude the burning of coal low sulfur content - most of with is mined in the Western stu-- and the removal of su from coal before it is burne But there are drawhack

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both those processes, according to Everett Plyler, chief of the utilities and industrial power division of the EPA labora-tories bere.

Many power plants that use hith-sulfur coal cannot readily convert is other kinds of coal. Plyler said, and leas than 15 per cett of all coal can be de-sulfurized before burning. In additon, he said, there has been political variances in Faster political resistance in Eastern coal-producing states to the im-porting of low-sulfur Western coal

coat. The only other atternative now available — flue gas de-sulfurization — "is the one we're most concerned with." Plyler said Refining that proc-ess will be the most pressing challenge to the EPA research-ers in the immediate future, be said bits.

Route 5, Box 52 Roxboro, N. C. 27573

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July 21, 1977

Dennis B. Bulger MAJ, Corps of Engineers Acting District Engineer Wilmington, N. C. 28401

Your notice of June 23, 1977

Dear Sir:

Carolina Power and Light Company has already placed dams in Mayo Creek, which divert the flow from its natural position, without consideration being given to landowners' property or rights to the use of the stream. Such blatent disregard for the involved public is apparently congruent with their failure in assuring "full and adequate notification of the general public" of their application to the Army Corps of Engineers, making necessary the notice dated 23 June 1977. Even this final notification though has missed people who are directly concerned.

In the description of the proposed work submitted by the applicant, there is not enough detail or accuracy in the plans that accompanied to determine the full extent of the detriment this project would bring about. However, as yet Carolina Fower and Light Company does not own the land where they propose an ash pond, nor have they even made a survey to determine if the area is suitable for its construction. How could anyone expect to be granted an application for something that so little is known about? In the same light the main dam on Mayo Creek is thought to be located on or near a fault. Is this item that easily overlooked? Likewise, what about the possibility of bad water flowing with the Crutchfield Branch on into Virginia given all types of weather conditions?

These have been just general questions concerning some of the physical dangers of the project. Now, what happens to the incomes of the farmers who must relocate? "There are their new lands to come from? Sure the county would ret more taxes, but county taxes do not feed your family?" The natural beauty and richness of the free flowing stream, the only habitat in which some animal life can survive, will be taken from our area forever. Have the old graveyards and mill site been considered? Where can the wildlife go? There are already lakes crowding them out in every direction where there are no: towns (Ref: Mayo Electric Generating Plant, Figure I, of plans). The area is teaming with deer, fox, groundhogs, raccoons, squirrels, quail, etc. Is not this tapping the last unused water surply in the area? If so, we would probably be mortgaging more than we could ever gain from a rower plant. In summary I would like to request the preparation of a full Environmental Impact Statement under Section 102(2)(c) of the National Environmental Policy Act of 1969. I can see no way in which the proposed project could possibly aid the needs and welfare of the people.

Sincerely,

Travis W-Perd Travis W. Peed

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 339 of 565

OCT 2 6 197 17 - 2: 11

October 14, 1977 160 Woodsdale Road Roxboro, North Carolina 27573

Mr. Charles W. Hollis, Chief **Regulatory Functions Branch** Wilmington District Corps of Engineers P. O. Box 1890 28401 Wilmington, North Carolina

Dear Mr. Hollis:

In reference to the petition dated June 14, 1977, expressing certain reservations with regard to Carolina Power & Light Company's proposed Mayo Creek Project which I signed for myself and also signed as spokesperson for Clem E. Clay, Roxie B. Hughes, Reva B. Parham, Isaac Bowman, Jr., and Paul H. Hughes, I would like to withdraw all the names I signed in the petition.

We have reached a settlement with Carolina Power & Light Company on lands necessary for the project that we own.

We appreciate the cooperation provided us by your office in this matter.

Sincerely yours, Blanche B. Clay (Mrs.) Blanche B. Clay

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Appendix E

401 Certification

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NORTH CAROLINA PERSON COUNTY

CERTIFICATION

THIS CERTIFICATION is issued in conformity with the requirements of Public Law 92-500 of the United States and subject to the North Carolina Division of Environmental Management Regulations in 15NCAC2H, Section .0500 to Carolina Power & Light Company pursuant to the application filed on the 6th day of April, 1977 for the discharge of fill material and the discharge of wastewater into the waters of Crutchfield Branch, Maho Creek (also known as Mayo Creek) and tributaries of the proposed Maho Creek reservoir.

The Carolina Power & Light Company application and supporting documentation provides adequate assurance that the discharge of fill material resulting from the construction of a cofferdam on Maho Creek, construction of an ash pond dam on Crutchfield Branch and other miscellaneous construction activities requiring placement of culverts and fill material; and the discharge of wastewater resulting from the operation of the Mayo Electric Generating Plant will not violate applicable water quality standards. Thus, the State of North Carolina certifies that the discharges resulting from the construction and operation of the Mayo Electric Generating Plant will not violate Sections 301, 302, 306 and 307 of the 1972 Amendments, PL 92-500 if conducted in accordance with the application, supporting documentation and any conditions hereinafter set forth.

Conditions of Certification:

- That the applicant maintain at least the 7-day/10-year low flow rate in Maho Creek downstream of the main dam;
- That water discharged from the reservoir be drawn from a depth which will result in a minimum dissolved oxygen concentration of 5.0 mg/l in the discharge stream;
- That the discharge of wastewater from the Mayo Electric Generating Plant be conducted in accordance with the terms and conditions to be imposed in the State-NPDES Discharge Permit.

Violation of any of the conditions herein set forth shall result in revocation of this Certification.

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This the 16th day of May, 1977.

DIVISION OF ENVIRONMENTAL MANAGEMENT By LUZ

W. E. Knight, Director

WQC #1187

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APPENDIX F

Wildlife Mitigation Plan and Selenium Plan

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Carolina Power & Light Company

Mr. Frank B. Barick, Chief Interagency Wildlife Coordination Section North Carolina Wildlife Resources Commission 418 Archdale Building Raleigh, North Carolina 27611

Mr. Bob A. Robinson Field Supervisor U. S. Fish & Wildlife Service Division of Ecological Services 310 New Bern Avenue Raleigh, North Carolina 27601

Gentlemen:

Attached are the required commitments of the Carolina Power & Light Company for the Mayo Electric Generating Plant project related to selenium concerns and to lands for wildlife management. Attachment No. 1, "Potential Selenium Problem at Mayo," dated June 6, 1978, and Attachment No. 2, "Wildlife Mitigation at the Mayo Electric Generating Plant Site," dated June 14, 1978, are believed to be acceptable to your agencies. These commitments will be submitted to the Corps of Engineers for inclusion in the Mayo Final Environmental Impact Statement.

We understand that upon your confirmation that the attachments are acceptable, you will assist us in avoiding delay of the Mayo project by expeditiously notifying the U. S. Army Corps of Engineers that you agree to issuance of the 404 Permit.

We trust that your comments on this project will fully reflect the sense of cooperation which we have achieved through the attached agreements.

Yours very truly,

mam.DH

M. A. McDuffie Senior Vice President Engineering & Construction

MAM/kc

Attachments

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336 Fayetti ville Stroet - P O Bix 1051 - Rateign N C 27602

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 348 of 565 Attachment No. 1 June 6, 1978

POTENTIAL SELENIUM PROBLEM AT MAYO

CP&L Concern

Some preliminary evidence suggests that trace concentrations of selenium in ash pond effluents discharged into a power plant reservoir may inhibit fish reproduction. The biological mechanism which may make selenium a potential problem is not yet fully understood nor is the effect confirmed.

CP&L is aware of the concern that selenium may have some adverse effect on fish reproduction and is actively involved in selenium investigations. The Company fully recognizes that should selenium concentrations in excess of those set forth in the NPDES Permit, or amendments thereto, be detected in the Mayo Reservoir, the Company will take the necessary corrective actions to bring such concentrations into compliance with appropriate regulatory requirements.

CP&L Involvement

In 1977 the North Carolina Wildlife Resources Commission, Division of Inland Fisheries requested CP&L to investigate certain of its power plant reservoirs to determine the potential for selenium inhibition of fish reproduction. CP&L has responded with a comprehensive investigation, which is continuing in an effort to resolve this problem. Preliminary results of these studies show healthy reproduction is not as sensitive to a moderate selenium concentration as had been earlier speculated.

In addition, CP&L is proposing that the Electric Power Research Institute (EPRI) fund CP&L to conduct comprehensive research of the possible chronic effects of selenium on fish reproduction. Preliminary EPRI reaction to this proposal has been quite favorable.

CP&L intends to extend its selenium investigation to include the Mayo reservoir as may be required by applicable regulations. It is estimated that it will be about 10 years before potentially significant selenium concontrations could be accumulated in the Mayo Reservoir. CP&L expects that

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the technical uncertainties with regard to the seriousness of the selenium problem will be resolved prior to the development of the fishery in the Mayo Reservoir. In addition, these years of experience will have provided a sound basis for selenium monitoring and control as required by appropriate regulations.

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Resolution of the Selenium Problem

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The Environmental Protection Agency is scheduled to promulgate the toxic substances regulations by September of 1978, specifying best available control technology (BACT) as well as effluent limitations for selenium as well as other toxic substances.

Present EPA guidance to the North Carolina Division of Environmental Management provides that after promulgation of the toxic substance regulations, the NPDES Permit for the Mayo Plant will be amended to incorporate applicable provisions of the new regulations. It goes without saying that CP&L will comply fully with the applicable requirements of these regulations.

Inasmuch as BACT for selenium has not at this time been defined by EPA, it is premature to speculate on precise treatment techniques. There are, however, several possible solutions in the event that selenium concentrations in excess of those permitted in the NPDES, or amendments thereto, are detected in the Mayo Reservoir. Among such techniques are dry fly ash handling, chemical and/or physical treatment systems for ash pond effluent or recirculation and treatment of ash pond discharge.

In order to assure all concerned that the potential for selenium impact is detected early, the Company has met with the Water Quality Section of the Division of Environmental Management and has proposed wording in the NPDES Permit that provides for biological monitoring to be used as an early warning indicator to determine whether selenium is becoming a factor limiting fishery reproduction in the reservoir. The Division of Environmental Management has agreed to incorporate this condition in the permit. As previously stated, CP&L will comply fully with the applicable requirements of all water quality regulations related to the perpetuation of a viable fishery resource in the Mayo Reservoir.

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> Attachment No. 2 June 14, 1978

WILDLIFE MITIGATION AT THE MAYO ELECTRIC GENERATING PLANT SITE

Introduction

The principal adverse effect on the terrestrial fauna brought about by the construction and operation of the Mayo Electric Generating Plant will be the conversion of 2800 acres of terrestrial wildlife habitat to an aquatic ecosystem and the removal of 400 acres of wildlife habitat at the plant site. An effective way to mitigate for the loss of 3200 acres of terrestrial wildlife habitat is to improve the remaining wildlife habitat in the project area. While emphasis will be placed on improving the site for waterfowl, small game (bobwhite, dove, and squirrel) and non-game species, other species to include deer, rabbit, and wild turkey will benefit from the listed practices.

Land Dedicated to the NCWRC Gamelands Program

Approximately two thousand nine hundred and five (2,905) acres of land presently owned by CP&L will be permanently committed to the Gamelands Program as identified below:

	Location .	Acreage
1.	Land immediately surrounding the plant site and associated facilities, east of US 501	710
2.8.	Future ash pond (west of US 501) (Committed conditionally until required for waste disposal - approximately year 2002)	130
	•	
2.3.	Land surrounding future ash pond (west of US 501)	745

3.	Land surrounding the reservoir between the 434 and 450-foot contour elevations	•	1300
4.	Flooded timber area in the Dishwater Branch arm of the reservoir		20
	Total		2905

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Other lands, not yet acquired, necessary for construction of the future ash pond are scheduled for acquisition. As they are acquired, they will be added to those listed above for wildlife managment purposes.

The improvement of these areas is not solely intended for the consumptive use of wildlife. Portions of these lands where hunting would be inappropriate because of security, safety, or other reasons, will be posted as safety zones and closed to hunting by the Commission. Much of the land and water of the entire project area will be available for such varied non-consumptive recreational activities as hiking, picnicking, nature study and photography, canoeing, boating, and water skiing.

Plant Site Area and Future Ash Pond Lands

The entire area not specifically utilized by plant and related . facilities lying east of US 501 and west of the reservoir and bounded by the Old Davis Mill Road to the south and the Company property line to the north will be improved for wildlife and committed to the N. C. Wildlife Resources Commission Gamelands Program. CP&L will provide 130 acres of the future ash pond and 745 acres of surrounding lands located west of US 501 for inclusion in the NCWRC gamelands program. The inclusion of the 130 acres of the ash pond is committed conditionally until such time as it may be required for waste disposal. Primary game species which will benefit include bobwhite, mourning dove, and gray squirrel. Secondary species include deer, rabbit, song birds, furbearers, reptiles, and amphibians.

Stands of hardwoods remaining after construction will be left undisturbed to mature through natural succession. This will favor increased gray squirrel populations. To enhance the number of natural nest cavities

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available, CP&L will allow Boy Scout troops and other civic groups to install artificial nest boxes in appropriate habitats. Other forest stands will be harvested at the discretion of CP&L, consistent with sound silvicultural practices.

Up to 90% of the acreage of clear areas existing at the completion of construction will be reforested in pines and seeded where necessary to prevent erosion with an appropriate ground cover attractive to wildlife. The remainder of these clear areas will be left as open strips through the reforested areas and will be planted with ground cover to provide food and habitat for wildlife. Consistent with the NCWRC Gamelands Program, any continuing management of these strips will be provided by the Commission.

The diversity of habitat and food provided by the open strips through the forested areas will encourage wildlife utilization of these gamelands and will tend to increase their productivity.

Land Surrounding Reservoir (434' to 450' contour)

Two major groups of wildlife species that will benefit from the creation of the Mayo Creek reservoir will be waterfowl and some furbearing animals. Aquatically dependent furbearers to benefit from the project area include beavers, muskrat, raccoon, and mink.

The most effective way to maximize the utilization of the reservoir by waterfowl is to improve the available habitat. To do this a 20-acre area of uncut timber has been left to be inundated in Dishwater Branch and Boy Scout troops and other civic groups will be allowed to install wood duck nest boxes in appropriate locations.

Many non-game species of wildlife will find suitable habitat conditions among the flooded trees. As migratory transients or as seasonal and permanent residents of the area, numerous birds of many species will utilize the flooded timber and surrounding woodlands. Submerged root systems, tree trunks, and brush, especially along the edge of the original stream channel, will provide cover for some species of forage and game fish. Furbearers also can be expected to utilize and benefit from the flooded timber. F-6

, Consistent with stated Company policy, construction of piers, docks, moors, boat houses, or similar structures in or adjacent to the reservoir will not be allowed. Furbearer populations can be expected to benefit significantly from the undisturbed shoreline habitat. Management practices designed specifically for furbearers are not considered practical and will not be attempted. However, the general increase in available aquatic habitat and wooded shorelines along with the area of flooded timber should prove beneficial to these species. The beaver population can be expected to proliferate without management and may at some future time require control by allowing fur trepping.

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Wildlife Food Planting on Transmission Line Rights-of-Way (ROW)

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The Wildlife Resources Commission has requested that we maintain transmission line segments that pass through wooded areas as improved wildlife habitat by planting of seeds and seedlings that would be provided free of charge by the Wildlife Commission.

We will be glad to cooperate with the Wildlife Resources Commission by planting seeds furnished by them as has been done on other CP&L transmission ROW. After the disking is done, the entire cleared portion of the right-ofway will be seeded for erosion control. We proposed to make the wildlife plantings in the areas designated by the Commission using their seed and planting materials consistent with established CP&L practices.

During initial construction of the line, efforts are made to minimize any disturbance of the existing ground cover in order to minimize potential erosion problems. At this time small areas are seeded only where necessary to prevent erosion. Consequently, it is better to make plantings for wildlife purposes at a time when seeding is required to be made on the entire width of cleared area.

We will make the plantings as indicated above based upon the assumption that the planting not burden our maintenance program with additional cost, cause adverse public relations problems, or interfere with the scheduled maintenance of the right-of-way or the transmission lines. The Wildlife Commission would be expected to contact individual

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property owners for their permission to make the plantings on their land and to perform any maintenance that may be necessary.

Reservoir Management

To provide hunting, fishing, and boating access to the 2,800-acre reservoir for the general public, two suitable locations will be made available to the NCWRC for the construction and maintenance of wildlife access areas and boat ramp facilities. The selection of specific locations for such facilities will be made cooperatively with NCWRC.

CP&L will undertake a fisheries monitoring program to assess the population levels and age classes of fish species in the reservoir.

Because the 7-10 year period after impoundment is one of normal population flux, general fishery management techniques are ineffective. However, once the populations have become stabilized, the CP&L monitoring program will determine if any management practices are necessary. These practices if needed will be undertaken in cooperation with NCWRC and could include habitat improvement and stocking of forage or game species.

F-8

MAYO PLANT

LAND POLICY

It will be the policy of Carolina Power & Light Company to make available for the enjoyment of the general public the lands and waters of Mayo Lake consistent with their primary purpose - the generation of electric power.

Property around the lake or plant area will not be sold or leased by Carolina Power & Light Company for private development. Private construction of piers, docks, moors, boat houses, or similar facilities in or adjacent to the lake will not be permitted.

To permit the greatest use by the greatest number of people, the Company will cooperate with the North Carolina Wildlife Resources Commission to provide public access for boating, fishing, hunting, and other uses which are not inconsistent with the primary purpose of the lake.

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It is the desire of Carolina Power & Light Company that the public benefits of the Mayo Plant Lake and property shall contribute to the quality of life in this area of North Carolina, in addition to meeting the power needs of all its customers.

7/27/77

APPROVED: Executive Vice President Thief Operating Officer

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 357 of 565

JUL 5 1978



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Division of Ecological Services 310 New Bern Avenue, Room 468 Raleigh, North Carolina 27601

June 29, 1978

District Engineer U.S. Army Corps of Engineers Wilmington District P.O. Box 1890 Wilmington, North Carolina 28402

Dear Sir:

The U.S. Fish and Wildlife Service has reviewed public notice SAWCO 77-N-073-006-0311 dated May 5, 1978 in which Carolina Power and Light Company has applied for a U.S. Army permit to construct a main reservoir dam and ashpond dam and associated cofferdams, discharge of ash into the waters of the United States behind the ashpond dam, and relocation of a road in connection with the proposed Mayo Electric Generating Plant on Mayo Creek, Person County, North Carolina. The comments herein are provided in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.). Comments on the draft environmental impact statement have also been forwarded to the Office of (of) Environmental Project Review, U.S. Department of the Interior, for inclusion into the Department's comments under authority of the National Environmental Policy Act of 1969 and the Council of Environmental Quality Guidelines of August 1, 1973.

The concerns expressed in those comments over the lack of an adequate mitigation plan and selenium pollution contingency plan have since been resolved. Through considerable discussion with the applicant and the North Carolina Wildlife Resources Commission, adequate programs for both concerns were developed. These programs were transmitted by letter from Mr. M.A. McDuffie, Senior Vice-President, Carolina Power and Light Company, to the Wildlife Commission and this office on June 15, 1978. Based on Mr. McDuffie's letter, it is our understanding that the committments were forwarded to the Wilmington District Corps of Engineers Office for inclusion into the FEIS. Based upon the firm committments by the applicant with respect to mitigation lands and potential selenium problem, the Fish and Wildlife Service would have no objections to issuance of the section 404 permit provided those committments become a part of the public record and are included in the FEIS. Further, specific questions and deficiencies with regard to the National Environmental Policy Act of 1967 which were identified in DEIS comments the Service forwarded to the Office of Environmental Project Review should be addressed in the FEIS.

Sincerely yours,

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Bob A. Robinson Field Supervisor

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 359 of 565



North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

8261 701

June 26, 1978

MEMORANDUM

TO: Denny McGuire

FROM:

Ozzie Gray 🖄

SUBJECT :

Addendum to DEIS - Mayo Electric Generating Plant; Mayo, Person Co. 054-78

This Departments comments, dated June 20, 1978, indicated that additional comments would be forthcoming from the Wildlife Resources Commission. Those comments have been received and are as follows.

Two problems associated with the project became apparent during the Wildlife Resources Commission review. These problems related to the potential for a dangerously high selenium content in the lake and to the lands to be dedicated for wildlife management purposes as mitigation for habitat lost to inundation.

In conference with representatives of Carolina Power and Light, these two issues were discussed and Carolina Power and Light prepared an addendum to the subject DEIS for inclusion into the final EIS. If this addendum is included as proposed, the deficiencies cited above will be satisfied.

Thank you for your assistance in this matter. This Department is looking forward to reviewing the FEIS.

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APPENDIX G

Selenium Modeling

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APPENDIX G

The following is the information submitted by CP&L on selenium modeling in the proposed reservoir. Included are the assumptions and values used by CP&L. The first graph indicates a 10 year modeling. The second modeling was for a 20 year period. The years at the bottom of the graph represent the period of record for the comparative stream, i.e., Flat River.

Bovenber 30, 1977

Mr. L. P. Menton, Jr. Chiaf, Water Quality Section Division of Environmental Management P. O. Box 27687 Raleigh, North Caroline 27611

PREDICTIVE IMPOUSIBILITY WATER CREMISTRY

Dear Mr. Sentont

As discussed with you, Mr. Robert Carter and Mr. Stan Taylor on November 18, 1977, I am forwarding material prepared by Carolina Fower & Light Company that partnine to predictive water quality modeling in the proposed Mayo Impoundment.

Provided as enclosures is a graphical plot of predicted total dissolved solids and salenium concentrations, a narrative describing the mathodology of the unter quality model and a typical print-out of the impoundment water chemistry.

With the submittal of this information, it is hoped that the preparation of the MFDES permit for the proposed Hays E. G. Plant can nove forward and a permit issued shortly.

Please contact us if you have any questions.

We are appreciative of the cooperation provided us in this and in other matters.

Tours very truly.

Thomas J. Crawford Principal Engineer - Permits

TJC/tl Enclosures cc: Messrs. Lobert Carter W/A Stan Taylor W/A bcc: Messrs. R. L. Sanders S. R. Zimmerman

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Hethodology for Predictive Water Chemistry Modeling - Mayo Impoundment

The predictive water chemistry model used for the Mayo impoundment utilizes the concept of a materials balance for conservative (non-decaying) chemical constituents normally occuring on the Mayo Creek watershed and those introduced as a result of the planned plant operation.

The model uses historical daily stream flow records and associated water quality (where applicable) as an input into the assessment. In the Mayo impoundment water chemistry prediction, the historical stream flow record length for Mayo Creek was insufficient and thereby required the utilization of stream flow records of an adjacent watershed having an extended record (Flat River) and modified by a drainage area factor. This is an established hydrological procedure in the absence of or insufficiency of water records for watersheds under investigation.

To begin the analysis the impoundment is assumed to be at normal pool and have certain background water quality concentrations. As an example of assumed background water quality the concentration of total dissolved solids (TDS) was initialized at 136 mg/l and selenium (Se) at 0 mg/l.

At this point, the model begins a daily debit and credit of materials into and out of the impoundment. For example, at the end of "Day One" all poundages of total dissolved solids entering the reservoir from creek inflow, cooling tower evaporation residue, ash pond discharges, and initial TDS poundage in reservoir are summed. The input poundages are computed from flow or volume times the concentration, times a conversion factor (8.34 x concentration x volume). A comparable summation is then done for all identifiable pathways of TDS leaving the impoundment (plant intake, downstream release or overflow seepage etc.).

Following the summations of the daily poundage of a specific chemical or parameter into and out of the impoundment, the daily water budget is computed and the end of day reservoir volume calculated. The net resultant poundage of a particular chemical is then mixed with the available reservoir volume and an

- 2 -

end of day concentration arrived at. This end of day concentration is then used to reinitialize the impoundment chemistry for start of the second day computation. This process is then repeated on a continuing daily basis. To facilitate the multitude of calculations, the reservoir water quality model has been programmed for usage on a computer.

As pertains to the analysis for the Mayo impoundment and in particular with regard to the selenium predictions, the ash pond discharge selenium concentration was set at 0.03 mg/l. The resultant concentrations noted on the attached plot reflect values higher than what would normally be expected to develop under this type assessment. The predicted concentrations shown do not take into consideration the staggered in-service dates of Units 1 and 2 nor assume precipitation of chemicals in the impoundments. Additionally, as another "conservative" consideration is the analysis, the volume of reservoir water for assimilation was set at approximately 70 percent of the available volume.

Provided as an attachement for illustration purposes is a copy of the computer printout that summarizes, on a monthly basis, the predictive water quality assessment.

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 367 of 565



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Drought Events in Water Record 1956 - 1975 Flat River Correlated to Mayo Ck.

> 1966 - 10 year drought 1967 - 20 year drought 1968 - 10 year drought 1969 - 5 year drought

The cumulative effect of the four drought events resulted in less than half of the average streamflow into the impoundment for the four year period.



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APPENDIX H

Soil Erosion and Sedimentation Control Plan

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 373 of 565



North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

9 1978

AUG

July 31, 1978

Corp of Engineers Regulatory Function Post Office Box 1890 Wilmington, North Carolina 28402

> RE: Mayo Electric Generating Plant - CP&L Person County

ATTENTION: Mr. Scott Taylor

Dear Mr. Taylor:

Please find enclosed narratives of the soil erosion and sedimentation control plans for Carolina and Power Light Company's, Mayo Electric Generating Plant. The plant site rough grading, main dam construction and reservoir clearing are addressed within these narratives.

Our office, as of to-date, has not received plans for any transmission corridors directly associated with subject project.

If we can be of any further assistance, please contact us.

Lany E Hardia

Larry E. Hardison Environmental Engineer Technician Land Quality Section

LH/dc

cc: Mr. Bill Weldon Mr. Harlan Britt

Enclosures:2

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P. O. Box 27687 Raleigh, North Carolina 27611 An Equal Opportunity Affirmative Action Employer

SOIL EROSION AND SEDIMENTATION CONTROL PLAN

FOR

RESERVOIR CLEARING FOR THE

MAYO ELECTRIC GENERATING PLANT

DEVELOPED FOR

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NORTH CAROLINA SEDIMENTATION CONTROL COMMISSION

State of North Carolina

Department of Natural Resources and Community Development

By

Carolina Power & Light Company

SEDIMENT CONTROL PLAN FOR MAYO RESERVOIR CLEARING

Project Description

The basic scope of work for this project involves clearing a 3,300 acre reservoir for the Mayo Electric Generating Plant. This project is located in Person County approximately 10 miles northeast of Roxboro, North Carolina, as shown on Drawing RCD-311, Sheet 1. The type of clearing required for the reservoir will be Type I and Type II as described below. Type I clearing will be required below Elevation 421. Type II clearing will be required from Elevation 421 to a point either 5 feet vertical or 10 feet horizontal above Elevation 434 feet, whichever is less.

In Type I clearing, the actual amount of disturbance to vegetative cover will be minimal. Since stumps need not be flush cut or removed, much of the vegetative cover will remain. Type II clearing requires stumps to be either flush cut or removed. As a result, most of the ground cover will be removed due to stump removal, equipment travel, or shoreline regrading.

Sediment Control Measures

To minimize sedimentation entering Mayo Creek, physical and natural control mechanisms will be used-(1) silt fences and staked baled straw, and (2) a relatively undisturbed strip intended to function as a natural control mechanism. Detailed drawings of the silt fence and staked straw bales are illustrated on Drawing RCD-311, Sheets 2 and 3.

Much of the residual effects of sedimentation that may occur due to erosion in the Type II clearing areas are intended to be contained within a strip between Elevation 421 and Mayo Creek. Due to the changing topography between Elevation 421 and Mayo Creek, the width of this strip will vary. For example, at the lower (northern) end of the project, the topography is such that at least 100 feet of strip will be provided. Although somewhat less of a strip is provided at the upper (southern) portion of the project, the topography is less steep. It is anticipated that over the entirety of the project where the strip is to be utilized as a primary means of sedimentation control, that visible siltation will be confined to the first 25% of the strip nearest the Type II clearing.

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As clearing operations begin in a particular area or drainage course, that area will be inspected by representatives from Carolina Power & Light Company. In the areas of steeper topography where the width of the strip may not be sufficient to meet visible siltation confinement requirements, silt fences or staked straw bales will be installed. These sediment control installations will be removed prior to reservoir inundation. Sedimentation control measures, to include silt fences and straw bales, will also be implemented as necessary at intermittent streams, major swales, or drainage ditches where transportation of sediment may be anticipated.

The sediment control installations will be inspected periodically, and maintenance of these sediment control installations will be performed upon detection of any defect in the installations. Collected material will be removed from silt screens, as required, to maintain full efficiency. The material will be disposed of using sound engineering practices.

A vegetative cover will not be provided. Cleared land forming the basin of a reservoir later to be inundated will not require ground cover sufficient to restrain erosion as stated in 15 NCAC 4B. 0007c of the N. C. Administrative Code.

Schedule for Clearing

Clearing is scheduled to begin in the Mayo reservoir January, 1978.



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SOIL EROSION AND SEDIMENT CONTROL PLAN

FOR

PLANT SITE ROUGH GRADING AND

MAIN DAM CONSTRUCTION FOR THE

MAYO ELECTRIC GENERATING PLANT

DEVELOPED FOR

NORTH CAROLINA SEDIMENTATION CONTROL COMMISSION

State of North Carolina

Department of Natural Resources & Community Development

By

Carolina Power & Light Company

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SEDIMENT CONTROL PLAN FOR MAYO E.G.P. PLANT SITE ROUGH GRADING AND MAIN DAM CONSTRUCTION

Project Description

This project is located in Person County approximately ten miles northeast of Roxboro, North Carolina, as shown on Figure 1.

The basic scope of work for plant site rough grading consists of approximately 5,300,000 cubic yards of earthwork. The grading limit for the plant site encompasses 300 acres. The details of the plant site rough grading plan are shown on Mayo Project Drawing No. S-0106.

The basic scope of work for construction of the main dam consists of approximately 2,000,000 cubic yards of embankment and 600,000 cubic yards of excavation. Included in the main dam construction is construction of the normal spillway and emergency spillway as shown on Mayo Project Drawing S-0009. The grading limit for the main dam construction encompasses 80 acres.

Sediment Control Measures

Proposed devices to minimize accelerated erosion and control sediment are berms, ditches, baled straw, silt fences, and silt basins with silt check dams. Detailed drawings of these sediment control methods are attached.

For controlling sediment at the plant site, the primary method will be two sediment basins as shown on the plant site rough grading plan. A majority of the plant site naturally drains into these two drainage courses. Design details and data for these two silt basins are given in the Appendix. Calculations and specifications for the silt basins were made in accordance with design criteria given in <u>Guide for Sediment Control on Construction Sites</u> <u>in North Carolina</u>.

To reduce sheet erosion on slopes, diversion ditches will be constructed at the top of cut slopes. These diversion ditches will be directed to an outlet on undisturbed land. A ground cover sufficient to restrain erosion will be

- 2 -

established within 30 working days after construction on fill slopes surrounding the plant site has been completed. As added protection, silt fences will be installed at the bottom of fill slopes to minimize sediment leaving the plant site prior to establishment of the ground cover.

The primary method for controlling sediment during main dam construction will be the use of silt fences. At the toe of the embankment where sediment loss may occur, silt fences will be installed to minimize the sediment leaving the project limit. Since ditches are proposed to contain part of the surface runoff, staked baled straw or silt fences may need to be installed at the critical locations in the ditch line to control the sediment. Most of the borrow area from which fill will be taken for main dam construction will be located within the reservoir and subsequently inundated.

The sediment control installations will be inspected periodically, and maintenance of these sediment control installations will be performed upon detection of any defect in the installations. Collected material will be removed from silt screens, as required, to maintain full efficiency and will be disposed of using sound engineering practices.

As clearing operations begin and as earthwork activity starts, silt basins and diversion ditches will be constructed, and silt fences and staked baled straw will be installed. As earthwork operations continue and a need arises for additional sediment control, the required measures will be implemented.

The main dam may be constructed in two phases. In Phase I, Mayo Creek will be allowed to flow in its present course, and the east half of the main dam will be constructed without diverting the flow of Mayo Creek. A 72-inch diameter corrugated metal pipe will be installed in the east abutment of the main dam. In Phase II, Mayo Creek will be diverted to flow through the 72-inch CMP. After Mayo Creek has been diverted, the west half of the dam will be constructed.

Seeding

Within 30 working days after grading or construction is completed on any segment of an area outside the limit of the proposed reservoir, a ground cover

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sufficient to restrain erosion will be pr vided. The type of seed and rate of application are given in Tables I and II.

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Permanent cover will be provided on all unoccupied, bare surfaces and will be planted as soon as practical after grading or construction activities in an area have been completed. For the plant site, the type of seeding and rate of application are also given in Tables I and II. For the main dam, all seeding, fertilizing and mulching details are listed in Specification No. 2383-C-2.1-PI.

Schedule of Construction Activities

Plant site rough grading and main dam construction are scheduled to begin January, 1978.

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TABLE I TEMPORARY SEEDING

TYPE

DATE

RATE (1b./Acre)

February 1 to May 15	Annual Ryegrass	45
May 15 to August 15	Sudan Sorghum Hybrids	45
August 15 to November 1	Annual Ryegrass	40

TABLE II PERMANENT SEEDING

DATE

August 1 to March 1

TYPE

Ky. Tall Fescue or

Alta Tall Fescue

<u>RATE 1b./Acre)</u> 120

Fertilizer	1,200
Limestone	2,000
Ky. Tall Fescue or	70

February 15 to August 15

Alta Tall Fescue

Korean or Kobe Lespedeza	50		
Fertilizer	1,200		
Limestone	2,000		

On cut and fill slopes 2:1 or steeper, add 25 pounds Sericea Lespedeza January 1 to December 31.

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APPENDIX

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TS-13.0 GRASSING

TS-13.1 General

TS-13.1.1 This section covers furnishing of all labor, materials, equipment, tools, supervision, and incidentals necessary for grassing as herein specified. Areas to be grassed shall be as shown on drawings and as directed by the Owner.

- TS-13.1.2 A satisfactory stand of perennial grass shall be defined as a full cover of grass that is alive and growing with no bare spots.
- TS-13.2 Materials
- TS-13.2.1 Seed Quality requirements for seed shall be as follows:

Name of Seed	Percent Pure Seed	Percent Germination <u>& Hard Seed</u>	Percent Weed Seed
Fescue, tall (Kentucky 31)	98	90	1.00
Lespedgza sericea	98	85	1.00
Rue Grass	9.8	90	0.50

Seed certified by a seed association or certify agency, and meeting the above requirements will be accepted without further tests, provided the seeds are undamaged at the time of planting and provided further that not more than ten months have elapsed since the seeds were harvested and certified.

- TS-13.2.2 Lime Lime shall be ground or pulverized limestone passing the requirements of the U.S. Department of Agriculture, Agriculture Conservation and Production Administration, for use on farms of the vicinity.
- TS-13.2.3 Fertilizer Fertilizer shall be a mixed, commercial nonacid forming fertilizer, containing percentages of available nitrogen, phosphoric acid

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and potash of 12-8-8. Fertilizer shall be dry, in granular or powdered form, and shall be delivered to the site in the manufacturer's original bag or container which shall be plainly marked as to formula and nonacid reaction and shall comply with the state fertilizer laws.

- TS-13.2.4 Mulch Mulch shall be dry grain straw, hay sedge grass or other locally harvested vegetation obtained from approved sources, free of noxious weeds. All such material shall be thoroughly "cured" and dry before spreading.
- TS-13.2.5 Topsoil Topsoil shall consist of the natural topsoil obtained by the scalping operations during excavation of embankment foundation area, and stockpiled on the site. Topsoil shall contain no large roots, rock over 2 inches in any dimension, trash, subsoil or other objectionable materials.
- TS-13.2.6 Water shall be fresh and free from injurious amounts of oil, acid, alkali, salts or other materials harmful to plant growth.
- TS-13.3 Working Conditions
- TS-13.3.1 All work required for seeding shall be performed under favorable conditions when the soil is suitably moist, and is not frozen.
- TS-13.4 Seedbed Preparation, Liming and Fertilizing
- TS-13.4.1 Areas to be grassed, shall be as shown on the plans and where directed by the Owner.
- TS-13.4.2 Liming shall be done immediately after grading and topsoiling has reached the final "smoothing" stage, even though actual seeding may not be done until several months later. Lime shall be used at 2 tons per acre and shall be spread evenly by means of approved mechanical spreaders. Lime shall be incorporated in the top soil by harrowing, disking or other approved means.
- TS-13.4.3 Fertilizer shall be spread not more than two weeks in advance of seeding. Fertilizer shall be spread at a rate of 1000 pounds to the acre. Even

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distribution shall be accomplished with approved mechanical spreaders by spreading half of the rate in one general direction and the other half at right angle to the first. Within 24 hours after spreading, the fertilizer shall be incorporated into the top 2 to 3 inches of soil by disking, harrowing or other approved methods.

TS-13.5 Seeding, Mulching and Watering

TS-13.5.1

Seed shall be sown by means of an approved method, resulting in even distribution of the seed. be done when ground is not Seeding shall excessively wet or excessively dry. The seed shall be covered to a depth of 1/2 inch to one Skips showing bare ground more than inch. 12 inches wide when the grass comes up shall be remedied by reseeding to conform to the surrounding areas. Seeding rates and dates shall conform to the following table:

Dates	Seed	Pound Per Acre
1 Sept1 Mar.	Rye	15
1 Sept1 Mar.	Fescue	40
1 Mar1 Sept.	Lespedgza	60
1 Mar1 Sept.	Fescue	40

- .TS-13.5.2 Mulch shall be spread uniformly at the rate of 4000 pounds per acre. Mulch shall be held in place by asphalt mist. Asphalt mist shall be applied at the rate of 25 to 40 gallons per ton of mulch and in such a manner that a complete, but light film is obtained to hold mulch in place.
- TS-13.5.3 Within 24 hours after seeding, the entire seeded area shall be uniformly and thoroughly sprinkled with water in a manner that will prevent runoff of water, and dislodging or washing soil or seeds, and until the soil is uniformly moistened to a minimum depth of 4 inches. Seeded areas shall be watered at frequent intervals as required to maintain the soil in a moist condition until there is evidence of good growth.

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TS-13-6 Subsequent Nutriment

TS-13.6.1 Sixty days after grass is planted or when grass is two inches, 100 pounds of ammonium nitrate per acre shall be applied to the grassed area, unless this condition occurs in the fall or winter, in which case the ammonium nitrate shall be applied the next spring when the grass begins to grow.

TS-13-7 Acceptance

TS-13-7.1 Areas to be planted will be accepted when all work of seeding and liming and fertilizing is completed, and when all work on adjacent areas which might result in damage to the planted area is also completed. Planted areas shall be watered and mowed as necessary to maintain a healthy growth until accepted.

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APPENDIX I

Water Intake Structure Design

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Intake Structures

In assessing the potential impact on impingement and entrainment at an intake structure, the following items are examined:

- 1. Location and depth of structure
- 2. Approach velocities
- 3. Tendency of the structure to attract organisms
- 4. Species of concern in the water body.

At the Mayo Site, the normal water elevation will be 434' and the bottom of the intake structure will be at 390' for an intake depth of 44'. (See attached figure of intake configuration.) As the intake is designed for water withdrawal during a maximum drawdown of 24', the makeup water will be drawn from near the bottom. The primary species expected to be in the lake are bluegill, largemouth bass, yellow perch, and green sunfish which are not deep water pelagic species but primarily shallow water (2-6 feet) shoreline species. Therefore, the deep water intake will minimize both entrainment and impingement.

The intake has been designed for approach velocities to be less than .5 fps during the once in 10-year drawdown. Under normal pumping conditions, the approach vefocity will be much less (approximately .2 fps) which

will provide velocities sufficiently low to allow most fishes to escape impingement. Largemouth bass, bluegill, yellow perch, and green sunfish will be able to swim away from velocities of those designed for Mayo, thereby minimizing potential impingement impact.

The Mayo intake structure will have smooth concrete for 100 feet on each side of the pump area. This design will further minimize entrainment and impingement by creating an area near the intake which will not be utilized for reproduction and cover by the species present in the lake. The species such as largemouth bass, bluegill, green sunfish, and yellow perch utilize the shallow areas of the lake for reproduction and have demersal rather than pelagic eggs. The juvenile and adult stages use rocks and brush grass, etc. as cover. With the intake area being smooth concrete, it will not be used as a spawning area by largemouth bass, bluegill, green sunfish, and yellow perch and will not offer cover or attraction for the juvenile and adult stages.

There will be three 50 percent capacity cooling tower makcup pumps provided. Any two pumps can provide sufficient makeup to sustain operation of both units at 100 percent load. Design capacity of each pump will be 37.4 cfs. Predicted average and makeup pumping rates are discussed in Item A.

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5.0 ANY PROBABLY ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

Of the environmental effects discussed in Section 4.0, those which are adverse may be considered as unavoidable as the project is presently proposed.

5.1 Human Resources

Project construction will convert about 1,135 ha (2,800 ac) of terrestrial habitat into aquatic habitat, and an additional 162 ha (400 ac) of rural land will be utilized for the plant and its related facilities. This area will no longer be available for forestry or agricultural usage. Approximately 22% of the project area consists of fields. The complete breakdown of the project area is shown in Table 2.3-1. The reservoir may have a positive effect on the aesthetics of the site, although the presence of the plant, cooling towers, chimneys, coalyard, and ash pond, will not be attractive. Temporary adverse effects may be present under certain meteorological conditions when fog or ice results from the operation of cooling towers.

The number of families that were displaced due to purchase of land by CP&L is 23. Using the figure of 3.59 inhabitants per household as the average number of persons per household in Holloway Township, Person County, the estimated number of people displaced is 83. Some of these people and landowners not living in the required area depend upon farming for part or all of their income. Purchase of this land will partially offset this income loss, but additional employment may be hard to find. Also, in some cases land was traded instead of purchased by CP&L.

Because of chimney height and the hilly nature of the site, certain portions of the project will be visible from nearby areas.

During the construction phase of the project, there will be a limited degree of impact to traffic patterns at certain times. With as many as 800 workers leaving the site at the end of each workday, traffic congestion will develop in some areas. However, most of this congestion will be dispersed in several directions fairly quickly, due to the rural location of the project. During operation these impacts will be less since approximately 150 people spread over three shifts will be employed at the plant.

5.2 Air and Water Environment

5.2.1 Air Quality Impact

Operation of the Mayo Plant will result in the discharge of particulates and gases into the atmosphere. With the application of advanced steam generator design technology, utilization of highly efficient electrostatic precipitators, and combustion of low sulfur content fuel, these unavoidable atmospheric discharges will be minimized. This is supported by the fact that the State has issued all required air quality permits and EPA has approved the project (see Appendix B).

5.2.2 Water Quality

Adverse effects on water quality are not expected due to the controls indicated in Sections 2.2.2 and 4.3.2.1.2.2.

5.2.3 Natural Systems

5.2.3.1 Aquatic Ecology

Effects of drawdown, ash pond discharge, blowdown, and impingement and entrainment on fisheries resources are discussed in Section 4.3.2.1.2. Effects of drawdown, ash pond discharge, blowdown, impingement, and entrainment are not expected to seriously affect fisheries production due to the restraints involved. Changes in fisheries resources as a result of impoundment are discussed in Section 4.2.2.1.1. It is predicted that the original stock of dominant fishes present in Mayo Creek will be strongly selected against in the new reservoir and ultimately replaced by species capable of making the habitat adjustments. As discussed in Section 4.3.2.1.2.5, the reduction in discharge of waters from the impoundment into Mayo Creek to 56.1 1/s (2 cfs) and in the ash pond to 0.0 1/s (0.0cfs) is expected to result in further habitat degradation and reduction of fisheries resources downstream.

The effects of construction and operation on the benthos are discussed in Sections 4.2.2.1.1 and 4.3.2.3.1. In summary, the major impact will result from the change of a flowing stream to still water. Some benthic forms require a current to bring food to their filter mechanisms, while others are physiologically adapted only to flowing water. These will not be able to adapt to reservoir conditions and so would be eliminated in the area to be inundated. Some of the Mayo Creek fauna would not be so affected because of the many pools and slow areas now present where the environment is similar to a lake in many respects.

Effects of construction and operation impacts on the algae are discussed in Sections 4.2.2.1.1.3 and 4.3.2.1.4 and are not expected to seriously affect the algal populations. The only major impact will result from the change in flowing water to standing water. Most periphytic forms are usually morphologically adapted to areas with current and true rheophiles may not be able to adapt to reservoir conditions. A definite species shift can be expected in the reservoir with the Chlorophyceae and planktonic diatoms gaining precedence in the surface water areas and benthic algae inhabiting the bottom or "bank" substrata. The Mayo Creek flora is adapted to a riffle-pool regime and forms present in the slow pool areas would be found in Mayo Reservoir.

5.2.3.2 Terrestrial Ecology

5.2.3.2.1 Flora

The principal impact to the flora of the plant site will be the elimination of approximately 1,296 ha (3,200 ac) of existing vegetation and the alteration of up to some 730 ha (1,800 ac) of vegetation associated with transmission corridors.

5.2.3.2.2 Fauna

The principal adverse effect on terrestrial fauna brought about by the construction and operation of the Mayo Electric Generating Plant is the conversion of 1,133 ha (2,800 ac) of terrestrial wildlife habitat to an aquatic system and the removal of 162 ha (400 ac) of wildlife habitat at the plant site. That area will be removed from terrestrial vertebrate productivity for at least the life of the plant and associated reservoir.

5.3 <u>Comments on the Mayo Creek Project Prior to the Issuance of the</u> Draft EIS

Three public notices and one news release were issued on the proposed project prior to the issuance of the Draft EIS. The first two public notices were issued 28 April 1977 and 23 June 1977. Both indicated the same basic information regarding CP&L application for a Department of the Army permit. However, the 23 June public notice was sent to an expanded mailing list.

The third public notice was issued on 8 December 1977 and the news release prepared on 21 December 1977. These two documents announced the District Engineer's decision to prepare an EIS on the project. This decision was based upon review of the environmental assessment by CP&L, and on comments in response to the public notices.

Comments on these notices were received from Federal and State government agencies, one citizen group, and several individuals. All of these comments are addressed in a comment/response format in Appendix D.

In some cases, the actual comment has been paraphrased to save space. However, the full comment or letter has been included in Appendix D following the comment/response section.

Comments on the Draft Environmental Impact Statement (DEIS) are addressed in Section 9.

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6.0 ALTERNATIVES TO THE PROPOSED ACTION

A Department of the Army permit as administered by the Corps of Engineers can be issued or denied or issued with conditions. The applicant's preferred project could be authorized as discussed in Section 1. Also, the project could be denied resulting in the impacts discussed in Section 6.3. Possible conditions that could be imposed include groundwater and waste water monitoring, changes in waste disposal, changes in dam construction, and additional mitigation.

Before selecting the Mayo site, CP&L evaluated several alternative sites and considered four means of generation: hydroelectric, internal combustion, fossil steam, and nuclear steam. The results of the evaluations are outlined in the various sections that follow.

6.1 Location

In selecting the Mayo Creek site for development, other sites, as noted below, were investigated for their potential to support the additional necessary generation. Each site underwent a Phase I investigation by CP&L. A Phase I study is considered the initial step in evaluating the suitability of an area for the siting of a power plant. Each Phase I study follows a generally standard procedure.

Maps are first used to locate potential site areas. A literature search is begun, and special consideration is given to water supply, topography, and land usage. A site visit is then performed to determine existing water quality, to identify vegetative, wildlife and fisheries communities, and to define potential impact to wetlands, threatened and endangered species, and wild and scenic rivers. Information generated from the site visit is interfaced with relevant literature, and results in a final Phase I Report which includes assessments of existing physical, chemical, terrestrial, aquatic, sociocultural, and air quality resources of the site area.

If a Phase I site study indicates that development of a site appears practical, a Phase II investigation may be performed. Only the Mayo site underwent a full Phase II investigation. The scope of such a study would generally involve comprehensive investigations of geology, hydrology, geotechnology, air quality, meteorology, climatology, and ecology.

Investigations of ecological components would consist of a one-year, onsite environmental monitoring program and would include analyses of water chemistry, herbarium collections, quarter point analyses, mammal trapping, bird surveys, wildlife reconnaissance surveys, benthic sampling, and fishery sampling. Monitoring programs would also place special emphasis on detection of threatened and endangered species in the site area. Data generated would be used to identify the biological baseline, to assess the effects of plant development on the biota and to determine environmental considerations which could either preclude development of the site or which would warrant alterations in engineering and/or plant design.

As a result of delays in the in-service dates of the four units of the Barris Nuclear Power Plant, site selection was strongly influenced by the need for additional generation at the earliest practicable date. Although this date was set at March 1983 initially, this date was accelerated when the N.C. Utilities Commission, in issuing the Certificate of Public Conveneince and Necessity, recommended that the units be completed at the earliest date possible. The schedule was accelerated to March 1982 and approved by the Board of Directors of CP&L on December 21, 1977. Within constraint of this schedule and CP&L indicating the need to locate additional generating capacity in the eastern portion of the system, several sites were investigated before CP&L selected Mayo Creek.

Among these was one located in Pitt and Greene Counties on Little Contentnea Creek near Farmville, North Carolina. Although the available water resources could have supported a 3,000 MW generating facility, a large amount of farmland and a long earth dam would have been required for the storage reservoir. The site, though in proximity to rail service, was further from coal sources and thus would have incurred transportation cost penalties. The physical properties of the site would have limited ash storage capacity.

From an environmental standpoint, development of this site was expected to have a more pronounced environmental impact than that predicted with the development of the Mayo E. G. Plant. The construction of the plant and storage reservoir would have resulted in the loss of existing bottomland hardwoods and gum-cypress swamp which represented good to excellent wildlife habitat. The proposed reservoir could have had unacceptable water quality due to the presence upstream of a sewage treatment plant and sanitary landfill at Farmville. This may have made the reservoir unacceptable for recreational use and unsuitable aquatic habitat. Records indicated that a virgin tract of cypress timber had been identified in the proposed reservoir area along Little Contentnea Creek.

The small community of Willow Green, consisting of a gas station, a store, and 4 houses, would have had to be relocated. Additionally, as many as 50 relocations would have been necessary for development of this project. There were at least 7 roads including US 264 that crossed the proposed reservoir and would have required a bridge, relocation, or abandonment. The Norfolk Southern Railway would also have required a bridge to cross the proposed reservoir. Land acquisition necessary for the project would have been difficult due to the above-average yielding farmland within the project.

Since the site is located in the Coastal Plain, structures would have been placed on the unconsolidated sediments that are present. Additionally, there existed questions as to whether the main dam could have been located on suitable foundation materials, and due to the high groundwater levels in the area a major dewatering system would probably have been required for any plant excavations. The main reservoir was to be located in an area that was expected to exhibit moderate seepage losses.

Since the majority of water for public and private use is drawn from wells in the area, the impact on groundwater use could have been significant. The dewatering for plant construction could have had a major impact on wells in the site area. Since the underlying sediments are good aquifers, groundwater contamination could have become a significant problem.

Also considered as an alternative was a site on Flat River and Deep Creek in Durham and Person Counties. As originally conceived, the dam and lower portion of the lake proposed for this site would have been situated in Durham County and the plant and majority of the reservoir would have been located in Person County. The site was considered for a plant utilizing a cooling lake and was judged suitable to support at least a 1,000 MW fossil facility. Of major importance to the development of this site was the criticality of the water budget of the Flat River watershed. Flat River (and its Lake Michie impoundment) is the raw water source used to supply potable water for the City of Durham and Camp Butner. Since the proposed generating facility could have influenced the yield of the Durham water supply, the site was not given further consideration. Because cooling towers would result in an even greater consumptive use of water, they would not have enhanced site suitability. Another site in the eastern portion of the CP&L system was investigated in Craven County, North Carolina. The development of this site would have required the utilization of bottomland areas between Cove City, Perfection, and Tuscarora. As conceived, this site would have utilized a 2,833 ha (7,000 ac) cooling pond and a 34 km (21 mi) long dike.

Planning for this facility indicated the usage of a cooling pond as the most desirable heat dissipation mechanism with ultimate heat transfer to the atmosphere. The pond, having no natural stream inflow, was considered as an off-stream storage impoundment with all make-up proposed to be withdrawn from the Neuse River.

In addition to make-up necessary to offset evaporative losses, an investigation indicated that the rate of seepage associated with the long dike would have been large and thus required an additional amount of pumpage from the Neuse River to achieve a stabilized pool. Average withdrawals from the Neuse River were estimated at approximately 145 cfs. During adverse meteorological conditions, withdrawals of approximately 200 cfs could have been anticipated.

CP&L indicated that in light of the present environmental regulatory climate related to withdrawals or intakes on or near estuarine waters, substantial delays in acquiring necessary permits to build this facility were expected to be encountered.

In comparison to other sites investigated, operation of this facility as a coal-fired generating plant would have produced higher fuel transportation costs due to its further distance from coal producing areas.

CP&L personnel felt that for each of these alternative sites, either water budget, engineering, or environmental concerns were identified that would require timeconsuming regulatory or engineering resolutions compared to the Mayo site.

6.2 Facilities

6.2.1 Type of Fuel

The first means of alternative generation supply, hydroelectric, was ruled out, as there are no available sites having sufficient flow for plants of the size required.

The types of fuel available to the CP&L system for steam electric units are coal, oil, and nuclear. The primary reason for selection of a coalfired plant as compared to a nuclear plant was the lead time required to bring the unit into service. The lead time needed for a fossil plant is shorter - 5-7 years versus 10-12 years for a nuclear plant. As a practical matter, CP&L's choice has been limited by circumstance to either a coal or oil-fired steam plant or internal combustion (IC) turbine generators. However, because of the uncertainties which surround a long-term reliable oil supply and since CP&L needs base load capacity, it selected the coal-fired steam system over the IC turbine generators and over an oil-fired steam system. In addition, the Federal Energy Administration has issued an order requiring the burning of coal in the proposed Mayo Plant (FEA Construction Order, June 30, 1975).

6.2.2 Cooling System

An evaluation was made of typically feasible cooling water alternatives for the plant, including cooling ponds, powered spray modules, natural draft cooling towers, and mechanical draft cooling towers. Plant site topography, including separation of the plant and reservoir by approximately 30 m (100 ft) elevation, and existing regulatory requirements resulted in the deletion of a cooling pond as a feasible alternative.

Powered spray modules were found to be less economical than cooling towers since they require more land and also require construction of additional water channels. The existing site topography also made a spray system uneconomical.

CP&L made a cost comparison for mechanical draft cooling towers versus natural draft cooling towers, and the annual cost of the mechanical draft towers is expected to be approximately \$350,000 per unit less than the annual cost of natural draft towers. Since the plant is not near any major highway, the environmental effect of fogging usually associated with mechanical draft cooling towers, is not considered to be significant to the Mayo plant site. The towers are located far enough from the plant switchyard to avoid significant drift in the switchyard area, and therefore arcing, which this would produce, is not expected to be a problem at this site. Therefore, mechanical draft towers were chosen by CP&L for cooling of the plant circulating water system.

6.2.3 Size of Units

The Mayo units standardize on a size (720 MW), pressure (2400 psig), and steam flow which have been proven on the CP&L system and on utility systems throughout the country. There are no new innovations or extrapolations of current technology involved in the boiler and turbine design. The only new areas of technology are assocated with the

environmental systems to meet EPA effluent guidelines. The Mayo units are similar in size and design to CP&L's Roxboro 2, 3, and 4 units. Historically, the Roxboro 2 and 3 units have demonstrated availabilities greater than the industry average when compared with EEI statistics. Roxboro unit 4 is not in operation at the present time, but construction in now in progress.

6.2.4 Transmission Alternatives

6.2.4.1 Transmission Voltage

In developing the transmission system for Mayo, alternatives at both 500 and 230 kV were investigated.

6.2.4.1.1 500 kV Development

Initial 500 kV studies consisted of plans employing three 500 kV lines emanating from Mayo Plant. Three line combination studies involving five terminating points were conducted and evaluated. These five terminating points were Roxboro 230 kV plant, Wake 500 kV substation located east of Raleigh near Knightdale, Durham 500 kV substation northwest of Raleigh just inside the Durham County line, Thelma 500 kV substation on the VEPCO system near their Gaston Plant, and Axton 765 substation on the AEP system between Martinsville and Danville, Virginia. Preliminary analysis of alternatives involving 500 kV lines connecting Mayo to Thelma or Axton substations indicated that these lines would deliver Mayo power off the CP&L system which would then be returned to CP&L via its other interconnections. CP&L indicates these flows would adversely affect CP&L's reliability and would cause additional loading on the interconnections into CP&L and would reduce the company's emergency import capability. This system design would, therefore, be less desirable than a design which would include connections directly to the CP&L system.

CP&L's review of the Mayo 500 kV transmission alternatives indicates that three 500 kV lines from the 1440 MW Mayo plant were not required. Two specific 500 kV lines can most economically supply the required service to the plant and impose the least environmental impact on the area. One of these two is a 19 km (12 miles) line connecting the 500 kV Mayo Electric Generating Plant and the 230 kV Roxboro S.E. Plant. At Roxboro, a 1,500 MVA, 500/230 kV transformer bank will be installed. The installation connects the 500 kV system to the 230 kV system at Roxboro. This minimizes the environmental requirements of Mayo Plant transmission by making available to Mayo generation the reserve transmission capacity

in the Roxboro 230 kV system for normal and emergency service. The other necessary 500 kV line is the Mayo-Wake 500 kV circuit. This circuit extends approximately 113 km (70 miles) from Mayo Plant to the Wake 500 kV substation where it will be connected to the 230 kV system through a 2000 MVA, 500/230 kV bank. The Mayo-Wake 500 kV line will be routed via the Durham 500 kV substation site. In the mid to late 80's, the Mayo-Wake 500 kV line will serve as a source to a Durham 500/230 kV substation which will be required to bolster service to the Raleigh area.

The Mayo 500 kV transmission plan, which has been selected, will integrate well with the future EHV transmission expansion of the CP&L systems and can serve as a possible source for strengthening future interconnections with other utilities. In 1983 a 500 kV transmission line is planned to be completed from Wake 500 kV substation via the proposed Harris Plant site to the Richmond 500 kV substation near Rockingham, North Carolina, to form a 500 kV backbone through the CP&L system.

6.2.4.1.2 230 kV Transmission Alternative

An alternative of developing a Mayo Plant 230 kV transmission system was also considered. In this alternative, eight 230 kV transmission lines were required. Four of these were obtained by looping the existing Roxboro-Henderson and Roxboro-Rocky Mount 230 kV lines into Mayo Plant 15 km (9 miles) and 26 km (16 miles), respectively. The other four 230 kV lines would be required to connect the plant to Raleigh area transmission. Two of these lines would extend approximately 97 km (60 miles) from Mayo Plant to Milburnie 230 kV substation, which is located about 8 km (5 miles) east of Raleigh. The other two lines would extend approximately 80 km (50 miles) to the Durham switching station. The Durham switching station in the 230 kV plan is at the same site as in the above 500 kV plan. At Durham switching station, the existing two Roxboro-Method 230 kV lines would be looped in to form a strong 230 kV transmission hub northwest of Raleigh.

Evaluation and comparison of the 230 kV and the 500 kV plans indicated the 500 kV plan to be more desirable both environmentally and economically. The adopted 500 kV plan is shorter by 105 circuit-km (65 circuit-miles) and requires about 2,347 hectares (950 acres) less right-of-way clearing. 6.2.4.2 Locations of Transmission Corridors

6.2.4.2.1 Mayo-Wake 500 kV

The Mayo-Wake 500 kV line will, in the future, be connected to the proposed Durham 230 kV substation located in southeastern Durham County. (Section 6.2.4.1). Therefore, locations work was divided into two sections, Mayo-Durham and Durham-Wake.

6.2.4.2.1.1 Mayo-Durham Section

The Mayo-Durham Section begins at the Mayo Plant and extends 6 km (4 mi) south to a point just north of NCSR 1518. This section of the line stays on company properties for the majority of its length to avoid conflicts with land use.

From this point just north of NCSR 1518 to the Durham substation site, five routes were delineated and examined. The route preferred by CP&L is illustrated in Figure 1.5-6. The four remaining alternatives are illustrated in Figure 6.2-1. The delineation and reasons for rejection of the alternatives by CP&L are as follows: Route A proceeds southwest from north of NCSR 1518 to a point adjacent to the existing Roxboro-Method 230 kV corridor near NCSR 1712. From this point, Alternative A parallels the existing Roxboro-Method 230 kV corridor to the proposed Durham substation site, a distance of approximately 43 km (27 mi). This route was not selected because of conflicts with residential development on portions parallel to the existing Roxboro-Method 230 kV line, conflicts with existing recreational development in the Lake Michie area and proposed recreational development on the proposed Falls Lake Reservoir, adverse visual impact around Lake Michie and the proposed Falls Lake Reservoir, unfavorable risks to system reliability resulting from a significant distance of paralleling the Roxboro-Method line, and conflicts with ecology resulting from crossings of swamplands, streams, highly erosive areas and prime wildlife habitat near the confluence of the Flat and Eno Rivers and around Lake Michie.

Route B extends from just north of NCSR 1518 in a southeasterly direction, intersects the existing Roxboro-Milburnie 230 kV corridor just south of NCSR 1573, and parallels this line for approximately 11 km (7 mi). From this point just south of NCSR 1727, Alternative B turns southwest for 14 km (9 mi) and intersects the existing Roxboro-Method corridor south of the N.C. State University Hill Forest. Alternative B then parallels the Roxboro-Method corridor to the proposed Durham substation site, a distance of approximately 26 km (16 mi). This route was rejected because of conflicts with residential development on the portions parallel to the existing Roxboro-Method corridor, conflicts with existing recreational

development in the Lake Michie area and proposed recreational development on the proposed Falls Lake Reservoir, adverse visual impact around Lake Michie and the proposed Falls Lake Reservoir, and unfavorable risks to system reliability resulting from a significant distance of paralleling the Roxboro-Method line.

Route C proceeds from just north of NCSR 1518 in the same direction as Route B. After paralleling the Roxboro-Milburnie 230 kV corridor for approximately 14 km (9 mi), Alternative C turns southwest just south of NCSR 1728 and proceeds 18 km (11 mi) passing between Lake Michie and the federally owned lands at Camp Butner. Just south of Lake Michie, Alternative C meets the Roxboro-Method corridor and parallels this corridor to the proposed Durham substation site, a distance of approximately 19 km (12 mi). Alternative C was rejected because of conflicts with the proposed Falls Reservoir, adverse visual impact around the proposed Falls Lake Reservoir, unfavorable risks to system reliability resulting from a significant distance of paralleling the Roxboro-Method line, and conflicts with cultural resources resulting from crossings of potential archaeological sites identified by N.C. Department of Archives and History during consultations (Hal1, 1978).

Route D proceeds along the same location as Routes B and C, paralleling the Roxboro-Milburnie line for 42 km (26 mi). At a point just north of the Wake-Granville county line, Alternative D turns to the southwest, crosses the proposed Falls Lake Reservoir (Neuse River) and continues to the proposed Durham substation site. Alternative D does not parallel any portion of the Roxboro-Method corridor. Alternative D was rejected because of conflicts with proposed recreational development on the proposed Falls Lake Reservoir, conflicts with ecology resulting from crossings of good wildlife habitat north of Camp Butner, swamplands, streams and highly erosive areas, conflicts with cultural resources resulting from crossings of potential archaeological sites, identified by N.C. Department of Archives and History, and significantly higher estimates of right-of-way and construction costs.

6.2.4.2.1.2 Durham-Wake Section

There were five routes delineated and examined for the Durham-Wake section. The route preferred by CP&L for the Durham-Wake section is illustrated in Figure 1.5-6. The four remaining alternatives are illustrated in Figure 6.2-1. The delineation and reasons for rejection of the alternatives by CP&L are as follows:

Route A proceeds southeast from the proposed Durham substation site for 6 km (4 mi) and then parallels a future 230 kV line for 3 km (2 mi). Alternative A then continues to the southeast for approximately 26 km (16 mi), avoiding the expanding development from Raleigh, until it reaches CP&L's existing Wake-Carson 500 kV line. Alternative A then parallels the Wake-Carson corridor for 3 km (2 mi) to the existing Wake substation. This alternative was rejected because of conflicts with existing and proposed land use resulting from crossings of subdivisions, industrial and rural residential areas, and significantly higher estimates of right-of-way and construction costs.

Route B follows the same corridor as Route A except for a 5 km (3 mi) section which avoids paralleling the future 230 kV line. Alternative B was created as a viable alternative to avoid the existing development around the future 230 kV line. Route B leaves Route A just south of NCSR 1834 and proceeds east and then south for approximately 5 km (3 mi). Route B then connects back to Route A just north of NCSR 1005. This route was rejected for the same reasons as Route A.

Route C extends northeast from the proposed Durham substation site for 3 km (2 mi) and then turns southeast. Continuing southeast for approximately 26 km (16 mi) to a point just east of the Neuse River, Route C connects with Route A and extends to the Wake substation. Alternative C was rejected because of conflicts with existing and proposed land use resulting from crossings of subdivisions, industrial and rural residential areas, and adverse impact on ecology resulting from crossings of prime wildlife habitat along the Neuse River.

Route D coincides with Route C for 24 km (15 mi) until reaching U.S. 401 near Wake Crossroads. From this point, Route D diverges from Route C along a more northerly course until reaching the Wake-Carson 500 kV transmission line. Alternative D then parallels the existing Wake-Carson transmission line to the Wake substation. Alternative D was rejected for the same reasons as Alternative C.

6.2.4.2.2 Mayo-Roxboro 500 kV

The Mayo-Roxboro Line begins at the Mayo Plant and extends 7.5 km (4.6 mi) west to a point just west of NCSR 1326. This section of the proposed line was chosen for the following reasons:

(1) This route avoids disruption of present land use by utilizing as much of CP&L land as possible.

(2) The route proceeds on the shortest most feasible location between the Mayo Switchyard and the proposed Person 500/230 kV Substation.

(3) The route avoids the proposed ash pond to the north.

(4) The route avoids the rural communities of Bethel Hill and Woodsdale to the south. From this point (Point A) just west of NCSR 1326, three alternatives to the proposed Person 500/230 kV Substation were delineated and evaluated. CP&L preferred route is indicated in Figure 1.5-7. The two remaining alternatives are indicated in Figure 6.2-2.

Route A-B proceeds on a slight southwesterly angle from Point A for 3.7 km (2.3 mi). From this point, the line angles due west for 3.6 km (2.25 mi) to the proposed Person 500/230 kV Substation. Route A-B was rejected because of its conflict with existing land development adjacent to NCSR 1336 and its more expensive cost projections.

Route A-C proceeds southwesterly from Point A from 5.4 km (3.35 mi) to the existing Roxboro-Rocky Mount 230 kV Line corridor. It then parallels the existing corridor in a northwesterly direction for 2.9 km (1.8 mi) before turning north for 16 km (.4 mi) to the proposed Person 500/230 kV Substation. Route A-C was rejected because it is significantly more expensive, has greater impact on present land use, and is much less desirable from a system reliability standpoint than the proposed route.

6.2.4.2.3 Mayo 230 kV Tap Line

The location study for the Mayo 230 kV tap line was conducted in connection with the Mayo-Wake 500 kV line. The entire length (5 km (3 mi)) of the Mayo tap is located parallel to the Mayo-Wake 500 kV corridor. The selection of this corridor was based on minimizing cost and impact on land use by staying on company properties to the greatest extent and utilizing a common corridor with the 500 kV line. There were no known significant unfavorable factors associated with the selection of this route.

6.2.5 Ash Disposal Methods and Sites

6.2.5.1 Auxillary Ash Pond

The selection of an ash pond on the Crutchfield Branch watershed as compared to the auxillary site on Bowes Branch (Figure 1.3-2) related primarily to economic and wastewater treatment considerations. By choosing the Crutchfiel Branch site, the ash pond can be utilized to contain and treat coal pile runoff and miscellaneous drainage from the plant area. Usage of the Bowes Branch watershed would have required additional expenditures and maintenance for piping ash sluice water and other wastewaters to the site.

Also, return lines and pumps would be required to return the effluent back to the main reservoir. The environmental effects of ash pond construction and operation at either site were judged to be essentially equivalent.

6.2.5.2 Dry Fly Ash Handling

CP&L has committed to construction of both a dry fly ash handling system and a hydraulic sluice ash pond disposal system. Each system would be designed to handle all the fly ash.

Dry ash disposal would involve the stockpiling of fly ash that could be sold to make lightweight "centre type" blocks or other commercial products. If there is not a suitable market for the ash, it could be disposed in a landfill area. However, when the dual system is installed, CP&L plans to sluice the fly ash to the ash pond if the product cannot be sold. As indicated below, a hydraulic sluice ash pond system appears more economical than landfill disposal of the fly ash.

CP&L has made an economic assessment of hydraulic sluicing of fly ash compared to dry ash handling. CP&L extrapolated the costs of a hydraulic fly ash sluicing system from their existing plants to the proposed Mayo Plant. This assessment includes operation and maintenance costs such as piping, pumps, maintenance and energy costs. Based on these extrapolated values, CP&L estimates that the cost of sluicing at the Mayo Plant would be \$0.70/ton of fly ash.

CP&L does not operate any facilities that uses dry fly ash handling. Therefore, the following information was obtained from the American Electric Power Corporation (AEP). AEP indicated that trucking cost could run \$0.09 to \$0.12 per ton mile, loading facilities \$0.12 to \$0.18 per ton mile and compaction at the landfill at \$0.60 per ton. CP&L assumed a 5 mile roundtrip haul. At this distance the total operation and maintenance cost for a dry fly ash landfill facility is approximately \$2.00/ton.

On a daily basis, CP&L estimates that the \$1.30 per ton differential between dry fly ash handling cost and sluicing could be approximately \$1,500.00 per day. Land costs are not included in the estimates since they should be approximately the same for both systems.

6.2.5.3 Bottom Ash Handling

Regardless of the type of fly ash handling facility that CP&L would employ, an ash pond of some type is needed for disposal of bottom ash from the furnaces. The disposal is done by a sluicing process in order to transport and cool the hot cinders. The plant wastes indicated in Section 1.5.5.1 would still be discharged into the ash pond for the bottom ash. If just a bottom ash disposal area was employed, CP&L would still plan to use the entire Crutchfield Branch ash pond site as proposed in Section 1.5.1. Even though bottom ash is approximately one-fourth of the fly ash volume, the entire site would be used since this would probably preclude the use of any auxillary disposal site for the life of the plant.

Bottom ash could possibly be sold for road bed materials. However, the ash would still have to be sluiced to a site and the water decanted.

6.3 No Action

Table 1.2-1 shows the projected power resources, loads, and reserves for 1982, 1983, 1984, and 1985, with and without the proposed Mayo units, at the time of the summer peak. As this table shows, without the Mayo units, reserves will be below the 15-20% reserve level which CP&L and the N.C. Utilities Commission and the Nuclear Regulatory Commission (NRC) consider reasonable for CP&L's service area. When reserves dwindle, continuity of service becomes more difficult to maintain since adequate reserves must be maintained to allow for both required routine maintenance and for forced outages.

With the Mayo units, the Company's ability to meet its territorial loads in the 1982 through 1985 period would be reduced. The impact of a situation such as this on system reliability could be significant, even at off-peak periods.

Energy conservation programs have already been taken into account in the CP&L and N.C. Utilities Commission Load Forecast. Therefore, it is improbable that the need for the units can be eliminated through greater conservation efforts. The company has also investigated purchasing the needed power. No other utilities in this are have a construction program under way which would allow them to sell the quantity of firm capacity and energy required to serve the CP&L customers.



FIGURE 6.2-1 MAYO-DURHAM AND MAYO-WAKE ALTERNATIVES

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FIGURE 6.2-2 MAYO-ROXBOHO ALTERNATIVES
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7.0 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENAHNCEMENT OF LONG-TERM PRODUCTIVITY

7.1 Overview of Project Development and its Relationship to Man

The development of the Mayo Electric Generating Plant with its generating capacity of 1440 megawatts of electricity will provide a dependable long-term supply of electricity. This will contribute to a stable regional and national economy whereby job opportunities from existing and new industrial and manufacturing processes will be made available to the general public.

In keeping with President Carter's Energy Policy, the Mayo Electric Generating Plant will be built as a coal-fired, fossil fuel facility, and as such, will not contribute to the deterioration of natural oil reserves or further increase the national dependence on imported oil.

In addition to enhancing employment capabilities, the generation from the Mayo plant will produce electricity for commerce, industry, health care facilities and domestic use.

7.2 Short-Term Uses

The local short-term uses of man's environment are those uses associated with the construction and operation of the Mayo Electric Generating Plant and its transmission facilities. The period of the short-term is defined as the life of the plant which is estimated to be some 30 years. The Mayo Electric Generating Plant is being constructed for the primary purpose of providing reliable electrical generating capacity to Carolina Power and Light Company's service area, and thus a short-term benefit of the project is the creation of an adequate generating capacity to meet these electrical energy needs. The Mayo units will provide increased system reliability to a variety of commercial, industrial, agricultural, and public users. It is estimated that generation from the Mayo plant has the potential for serving some 800,000 residences per year based on the 1976 average annual KWH usage per residential customer.

Associated with construction of the plant will be additional short-term benefits derived through the creation of new jobs, expansion of local tax base, and the growth of local economy and commerce. The Mayo Electric Generating Plant will represent an estimated investment of \$771 million in Person County. The project will probably result in the creation of a year-round fishery resource where heretofore little existed on the watershed.

The short-term uses include emissions of SO₂ and particulates; alteration of vegetation composition of transmission corridors and removal of most vegetation from the plant site; some entrainment and impingement of aquatic organisms; and reduction in fossil fuel supply. These uses however, except for the reduction in coal supply, can be reversed once the useful life of the plant has ceased.

7.3 Long-Term Productivity

The coal resource used by the plant will be lost. In addition, the terrestrial habitat occupied by the ash pond and reservoir will be eliminated since CP&L has no plans for restoring these areas.

In addition, the 23 families that lived in the area will be permanently displaced and a total of 700 acres of cropland and pastureland taken out of production.

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8.0 ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES WHICH WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

Consumptive Use of Resources

According to CP&L, coal for the Mayo units will be obtained primarily from eastern Kentucky and southern West Virginia. Based on current projections, the plant will consume about 2 to 3 million metric tons of coal per year over the first ten years of operation. Three separate sources, already under long-term contract, will provide the majority of the plant's eventual needs.

Also, the terrestrial habitat including agricultural lands and forestlands in the reservoir and ash pond will be irrevocably lost along with the forestlands in the transmission corridors. CP&L does not have plans to restore the ash pond or reservoir to their former use following the life of the plant.

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9.0 COORDINATION AND COMMENT AND RESPONSE

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9.1 GENERAL

The Draft Environmental Impact Statement (DEIS) on the Mayo Electric Generating Plant project was published on 5 May 1978. This statement was circulated to Federal and State agencies and various citizen groups and individuals for their review and comment. A public hearing was held in Roxboro, North Carolina on 6 June 1978 to obtain comments on the DEIS. A public notice announcing this meeting and the availability of the DEIS was issued 5 May 1978. A copy of the transcript of the public hearing and letters commenting on the draft statement are inclosed as Appendix A.

Responses to the comments received on the DEIS are included in Sections 9.2-9.4. Section 9.2 contains the responses to government agency comments, 9.3 citizen groups and 9.4 individuals.

In many cases in this comment response section (9.2-9.4), the actual comment has been paraphrased. However, the full comment can be found in the corresponding letters included as Appendix A.

The following is a list of groups, agencies, and individuals who were requested to review and comment on the DEIS but did not elect to do so.

Forest Service, USDA Greensboro Area Office, HUD ECOS, Inc. US Department of Commerce Federal Energy Administration Fifth Coast Guard District Environmental Defense Fund, Inc. Conservation Council of North Carolina Federal Highway Administration League of Women Voters National Audubon Society NC Wildlife Federation National Wildlife Federation Mayor, City of Roxboro Mayo Area Conservationists Mr. John H. Merritt Mr. Marvin Stewart Mr. Alan Johnson Mr. Robert P. Wheeler Mr. Victor S. Bryant Mr. Thomas Erwin

9.2 GOVERNMENT AGENCIES

9.2.1 NC Department of Natural Resources and Community Development

a. <u>Comment</u>: The Department of Natural Resources and Community Development has completed its review of the subject proposal except for the Wildlife Resources Commission. No objections have been voiced and certain requirements for construction, such as the Sedimentation Pollution Control Act of 1973, have been addressed. One error was noted in the document and that related to cooling tower blow-down. The document lists 4-8 MGD as the volume, but the Company's application for NPDES Permit lists 21 MGD. Some clarification of these figures should be included in the final environmental statement.

<u>Response</u>: An appropriate change has been made in Section 1.5.3 regarding your comment.

b. <u>Comment</u>: This Department's comments, dated 20 June 1978, indicated that additional comments would be forthcoming from the Wildlife Resources Commission. Those comments have been received and are as follows:

Two problems associated with the project became apparent during the Wildlife Resources Commission review. These problems related to the potential for a dangerously high selenium content in the lake and to the lands to be dedicated for wildlife management purposes as mitigation for habitat lost to inundation.

In conference with representatives of Carolina Power and Light, these two issues were discussed and Carolina Power and Light prepared an addendum to the subject DEIS for inclusion into the final EIS. If this addendum is included as proposed, the deficiencies cited above will be satisfied.

<u>Response</u>: Noted. These items are included in Appendix F and Appendix G.

9.2.2 North Carolina Utilities Commission

<u>Comment</u>: The North Carolina Utilities Commission makes the following comments with respect to Carolina Power and Light Company's proposed Mayo Creek Steam Plant, and particularly with respect to the main reservoir lake at the plant site.

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By order of 21 December 1976, the Commission certificated the Mayo plant, and decided that it would be needed in the early 1980's in order to meet Carolina Power and Light Company's generating requirements. In subsequent generic hearings relating to load forecasting, the Commission has reaffirmed the need for the proposed Mayo Creek Plant during the early 1980 time frame.

In response to your request for an evaluation of safety requirements at the plant's main reservoir dam, the Public Staff of the Commission requested the North Carolina Department of Natural Resources and Community Development to review the design drawings and accompanying specifications for the proposed Mayo Creek Dam from a dam safety standpoint. By a letter dated 14 April 1978, the NCNRCD furnished the Public Staff the results of its review. The NRCD advised the Public Staff that the plans were adequate except in the following respects:

"1. There are no provisions for emergency drainage of the reservoir. If this dam were under the jurisdiction of the NC Dam Safety Law, we would require that a bottom drain be provided to allow lowering the reservoir. The detailed requirements for the drain would be determined by the design engineer and submitted to the state for review; in general terms we would be thinking that there should be emergency provision to lower the reservoir level from the maximum pool to within 10 to 20 feet of the foundation level over a period of 60 to 90 days.

2. There are no piezometers in the outer slope of the embankment. We would ask the design engineers to include these, and would expect the number of piezometers to be on the order of 10 to 20. (This is a relatively inexpensive way to confirm the flow net used for seepage and structural stability analyses in design). We would also ask the design engineer to consider installing settlement plates in the embankment for monitoring, though settlement plates would not necessarily be a requirement.

3. There is no underdrainage blanket provided for the service spillway north of Sta. 16+20. We would ask that the design engineer either provide justification or provide an underdrain blanket and collector system.

4. There are no final drawings showing the locations of borrow sources. We would ask the design engineer to document the borrow plans.

Responding to the NRCD comments, Carolina Power and Light Company by its letter of 12 May 1978, informed the Public Staff that it had no real problem with comments 2, 3, and 4 as set out in NRCD's letter, but that it disagreed with NRCD's comment regarding the need for a bottom drain in the reservoir.

On 22 May 1978, at Commission Staff Conference, the Public Staff recommended to the Commission that it adopt NRCD's comments with respect to the main reservoir at the Mayo Creek Plant. At this Conference, representatives of CP&L again stated their position that safety requirements could be met without installing a bottom drain. After considering the letters, the comments from the Public Staff and from representatives of CP&L, which were made at the Staff Conference, the Commission decided on 6 June 1978 to accept the Public Staff's recommendation that it adopt NRCD's position and the comments expressed in the 12 April 1978 letter. The Commission has decided that in the interest of public safety, Carolina Power and Light Company should be required to provide for emergency drainage of the reservoir through a bottom drain as recommended by the North Carolina Department of Natural Resources and Community Development. The Commission is satisfied that safety requirements justify the additional investment in the drainage facilities.

Response: See Section 4.5 of the FEIS.

9.2.3 US Department of Agriculture, Soil Conservation Service

a. <u>Comment</u>: The Draft EIS does not adequately address the effects of the construction of the dam or transmission lines on prime farmland and on the irreversible loss of forestland.

<u>Response</u>: Several changes have been made in Sections 4.2.2.2.1, 4.4.1, 4.4.7, and 8.0 to incorporate your comments. Also see Section 5.1.

b. <u>Comment</u>: The Soil Conservation Service assists soil and water conservation districts in technical phases of their program. If desired, consultive services consistent with priorities of work established by the districts are available from the Service in reviewing or developing plans for controlling erosion during and after construction.

Response: Noted.

9.2.4 Kerr-Tar Areawide Clearinghouse Review Committee

<u>Comment</u>: On the basis of the review and comments from the Committee, we find the project to be in keeping with regional objectives and not in conflict with any project, plan or agency program in the Kerr-Tar Region.

Response: Noted.

9.2.5 Department of Health, Education and Welfare

<u>Comment</u>: We have reviewed the subject draft Environmental Impact Statement. Based upon the data contained in the draft, it is our opinion that the proposed action will have only a minor impact upon the human environment within the scope of this Department's review. The impact statement has been adequately addressed for our comments.

Response: Noted.

9.2.6 Environmental Protection Agency

a. Comment:

1. Water balance: We have serious reservations about several points in the water balance analysis including evaporative losses, stream flow in Mayo Creek and seepage from the ash pond. Since the water balance as presented is at best marginal, increased evaporation and other losses as indicated herein may prove the project to be infeasible.

<u>Response</u>: A hydraulic engineer on our staff has reviewed CP&L's water balance analysis. He indicated that the analysis appeared accurate.

b. Comment:

2. Ash disposal: Both Virginia and North Carolina have EPA approved water quality standards for Crutchfield Branch. We do not believe that use of the proposed pond for ash disposal is an acceptable use of this stream. An acceptable alternative for ash disposal will be necessary before this project can proceed.

Response: Noted.

c. Comment:

3. Fly ash and bottom ash transport system: Water carriage of fly ash and once-through bottom ash sluicing systems are inconsistent with existing and expected (to be reproposed in September 1978, with repromulgation scheduled in March 1979) standards of performance for new sources. It is anticipated that repromulgated regulations will require dry fly ash handling systems and recirculating bottom ash handling systems. However, even in the absence of such requirements, such systems appear

necessary to assure that chronic and acute toxicity conditions do not occur in Mayo Creek, Crutchfield Branch and the make-up water reservoir. In the absence of a commitment to the use of such systems by CP&L, the project appears environmentally unacceptable.

Response: Noted. See Section 6.2.5 of the FEIS.

d. <u>Comment</u>: Any one or all of the above areas could render the project environmentally unsatisfactory from the standpoint of health, welfare and environmental quality. Details of these and other comments are included in the attached comments.

Based on the project as described in the Draft Environmental Impact Statement, we have assigned a rating EU (environmentally unsatisfactory) and based on the need for more information as indicated by our review of the DEIS, we have assigned a rating for the Statement of 2 (inadequate information).

Response: Noted.

e. <u>Comment</u>: Water use information included in the Environmental Report and Draft Environmental Impact Statement appears to have several errors and inconsistencies which could seriously impact the viability of the project. It appears that consumptive water use has been underestimated. This could affect drawdown and water quality in the reservoir and in downstream releases. Items where inconsistencies and possible errors exist include:

1. Average flow of Mayo Creek

2. Cooling tower evaporative losses (including plant heat rejection rate and expected plant capacity factors)

3. Make-up reservoir evaporative losses

4. Ash pond evaporative losses

5. Ash pond seepage

Average flow at the dam is noted in the Summary Assessment as 44 cfs; however, both the ER and DEIS indicate the average flow of Mayo Creek is 50 cfs. The detailed basis for average flow estimates of Mayo Creek

should be provided in the Final EIS since the water balance information may ultimately prove the project to be infeasible.

<u>Response</u>: The average flow in Mayo Creek is 50 cfs. The 44 cfs value is incorrect and was not included in the DEIS. As indicated in Section 2.2.1.1.2, USGS personnel estimated the flow in Mayo Creek to be approximately 50 cfs. Also see response to 9.2.6(a) above.

f. <u>Comment</u>: Evaporative losses from the cooling towers are estimated by CP&L to average 15 cfs. Under maximum load during summer conditions when approximately 90 percent or more of the heat rejected by the cooling towers can be anticipated due to evaporation (10% by conduction and convection), 29 cfs of water would be evaporated if 3.6 billion BTU/hr are dissipated. It is during this period that plant loads are highest and a significant portion of the yearly evaporation will occur.

Monthly average load factors and evaporation losses for each month of the year for average and for critical meteorological conditions are necessary to assess the reasonableness of the water balance and have not been provided. Additionally, the 3.6 billion BTU/hr heat rejection rate corresponds to a 36.5% efficiency factor for the plant which appears high for a coal-fired plant utilizing cooling towers. Decreased efficiency would result in higher rejection rates and correspondingly higher evaporation. CP&L estimates (Table 1.7-1 of the ER) that the maximum annual load factor expected for either unit is 61 percent through 1966. This expected plant utilization is significantly less than historically reported for newer and larger units in the CP&L system and appears even lower for the newest plant in the system (with 36.5 percent efficiency factor). Increased plant usage would result in higher evaporative losses than projected.

Response: We agree that increased plant usage would result in higher evaporative losses than projected. However, no one knows better than CP&L how much they intend to use the plant.

We also agree that during the summer months the loss of water from the cooling towers will exceed the average 15 cfs value. CP&L indicates that summer losses could be as high as 26.5 cfs. However, the average loss should still be 15 cfs when losses in the fall, winter, and spring are averaged. The storage volume in the reservoir should be sufficient to handle the summer stress except under prolonged drought conditions. Also see Tables 1.5-1 and 1.5-2.

g. <u>Comment</u>: Evaporative losses from the make-up water reservoir are not estimated or assessed in the DEIS; however, CP&L estimates (ER Page 6) a net natural evaporation of about 2 cfs. Evaluation of evaporation rates versus evapotranspiration rates for the Mayo site indicates at least 8.5 inches per year of net natural evaporation will occur (almost 3 cfs). Forced evaporation due to heat discharged in the cooling tower blowdown (which could be as much as 30°F warmer than the water surface during the winter) would further increase water loss from the reservoir. Similarly, there will be a net natural evaporation from the ash pond and a forced evaporation component due to heat transferred to sluice water by the hot ash.

Response: See response to 9.2.6(a) above. Also see Tables 1.5-1 and 1.5-2.

h. <u>Comment</u>: In addition to the evaporative losses, seepage through the bottom of the ash pond and through the ash pond dam (with its 85foot high normal hydrostatic head) can be expected.

Response: Agreed. See Sections 1.5-3 and 2.2.2 of the FEIS.

i. <u>Comment</u>: Details and clarification of the above inconsistencies and errors are necessary before a full and independent assessment of the water balance can be made. The water balance presented in the ER and Draft EIS is at best marginal for a viable project and additional losses as indicated above may prove the project to be unacceptable. Detailed reassessment is necessary, therefore, to ascertain if the project is viable. The DEIS assumes a 24 cfs average discharge rate from the makeup water dam (Page 4-37); however, this value is inconsistent with the expected losses from the facility.

<u>Response</u>: We disagree with this comment. See 9.2.6(a) above and Section 1.5.3 of the FEIS.

j. <u>Comment</u>: The COE has determined that Crutchfield Branch is waters of the United States (Draft EIS, Summary). Disposal of ash therein would not be allowed by EPA. Since Crutchfield Branch is Waters of the United States, use of the proposed pond for ash disposal would be prohibited. Unless alternate ash disposal could be provided, construction of the entire facility may be prohibited.

Response: Noted. However, the COE has not determined that Crutchfield Branch is waters of the United States. By definition if water is present, then the water area is waters of the United States. All the COE did was confirm that water was present in Crutchfield Branch.

Comment: It has been proposed that fly ash be pneumatically k. conveyed to a hopper which would allow sale in a dry form, should a market develop. However, conveyance from the hopper by water sluicing to the ash pond is proposed for excess fly ash. Standards of Performance for New Sources as promulgated in October 1974 provided for no discharge of pollutants from fly ash handling, based on conclusions in the Development Document that dry fly ash handling was available. Although this requirement was remanded as indicated in the DEIS, further evaluation by EPA has indicated that the technology of dry fly ash handling is feasible, is not excessively costly, and is being instituted by many power companies now. It is anticipated that dry fly ash handling will be proposed again in the September 1978 revision to the Effluent Guidelines and promulgated again in March 1979. The FEIS should, therefore, assess dry fly ash handling and disposal at the Mayo site or of some other system to assure that there is no discharge of pollutants to Waters of the United States from the fly ash handling system. Such evaluation is necessary to assure that the project is viable.

Response: See 9.2.6(c) above.

1. Comment: Even were dry fly ash handling not required at the site by Effluent Guidelines, it appears that sluicing as proposed by the applicant would be unacceptable. Fly ash contains numerous heavy metals and other toxic pollutants (including arsenic, chromium, copper, iron, lead, mercury, nickel, selenium, vanadium and zinc) which are leachable by sluicing water. Other than a projection that selenium might be present at 0.03 mg/1, no other projections are made of expected heavy metal concentrations. This appears to be due to the unavailability of data from an ash pond in the CP&L system or other nearby systems which receive fly ash from coal with the extremely low sulfur content proposed for the Mayo plant. Based on the evaporative losses included in the comments on the make-up reservoir water balance and concentration and reconcentration of pollutants naturally present in the Mayo Creek drainage flow and leached from sluiced ash, toxic concentrations (chronic and potentially acute) can be anticipated to be present in the make-up reservoir and its releases and in seepage through the ash pond dam.

Both Mayo Creek and Crutchfield Branch are interstate streams and both appear to be used for livestock watering. The reservoir itself has been proposed as supporting a viable sport fishery. None of these uses is consistent with the existence of either chronic or acutely toxic concentrations of heavy metals. Since presence of such pollutants in toxic concentration cannot be allowed, assurance that acceptable concentrations will exist must be provided or the project will be deemed environmentally unacceptable. It is, therefore, recommended that samples of the proposed coal be obtained and burned and that leaching tests be performed to determine the concentrations of metal which could be expected. Heavy metal analysis should be conducted on the coal and ash so that projections of long-term leaching effects of heavy metal concentrations can be made.

Response: See Section 4.3.1.3 and 4.3.2.1.2 of the FEIS.

m. <u>Comment</u>: As an alternate, dry fly ash handling and disposal systems could be used at the plant. Performance standards for New Sources are predicted on use of a recycled bottom ash sluicing system; however, a once-through system is proposed by CP&L. No information is presented by CP&L to assure that the system proposed is equivalent in treatment efficiency to that provided by the Development Document. Such an assessment is necessary to assure that the project is viable as proposed. To assure that the project is viable, CP&L should reevaluate the proposed ash handling systems and provide a commitment to dry fly ash handling and disposal and to a bottom ash handling system which recycles sluice water for ash transport.

Response: See Section 6.2.5 of the FEIS.

n. <u>Comment</u>: No information is presented on the discharge systems for the cooling tower blowdown or ash pond discharge to the make-up water reservoir or on the required mixing zone necessary to assure conformance with North Carolina Water Quality Standards for heat and other pollutants. Such an assessment is necessary to assure that the project is viable. Assertion by the applicant that he will be able to meet applicable requirements is inadequate.

Response: These discharges are controlled by the State NPDES permit program. The impacts of these discharges will be assessed prior to the issuance of a NPDES permit. Also see Section of the FEIS 1.5.3 and 4.3.2.1.2.1 of the FEIS.

o. Comment: Effluent guidelines allow discharge of free available chlorine at a maximum concentration of 0.5 mg/1 and an average concentration of 0.2 mg/1, but do not allow discharge of total residual chlorine (TRC) for more than two hours per day. Since the applicant proposes continuous discharge of blowdown and since TRC can be expected to remain in the cooling tower system and blowdown for most, if not all, of twenty-four hour period following chlorination, extremely low concentrations of TRC will be necessary to assure that chronic conditions do not exist in the vicinity of the discharge to the reservoir. EPA has determined that concentrations of no more than 0.01 mg/1 of TRC are necessary to protect warm water fish and fish food organisms for continuous discharges. In addition, since technology exists for dechlorination, it is anticipated that EPA will propose the effluent limitation for chlorine discharges from power plants as non-detectable. CP&L should, therefore, evaluate dechlorination systems or alternate biocides and such assessment and commitment to such systems be provided in the FEIS.

<u>Response</u>: See response to 9.2.6(n) above. Also under normal operations all blowdown water will be utilized for ash sluice purposes. Due to the retention time in the ash pond, chlorine residuals are not expected in the ash pond effluent.

p. <u>Comment</u>: CP&L proposes addition of corrosion inhibitors to the cooling towers but does not indicate what compounds will be used or in what concentrations. CP&L further postulates that no detectable amount of inhibitor will be present in the blowdown. Since continuous discharge of blowdown is proposed, and since concentrations of corrosion inhibitors far exceeding detectable concentrations are necessary to protect against corrosion unless corrosion resistant materials are used--in which case use of corrosion inhibitors would be unnecessary--clarification and details are necessary in the FEIS.

<u>Response</u>: The use of corrosion inhibitors is no longer planned for the Mayo Plant cooling towers. See Sections 1.5.3, 1.5.5.2 and 4.3.2.1.2.1 of the FEIS.

q. <u>Comment</u>: Cooling tower design parameters include a 78°F wet bulb temperature. This value is exceeded by 2-1/2 percent of the time during the summer months and during such time blowdown temperatures will exceed design values. Expected maximum instantaneous and maximum 24hour average discharge temperatures should be provided in the FEIS. No basis for the monthly average discharge temperatures included in the DEIS

are provided, i.e., are they estimates or based on design curves for cooling towers already selected for the site? Are they based on maximum load factor or average expected for the month, etc.? Cooling tower blowdown is noted as probably being in the range of 4 to 8 MGD (FEIS Page 1-12); however, the NPDES application indicates that blowdown will be 21.0 MGD. This increase in the blowdown and the necessitated increase in make-up water requirements could have significant impact on the aquatic organisms subject to entrainment and impingement. Reevaluation of these impacts is, therefore, necessary.

<u>Response</u>: Under normal conditions, all the cooling tower blowdown water is to be used in the ash sluice system. Due to the retention time in the ash pond (Section 1.5.3), discharge temperatures should be close to ambient levels. The 4-8 MGD blowdown volume was printed in error. This has been corrected in Section 1.5.3 of the FEIS. The entrainment and impingement discussion for blowdown make-up water was based on 21 MGD.

r. <u>Comment</u>: Inadequate information on the intake system is provided to make an assessment of whether or not the proposed intake structure conforms with the requirements of Section 316(b) of the Federal Water Pollution Control Act, as amended. Location, design, construction and capacity of the cooling water intake structure must reflect the best technology available for minimizing adverse environmental impact. Details should be provided in the Final EIS. Additionally, a perforated pipe intake with deep submergence away from potentially biologically sensitive areas of the reservoir should be evaluated in the FEIS since environmental impacts of such an intake relative to a conventional shoreline intake would be significantly reduced.

Response: See Appendix I of the FEIS.

s. <u>Comment</u>: Capacity and number of pumps proposed, as well as maximum and average expected pumping rates, should be provided in the FEIS and environmental impacts of such intake rates addressed in the FEIS. Reevaluation of the bottom elevation of the intake structure should be made relative to above comments related to the water balance of the reservoir. Intake velocity of 0.5 fps is stated as the design criteria; however, no indication is provided as to what reservoir elevation would correspond to this intake velocity or if maximum blowdown will result in lighter velocities.

Response: See Appendix I and Section 1.5.3 of the FEIS.

t. <u>Comment</u>: Make-up water reservoir storage capacity as a function of long-term drought and the associated drawdowns appear to have been taken from information provided by the applicant. Independent verification should be made. This is especially necessary in relation to the problems noted in relation to the water balance for the make-up water reservoir.

Response: See response to comment 9.2.6(a) above.

u. <u>Comment</u>: Low flows of Mayo Creek provided in the DEIS are inconsistent. Page 2-3 indicates that the 7-day, 10-year low flow is 0.1 cfs. However, on Page 1-9 it is stated that on a one-in-ten-year frequency no flow would occur for 60 days.

Response: This has been corrected in the FEIS.

v. <u>Comment</u>: Page 1-9, it is indicated that a release of 2 cfs will be maintained at all times. However, elsewhere in the DEIS, it appears that there may be certain situations when less than 2 cfs will be discharged. Such conditions should be delineated, and the effect of such guaranteed releases on the reservoir drawdown pattern should be reassessed.

<u>Response</u>: Appropriate changes have been made in Section 1.5.2 of the FEIS.

w. <u>Comment</u>: A table indicating make-up, blowdown and evaporation losses as a monthly average as well as the maximum values anticipated within each month should be provided in the FEIS so that evaluations of impacts on total evaporation and effects of blowdown and other discharges to the impoundment under various depth conditions can be made.

<u>Response</u>: We disagree. The details of the water budget have been reviewed (comment 9.2.6(a)) and found adequate. Further information

on this subject would only add to the volume of the document.

x. <u>Comment</u>: A basis should be provided for the assessment that selenium will be concentrated to no more than 0.009 ppm as a result of ash pond discharge of 0.03 ppm, especially under drought conditions. With stratification, drawdown and reservoir configuration significant portions of the reservoir volume may not be available for dilution. Likewise, the basis of only 0.03 ppm of selenium being present in the ash pond effluent should be provided.

Response: See Section 1.5.4 and Appendix G.

y. <u>Comment</u>: There is no discussion of construction wastes and treatment such as concrete batch plant and washing wastes (high pH and TSS) and preoperational metal cleaning wastes (high pH, high phosphates, etc.). Such information should be presented in the FEIS.

Response: See Section 1.5.5.2 of the FEIS.

z. <u>Comment</u>: Ash pond flow is noted as 20 cfs (Page 1-13). Of this quantity, 4 cfs is bottom ash transport and 16 cfs is fly ash transport water (per the NPDES application). This flow may exceed the flow resulting from normal inflow less evaporative losses (see comments on reservoir water balance). Such usage will result in increases in dissolved solids and other pollutants present in the runoff and ash pond effluent. Effects of such materials on the cooling tower concentration factor should be specifically discussed in the FEIS. Limiting concentrations of sulfate, chloride, TDS, silica and other pollutants which would affect the concentration factor(s) of the cooling towers should be provided in the FEIS. Expected maximum, minimum and average concentration factor for average conditions and for critical drawdown periods should be provided in the FEIS.

<u>Response</u>: The intake volume into the cooling tower system will be adjusted to compensate for increased evaporation and increased blowdown. See Section 1.5.3 of the FEIS regarding concentration factors.

aa. <u>Comment</u>: Discussion of Standards of Performance for New Sources (effluent limitations) are inadequate. The terms "average" and "daily maximum" as used should be defined as 30-day average (average) and 24hour average (daily maximum). All limitations are quantity limited (mg/l x flow). Bottom ash transport water limitations are not 1.5 mg/l and 5.0 mg/l as stated, but in fact are based on 30 and 100 mg/l and a recirculated bottom ash system with 5 percent blowdown. Inclusion of the attached Table in the FEIS is suggested for clarity.

<u>Response</u>: This change has been made in Section 1.5.5.1 of the FEIS. See Tables 1.5-1 and 1.5-2.

bb. <u>Comment</u>: No discussion is provided of proposed treatment of water wash metal cleaning wastes (air preheater, boiler fireside, etc.). These wastes are subject to the same effluent limitations as boiler acid cleaning wastes.

Response: See Section 1.5.5.2 of the FEIS.

cc. <u>Comment</u>: No discharge of polychlorinated biphenyl compounds is permitted. If PCB containing equipment is to be present on site, preventative measures proposed to prevent discharge of PCB's should be presented in the FEIS.

Response: The use of PCB's are not planned at the plant site.

dd. <u>Comment</u>: Presentation of CP&L monitoring data appears adequate, but what was the means of determining prevailing winds at the Raleigh-Durham Airport on a given day? If it was a printed summary issued by the weather bureau, it might help to have this included in the FEIS. It would also be helpful to know if the company has firm contracts for the low-sulfur coal it will need for continued compliance with SO₂ emission limits. Is this addressed in the supplement on SO₂ emissions?

<u>Response</u>: This information was reviewed prior to EPA's PSD Approval to Construct and prior to the State issuing the permits for the Discharge of Air Contaminants into the Atmosphere. The low-sulfur

contracts were reviewed and approved by the State Utilities Commission.

9.2.7 Department of the Interior

a. Comment:

<u>General</u>: We find that the draft statement adequately assesses the impacts of the proposed plant on recreation resources.

Response: Noted.

b. Comment:

<u>Mineral Resources</u>: There has been no mineral production reported to the Bureau of Mines from Person County for several years. There are also no known mineral resources in the site area.

Response: Noted.

c. Comment:

<u>Geology</u>: The draft statement refers to a major fault which enters the central part of the site area as one of several in the region and to the possible existence of other faults in the site vicinity. The draft statement concludes that these faults in the vicinity of the site do not constitute earthquake hazards or affect the economic feasibility of the site. This conclusion is based on probability calculations using historical records of earthquakes in this region. We believe that the final statement should provide additional detailed geological and structural information from the site to further substantiate the earthquake hazard calculations.

<u>Response</u>: We feel that the data provided is adequate to assess potential earthquake occurrence.

d. Comment:

Ash Pond: The draft statement does not adequately address the integrity of the ash pond. We recommend that a probable maximum flood on Crutchfield Branch that may result from intensive rainfall should be discussed in the final statement in order to evaluate the structural integrity of the ash-settling-pond and related dam.

<u>Response</u>: The dam design for the ash pond has not been finalized and will not be before early 1979. As indicated in Section 4.5 of the FEIS, the State will review the ashpond dam design. We feel that the review by the State will cover your concerns.

e. Comment:

<u>Croundwater</u>: We believe that the groundwater data and assessment necessary to fully evaluate the potential for groundwater impacts of the coal storage pile, plant site, main dam, reservoir, and ash pond should be included in the final statement.

Response: See Section 4.3.1.3 of the FEIS.

f. Comment:

Fish and Wildlife Resources: The Fish and Wildlife Service has been involved in the planning stages of the proposed project since early 1977. Meetings with the applicant have been held separately and in conjunction with the North Carolina Wildlife Resources Commission in efforts to resolve two major issues - the mitigation of losses of terrestrial wildlife habitat that will be inundated and the potential effects of selenium concentrations on the prospective reservoir fishery. However, we believe that these issues are not adequately addressed in the draft statement, and mitigation measures are not identified.

<u>Response</u>: Since these comments were submitted to the Washington office by the local field office, Mr. Bob Robinson, Field Supervisor, US Fish and Wildlife Service, indicated in a 29 June 1978 letter to the District Engineer that the concerns over mitigation and selenium have been resolved. The 29 June 1978 letter and mitigation plan and selenium pollution contingency plan are included in Appendix F.

g. <u>Comment</u>: Placement of fill in Mayo Creek and development of a reservoir, as described in the draft statement, will result in the inundation and thus destruction, of over 2,000 acres of wildlife habitat and 12 miles of freeflowing stream habitat. We understand that present construction activity at the site has begun and includes logging, clearing, and other onsite activities. Although construction of transmission lines, clearing, and logging, and construction of the plant ordinarily do not require Corps of Engineers permits, these activities would not occur in the absence of the prospective Corps permit to place fill material in Mayo Creek and Crutchfield Branch.

Section 404(c) of the Clean Water Act of 1977 is explicit in stating that unacceptable impacts to fish and wildlife are grounds for denying a permit to place fill in waters of the United States. The Corps of Engineers should clearly state in the final statement that the work already completed or in progress will not prejudice the consideration of the Section 404 permit and is done at the developer's risk. The fact that these activities are well underway gives the appearance that NEPA ÷

environmental review and Section 404 permitting processes are exercises leading to justification, rather than objective evaluation of the proposed action.

<u>Response</u>: In the fall of 1977, we informed representatives of CP&L that any work performed at the site in anticipation of receiving a 404 permit is done at CP&L's risk. Under present regulations, we have no control over "non-permit" activities such as construction of transmission lines, clearing and logging, and construction of the plant. We cannot stop processing of a permit because of "non-permit" actions.

h. <u>Comment</u>: We recommend that the final statement should provide an adequate description of the ongoing construction and a complete assessment of the impacts that have already occurred and will continue to occur during preliminary construction at the proposed site.

<u>Response</u>: This has been done in the FEIS. See Section 1.1. and Section 4.0.

1. <u>Comment</u>: The draft statement indicates that the North Carolina Wildlife Resources Commission and the Fish and Wildlife Service "have indicated that they are not satisfied with the amount of mitigation lands offered by CP&L." We understand that the applicant has recently provided detailed mitigation plans for fish and wildlife resources. We recommend that in the final statement this discussion be brought up-todate on the results of more current negotiations in this matter and any copies of appropriate applicant's letters of commitment to mitigation provided in the Appendix.

Response: See response 9.2.7(f) above. See also Appendix F.

j. <u>Comment</u>: The projected levels of selenium in the reservoir of 0.009 ppm after 10 years of plant operation indicated on page 1-13 of the draft statement should be discussed in more detail in the final statement. It is unclear whether the effects of bioaccumulation of selenium in the reservoir were taken into account in the calculation of this value. Further, the hydrological conditions assumed in the calculation should be stated in the final statement. There are vital considerations in projecting potential impact to the anticipated sport fishery in the reservoir and should be fully addressed in the final statement.

<u>Response</u>: See response 9.2.7(f) above regarding CP&L's selenium plan. More details on the selenium modeling are included in Appendix G.

k. <u>Comment</u>: The applicant's report of experience at the Belews Creek coal-fired plant indicates a correlation between high selenium concentrations and a failure of fishes to reproduce in the lake. The Fish and Wildlife Service is concerned about the potential of a similar situation occurring at the proposed Mayo Creek Plant. These concerns have been expressed to the District Engineer and the applicant, and the need for a contingency plan to handle this potential problem has been emphasized. We understand that the applicant has recently proposed mitigation plans that include consideration of selenium accumulation. We recommend that the selenium mitigation plans be mandatory to assure protection of a reservoir fishery.

Response: See response 9.2.7(f).

1. <u>Comment</u>: We believe that creation of "a potential sport fishery" in the proposed reservoir will not compensate for the loss of both creek and terrestrial habitat. In order for fishery values to be realized, the fishery must actually be developed and maintained. Furthermore, we believe the substitution of a flat-water fishery for terrestrial habitat is unacceptable compensation. The final statement should clarify mitigation measures that the applicant actually intends to implement.

Response: See response 9.2.7(f).

m. <u>Comment</u>: The draft statement indicates that an Erosion Control Plan "will be filed" with the State of North Carolina. In view of the ongoing land disturbance, the final statement should state whether this document was filed with the State and when approval was obtained.

<u>Response</u>: As indicated in Section 1.8 the erosion control plan for the plant site, reservoir, and ash pond area was approved in December 1977. The plan for the transmission corridors has not been approved but will be prior to any clearing. See Appendix H for a description of the plan.

n. <u>Comment</u>: We suggest that the woodcock (<u>philohela minor</u>) should be included in the final statement as an important game species in the Mayo Creek watershed. We note in page C-15 of the draft statement that the species is known to occur in the area. Although the woodcock may not be sought by local hunters, its migratory nature and high esteem in other parts of the country qualifies it as an important species.

Response: This change has been made in Section 2.3.2.3.2 of the FEIS.

o. <u>Comment</u>: The wild turkey population has recovered dramatically in North Carolina over the past 10-15 years as a result of wildlife management efforts by the North Carolina Wildlife Resources Commission and numerous concerned sportsmen. The fact that wild turkeys exist at .

1.1.1

the Mayo Creek site is significant. Further, in the absence of intensive field investigation, conclusions in the draft statement concerning the abundance of wild turkey are questionable due to the secretive nature of the bird and its intolerance of human intrusion. Based on knowledge that the species exists in the area, a discussion of habitat suitability would be more meaningful and should be included in the final statement.

<u>Response</u>: This change has been made in Section 2.3.2.3.2 of the FEIS.

p. <u>Comment</u>: It should be pointed out in the final statement that all the mammals discussed in Section 2.3.2.3.3 have an ecological importance as well as commercial and recreational importance. In addition, the importance of the Mayo Creek area to wildlife habitat should not be minimized because of past disturbance of the original forest communities on the site and the fact that the area was typical of northern piedmont of North Carolina. The final statement should objectively assess the project impacts on wildlife habitat.

<u>Response</u>: Appropriate changes have been made in various sections of the FEIS.

q. <u>Comment</u>: We note that the draft statement references minimization of impact through "prompt erosion control" and keeping unrevegetated disturbed land to a minimum. During a site visit by Fish and Wildlife Service biologists on 4 April 1978, there was no indication of provisions being taken to limit the acreage of disturbed land or no indication of silt fences, brush, barriers, and settling basins being constructed. However, extensive grading operations in the vicinity of the dam site and two logged areas, one along NC Highway 49 and another near SR Highway 1512, were observed. We recommend that a more detailed description of the referenced erosion control provisions and their implementation should be included in the final statement.

Response: See Appendix H.

r. <u>Comment</u>: Potential impacts to wetlands, streams and wildlife resources are not discussed in reference to construction of the railroad spur. An adequate description and evaluation of these potential impacts should be presented in the final statement.

Response: See Section 4.2.2.7 of the FEIS.

s. <u>Comment</u>: The analogy that the "many pools and slow areas now present" in the stream environment are similar to a lake environment is ecologically inaccurate and should be corrected in the final statement.

<u>Response</u>: The above quote is taken out of context. In Section 5.2.3.1 where the quote is found, only impacts of the project on benthic organisms are discussed. The second paragraph indicates that species adapted to flowing water of Mayo Creek would not adapt to the reservoir. However, some of the benthic organisms adapted to the many pools and slow areas in Mayo Creek may adapt to the reservoir area.

t. Comment:

Schedule: The schedule depicted is inaccurate based on statements elsewhere in the draft statement that construction is currently underway. The discrepancies should be corrected in the final statement to reflect current conditions.

Response: These changes have been made where appropriate.

u. Comment:

<u>Alternatives</u>: The conclusion that the impact on fish and wildlife resources was minimized by selection of the Mayo Creek site cannot be substantiated based upon information contained within the draft statement. The final statement should fully disclose the consideration given environmental factors during site selection and evaluation of alternatives.

Response: This change has been made in Section 6.1 of the FEIS.

v. <u>Comment</u>: It is unclear from the discussion presented in the draft statement whether the alternative sites are actually suitable for development of electrical generating plants. The draft statement on page 6-6 indicates that the problems associated with the alternative sites are insurmountable within time constraints for providing needed electrical energy. NEPA guidelines require that the alternatives considered might be less detrimental to the environment. The final statement should provide an adequate discussion of potentially viable alternate sites and a realistic assessment of each one.

<u>Response</u>: We feel that the discussion of alternate sites is adequate.

w. Comment:

Fish and Wildlife Coordination. The draft statement indicates that the proposed project would require issuance by the Corps of Engineers

of a permit for the conduct of dredge and fill activities under Section 404 of the Clean Water Act as amended in 1977. Since the draft statement is intended to evaluate the impacts of the proposed permit action, we will use this opportunity to provide the Fish and Wildlife Service's comments, pursuant to the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.).

Response: Noted.

x. <u>Comment</u>: We do not believe that the draft statement adequately addresses either the mitigation of fish and wildlife losses or the potential impacts on fish of accumulation of selenium in the reservoir. In addition, we believe that the clearing of the reservoir area outside of the stream channel that has proceeded may prejudice both the decision on permit issuance and efforts to resolve remaining environmental issues.

Response: See responses to Section 9.2.7(f) and 9.2.7(g) above.

y. <u>Comment</u>: Adequate plans were not presented by the applicant in the draft statement to mitigate the substantial losses of wildlife habitat and potential impacts of selenium pollution that may occur as a result of this project. However, based upon firm commitments by the applicant in a letter of 15 June 1978, (copy attached), to the Raleigh, North Carolina Field Office of the Fish and Wildlife Service with respect to mitigation lands and the potential selenium problem, the Fish and Wildlife Service would have no objections to issuance of a Section 404 permit by the Corps, provided that those mitigation commitments become part of the permit stipulations and are fully discussed in the final statement.

<u>Response</u>: As indicated in Section 9.2.7(f), these mitigation plans have been included in the FEIS.

Specific Comments

z. <u>Comment</u>: Page 4-23 - It is unclear why reference is made in this section to the annual property tax on the Roxboro Plant, Units 1 through 4. Such reference should be clarified or deleted in the final statement.

<u>Response</u>: Reference to the annual property taxes paid for the Roxboro Plant has been deleted in the FEIS.

aa. <u>Comment</u>: Page 5-7 - The initial comment on the public notice by the Fish and Wildlife Service (letter to District Engineer from Mr. Bob A. Robinson, dated 26 May 1977) was not included in part, or in whole, in Appendix D. Response; We did receive your 26 May 1977 letter and considered inserting it in the DELS. However, the 28 October 1977 letter included the same points as the May letter, in addition to containing additional information. Thus, we felt including the 26 May letter would be redundant.

9.3 CITIZEN GROUPS

1. Sierra Club, Joseph le Conte Chapter

a. <u>Comment</u>: Has the project sponsor established the need for the plant?

<u>Response</u>: Section 1.8 of the Final EIS has been expanded to address your question. Also, please see Section 1.2.

b. <u>Comment</u>: The DEIS fails to clearly make the case against the purchase of the adequate supply (as shown in the sub-region charts) from other utilities. Also, CP&L has not discussed the increase in capacity that will be provided by the Harris Nuclear Generating Plant.

Response: Carolina Power & Light Company and neighboring utilities with which CP&L is interconnected are in similar situations with respect to the prospects of importing large quantities of power. Each utility is confronted with long lead times for construction of generating facilities and the uncertainty of maintaining construction schedules. None of these other companies are installing any extra generation capacity in quantities sufficient to allow the selling of power to CP&L on a firm basis in the amounts required. The 19.0% (revised to 20.7%) reserve in Table 1.2-2 is the combined installed reserve for the Virginia-Carolinas Subregion. This reserve, like CP&L's reserve, is required to permit essential preventive maintenance, to offset the effects of forced outages of generating units and partial reductions in capacity resulting from auxiliary equipment failure, and to provide an amount of operating reserve for system regulation, control and security. This reserve is not surplus capacity. CP&L's 1985 reserve without the Mayo Plant (Table 1.2-1) is only 3.1% (FEIS) which is clearly below the 15-20% considered reasonable by the North Carolina Utilities Commission and CP&L. The resource values used in Tables 1.2-1 through 1.2-4 include the Shearon Harris Nuclear Power Plant capacity as currently scheduled for 1984. Also see Section 1.2.

c. <u>Comment</u>: What are the water quality protection actions to be taken by the sponsor? The DEIS recognizes the air and water pollution hazards of the plant, but fails to detail the mitigation measures for water pollution. The statement goes to great length in the discussion of the abatement of air pollution. We expect an equally thorough discussion
of the measures to be required in the NPDES permit to be included in the Final EIS.

<u>Response</u>: Additional discussions on water quality protection are included in Appendix F. The NPDES permit had not been issued when this FEIS was published. However, the 401 certification (Appendix E) indicates that the discharge of wastewater from the Mayo Electric Generating Plant is to be conducted in accordance with the terms and conditions to be imposed in the State-NPDES Discharge Permit.

9.4 INDIVIDUALS

9.4.1 Mr. T. Mdodana Ringer, Jr. for Mr. Harvey Rogers

a. <u>Comment</u>: Mr. Rogers' opposition to this construction is based upon several considerations: (1) The ecological damage that this proposed facility will have upon the area.

Response: For your concern about ecological damage, please see Section 4 and Appendix F.

b. <u>Comment</u>: (2) The inherent danger that the facility and the high intensity wires could cause;

Response: All major transmission lines are designed to withstand high winds, ice accumulation, damage from falling trees, etc. to prevent any foreseeable danger to either people, plants, or animals. To accomplish this, rights-of-way have to be cleared which, unfortunately, alter the aesthetics of the area but are necessary for safety.

c. <u>Comment</u>: (3) The interruption and disturbance of radio and television reception that the high intensity wires could cause.

<u>Response</u>: CP&L has indicated that the proposed transmission lines will be designed to avoid interruption or disturbance of either radio or television reception. However, if these conditions do occur, a CP&L representative indicated that they can be corrected.

d. <u>Comment</u>: (4) The relatively low land prices being paid by Carolina Power & Light Company for easements and fee simple title to land being acquired.

<u>Response</u>: We do not consider this FEIS as the appropriate place to discuss and/or attempt to resolve land acquisition disputes between CP&L and landowners.

c. <u>Comment</u>: For these and other reasons, Mr. Rogers urges that the Corps of Engineers refuse to issue a license for Carolina Power & Light Company to construct their proposed dam and power plant in Person County.

<u>Response</u>: Noted. Please also note that the Corps of Engineers only has the authority to issue a permit for the impoundment of Mayo Creek. The Corps does not have the authority to issue a license for the construction of the actual electric generating plant.

9.4.2 Mrs. H. Wharton Winstead

a. <u>Comment</u>: I know for fact that the fly ash on tobacco in the area has caused government tobacco graders to pass over the tobacco without grading it. Since economics is the second consideration you list and since our short-sighted county commissioners list this as first, this is indeed a factor of concern.

Response: The fly ash at the Mayo Plant is not anticipated to be a problem. Electrostatic precipitators are to be installed and are required to have a 99.6% efficiency in removing fly ash. The North Carolina Division of Environmental Management has issued a permit for the construction and operation of electrostatic precipitators to be installed on the coal-fired steam generating units at this facility. As required by Federal regulations, an analysis of the impact of air emission from this source has been conducted. A copy of the review report is in Appendix B along with the permits issued for the facility and concurrence by EPA. Also, see Appendix D, Section B(d), and Sections 4.2, 4.3.1, and 5.2.

Please note that the order that an item is listed in the Corps of Engineers Public Notice is in no way meant to determine its relative value.

b. <u>Comment</u>: Air and water are going to effect <u>all</u> of the people in the area and if the quality, under state supervision, should fail to be high enough it will be too late to restore health impaired by these mistakes.

Food grown in contaminated soil and air with fumes and gases can slowly destroy human life. We see first hand the air quality from the Hyco Generating Plant. It is far from good, regardless of regulations and CP&L's promises. How can we believe there is no danger in adding another plant at Mayo?

<u>Response</u>: Your concerns are noted. However, we feel that the air and surface water quality permit controls that the State has implemented in the last several years are adequate to control significant degradations of these parameters. CP&L and the State have both completed a study of the projected air quality at the Mayo site (Section 4.3.1.1 and Appendix B, respectively). Both studies have indicated that emissions and air quality will be within established standards. Also, according to a representative of the State Utilities Commission, the coal contract for the plant was approved by the Commission and the coal will come from eastern Kentucky; the coal is high quality and contains low concentrations of sulfur.

The State of North Carolina has control over proposed wastewater discharges for surface waters (Section 1.8). The State is well aware of the Mayo project and we have closely coordinated the project with the State.

c. <u>Comment</u>: Mr. Zimmerman spoke of meeting State and Federal requirements. We all know stack no. 3 at Hyco does not meet these requirements and yet it continues to be used. There was also some mention of a high quality coal to be used at Mayo. I wonder who can believe the plant will consider the coal quality if it is for the wellbeing of the same people CP&L has abused in all their dealings in this area?

Response: See response to 9.4.2(b).

d. <u>Comment</u>: The fact that Mr. Zimmerman stated that 2900 acres, 500 ash pond and cleared flood areas around the lake, would take care of wildlife driven from 6,229 acres of forest and 1,756.9 acres of open land leads me to understand that CP&L cares not for man nor beast if it is in the way of what they want.

Response: The 2,900 acres of land you mention is the amount that the US Fish and Wildlife Service, NC Wildlife Resources Commission, and CP&L agreed to for mitigation. The details are included in Appendix F.

e. <u>Comment</u>: If the weight of the CP&L money spent on the Mayo site to date is a force demanding the permit, even our cry to you is useless and yet no provision to be heard was previously made.

Response: No decision has been made whether or not to issue a permit for the proposed project. This decison will not be made until the 30-day review period on the Final EIS is complete. At that point, your comments and all other comments and factors will be considered.

f. <u>Comment</u>: We in the Mayo area do appreciate your study and concern of this stituation and may your conscience be your guide.

Response: Noted.

g. <u>Comment</u>: In a general conversation with some men who fish at Lake Hyco, their observation was that there are very few bass and much smaller in size than they were one year ago.

<u>Response</u>: CP&L is aware of the apparent decrease in largemouth bass at Hyco Lake and has undertaken biological studies to ascertain the reasons for this occurrence. They have had several meetings with the North Carolina Division of Inland Fisheries and have received their cooperation and assistance in the studies on Hyco Lake. There are several factors which may cause a decline in largemouth bass populations such as lack of cover, overfishing, parasites, buildup of selenium, and general decline as the lake ages. These factors are being examined. Until the question of what is happening to the bass is answered, largemouth bass will not be stocked so that the natural processes occurring in the lake can be examined.

9.4.3 Mrs. Ellen M. Kane

a. <u>Comment</u>: I can add no further information to what has already been gathered by the Corps of Engineers relevant to the Mayo Creek Project. You are aware of the thousands of acres of Person County farmland that has already been destroyed, and of the additional acres that will be restricted by the miles of high tension wires connecting the two plants to each other and to the substations. The fact that the two main streams, and their surrounding areas, will be controlled by Carolina Power and Light has been brought out. The air and the water, as well as the farmlands, are already affected by the placing of fly ash into the atmosphere, and can be seen in the Hyco area.

<u>Response</u>: Noted. For your comment regarding air quality, please see Section 9.4.2(a and b), Appendix B, Appendix D-Part B(1)(d) and Sections 4.3.1.1 and 5.2.

b. <u>Comment</u>: As a citizen, I do thank you for doing the study and for the time and consideration that I know will be put into the decision. And no matter what the decision may be as to the permit, we would like to solicit your cooperation in trying to formulate a plan of action to try to avoid this situation in the future whereby a utility company can go this far with the purchase and destruction of farms, homes, roads, and people without every permit that is required.

<u>Response</u>: Your comment is noted. However, at present there are no regulatory controls over many activities such as logging, land clearing, and excavation. Also, there is no formal tie-in between issuance of required permits such as air quality permits, Corps' permit, certificate of convenience and necessity, and the wastewater discharge permit. The only thing we can do is to contact the various permitting agencies to establish a closer coordination procedure in the future. Possibly

some of the permits could be processed concurrently; however, some permits may take only a few weeks whereas the Corps' permit may take a year or more.

9.4.4 Mrs. Rama J. Williams

a. <u>Comment</u>: I believe that one dam built by Carolina Power and Light Company in this small county is quite enough for this small area. The smoke from the power stacks boils all over the area and emits smoke and cinders. The people who live near the plant say that the fumes are most obnoxious and eats the paint off their automobiles and houses. One does not see a bird or animal moving or flying over any of the area where the dam has been built.

Response: Your comment is noted. See Sections 9.4.2(a and b) regarding your comment on air quality.

b. <u>Comment</u>: Carolina Power and Light is now going ahead to build another dam on Mayo Creek. I believe that the environment will be taxed to the utmost to support two dams in one small county. I hope that you will not allow a permit for them to build a second dam.

<u>Response</u>: Your comments and those of others along with the environment impacts indicated in the EIS will be considered prior to the decision on the permit application.

c. <u>Comment</u>: The majority of the people in this county can see nothing but money, but there are some people who know that we need a balanced environment as well as money for people to live and thrive.

Response: Your comment is noted.

9.4.5 Mrs. Mary Street

<u>Comment</u>: ...ever since CP&L has been in here, there has been a lot of land taken from people that did not need to be moved, and it hurt people to have to pick up and leave their homes of all their lives. It makes hard feelings because they swindled people's land.

<u>Response</u>: Mrs. Mary Street's letter will be commented upon jointly with Mr. Buck Street's letter in the following response.

9.4.6 Mr. Buck Street

<u>Comment</u>: It is of interest to me because it is taking up a lot of my land that I could use to farm on above the water level that is not going to be in use to CP&L. I had an agreement to get from CP&L to Mayo Creek the line that runs between Lacy Street and Mayo Creek and the land on the back of Lacy's that runs to the bottom. It was in the agreement and which I would like for you to consider between me and the lawyer about this agreement. I am returning the receipt to you in this letter. I have no more land to be sold to CP&L.

Response: The Corps of Engineers contacted CP&L and Mr. Street about the letters. We understand that Mr. Street has retained a lawyer and is discussing the land dispute raised in the letters with CP&L. However, we do not consider it the responsibility of the Corps of Engineers to become involved in land dispute matters between individuals or companies.

9.4.7 Mrs. Isabelle B. Robertson

a. <u>Comment</u>: I am inclosing a copy of an informal complaint to the NC Utilities Commission in regards to the 500 KV Power line that has been proposed in Person County from the proposed Mayo Plant to the Roxboro Plant by the Carolina Power and Light Company.

I will appreciate your reading this and giving me any possible help in this regard.

I am filing this letter as an objection to the proposed Roxboro-Mayo Transmission Corridor.

Response: Noted.

b. <u>Comment</u>: I would like to register an informal complaint in regard to CP&L proposed 500 KV line connecting the new Person County Plant with the existing Roxboro plant.

I have been approached by Mr. Charles A. Benfield, senior land agent for CP&L, in regard to a proposed 500 KV line crossing my property on its northerly side and surrounding my property on adjoining land. This is very objectionable to me as the land I own and describe is at Woodsdale in Person County and has already been plotted for development in the near future. This land is divided by SR 1322 and bordered by Marlowes Creek on its westerly side. This property is approximately four (4) miles north of the Roxboro city limits and 1-1/2 miles north of the Country Club of Roxboro.

Mr. Benfield told me that the reason this route was selected was because it is the shortest route between the two plants; but when I examined the proposed power line at the NC Utilities Commission office. I noted that it was not the shortest route between the two points. Also Mr. Benfield showed me the proposed line going across my property. At that time the map showed a change or deviation to about a 5 to 10 degree more northerly course was shown on that map. However, when CP&L sent me a copy of that proposed line later, it has been changed to a straight line.

When the Roxboro plant was built, a 230 KV line was built on this property which is parallel to the new proposed lines. At that time my husband encountered a great deal of difficulty and loss from CP&L because they extended their right-of-way to include danger to trees, for which my husband was not compensated. As a result, these two power lines will circumvent or surround my property physically and aesthetically and I can no longer have a view from any of my property without seeing a power line.

Since I am a widow, I am dependent upon this property for an income during this time of rising costs of living and inflation. This project will jeopardize my development and immediate farm rental agreement and therefore affect the economic value of my land and prospects of putting it to the best use.

There are already four existing power lines between Roxboro City limits and my property, and I think they could use one of these existing power line rights-of-way that would be more economical to the consumer as well as the company, and far less unsightly.

I sincerely hope that you will give this letter serious consideration.

<u>Response</u>: The Corps of Engineers contacted the NC Utilities Commission about the informal complaint. An official of the Utilities Commission stated that negotiations are underway between the Utilities Commission, CP&L, and Mrs. Robertson in an attempt to resolve this issue.

9.4.8 Mr. Edwin M. Robertson

a. <u>Comment</u>: Please see the inclosed copy of my letter to Mrs. Catherine Bishir with regard to the proposed Transmission Corridor between the Roxboro Plant and the Mayo Plant of Carolina Power and Light. I have not as of yet been contacted by Carolina Power and Light, but have had to obtain my information from adjoining landowners.

I feel that Carolina Power and Light has misled you and your staff. In that regard, I draw your attention to page 2-59 of your proposed draft of the environmental impact of the proposed Mayo Electric Generating Plant.

"Historic sites in the county were described as being 'scarce' and of 'little value'." However, the John Rogers House was probably built around the time of our Revolution for National Independence from Great

Britain, a time that is of considerable significance to the US Army.

The House is currently on the Study List for inclusion in the National Register of Historic Sites. It has not as of yet been listed in the National Register primarily because of the great work load that exists in the North Carolina Department of Archives and History.

Please consider this letter as an objection to the proposed Roxboro-Mayo Transmission Corridor.

Response: See Section 4.4.6 of the FEIS.

b. <u>Comment</u>: (inclosed letter to Mrs. Catherine Bishir). This letter is prompted by our telephone conversation earlier, in regards to the House of Historical Significance located on Person County Road No. 1326 as shown on Person County Tax Map A-45, Lot No. 28, in Woodsdale Township known as the John Rogers House.

Carolina Power and Light Company proposes to run a 500-KV power line adjacent to if not in fact through the house. The line will be a tie line from the existing electric generating plant located on Hyco Lake known as the Roxboro Plant to the proposed electric generating plant located on the Mayo Creek to be known as the Mayo Plant.

My concerns are many, particularly in view of the fact that the proposed route of the 500-KV power line is not the shortest distance between the two plants mentioned above.

At this juncture, I feel I can best illustrate my concerns by quoting from the <u>DRAFT-ENVIRONMENTAL IMPACT STATEMENT - CAROLINA POWER AND</u> <u>LIGHT COMPANY - MAYO ELECTRIC GENERATING PLANT - PREPARED BY - U. S. ARMY</u> <u>CORPS OF ENGINEERS - WILMINGTON DISTRICT - MAY 1978</u> as recorded in the Federal Register 5 May 1978.

Page ii "Finally, the aesthetics of the area will be altered." Page 1-20 "Tentative plans call for the Mayo-Roxboro line to be constructed on steel lattice towers utilizing 2+2515 MCM ACSR conductors for each of the three phases."

Page 1-19 "Structure heights would range from 27m (90 ft) to 48m (160 ft) above ground, and span lengths would average about 330m (1100 ft). The right-of-way would be 54m (180 ft) wide. The actual width to be cleared for the right-of-way would depend on economic considerations, electrical constraints, and minimal environmental impact."

Page 1-33 "Some blasting may be required if rock is encountered in digging the foundations."

Page 4-61 "..., there will be some visual effects due to the size of the 500-KV structures."

Page 4-62 "Both archaeological and historical sites will be given careful consideration in determining the location of the Mayo-Roxboro line."

One further note, the "proposed" Transmission Corridors were clearly shown on maps submitted to the NC Utilities Commission in excess of one year ago.

Response: Please see the response to Section 9.4.8(a) above.

9.4.9 Mr. Doyle T. Peed and Mr. and Mrs. Travis W. Peed

a. <u>Comment</u>: The need of the proposed Mayo Electric Generating Plant is questionable in some respects even as shown in the Draft of the Environmental Impact Statement regarding the project itself. I say this because Table 1.2-2, page 1-38, indicates the Virginia-Carolinas Subregion reserves in 1985 without the Mayo plant would be 19.0%. This figure corresponds well with the 15-20% reserve capacity the North Carolina Utility Commission desires to maintain and is well above the 12% reserve CP&L desires. With this bit of information taken as fact, does the State of North Carolina need the plant, or is it just <u>CP&L</u>? If this State does need it, and I am not in a position to argue with the Utility Commission, and they must take North Carolina land for it, then perhaps CP&L should be restricted to the selling of electricity just in North Carolina and not to companies outside, contrary to their usual practices.

<u>Response</u>: We are also not in the position to dispute the NC Utilities Commission determination on the need for the Mayo Electric Generating Plant. However, the 19.0% value you indicated is for the whole Virginia-Carolinas Subregion. If CP&L did not create their own reserves, CP&L could not meet the demand during heavy usage because other companies are going to meet their needs first and may not have enough excess power to sell.

Moreover, it is not practical for CP&L to restrict sales of electricity to NC. Utilities frequently buy power from each other in emergency cases such as unscheduled outages, equipment failure, etc. If CP&L failed to sell power to a utility during an emergency when CP&L had excess power available, the utility would probably reciprocate during a CP&L emergency. This could result in blown-outs or black-outs.

See also 9.3.1(b).

b. <u>Comment</u>: I know these are not concerns of the Army Corps of Engineers, but I hope these points will preface the fact that when and if the Corps issues a permit for construction that this permit shall control and modify proposed construction in such a manner as to cause the least detriment to the area and its inhabitants.

Response: Prior to the issuance of this document, all objections and concerns were referred to the applicant (CP&L) for possible resolution

A.

with the concerned parties. Many of these objections were resolved; for example, US Fish and Wildlife and the NC Wildlife Besource Commission's concern over selenium and mitigation (see Appendix F). If a permit is issued for the project, the permit will be conditioned as necessary to reduce the adverse impacts of the project over which we have jurisdiction.

c. <u>Comment</u>: As you may have noticed at the recent meeting and have on tape, CP&L is extremely "flexible" with its information and data. So "flexible" in fact I do not feel remiss in making the comment that if they wish to change or add to this data and information as they go along, they would have no hesitation in spontaneously and capriciously fabricating it. They are able to get away with much of this due to the inexactness and unplanned manner in which they attack such projects. For instance, even maps presented to the Utility Commission by which CP&L obtained a Certificate of Public Convenience and Necessity were letter size sketches with questionable accuracy and obscure details. CP&L has since produced larger maps, details still sketchy, after the Utility Commission was questioned by landowners, but of course the certificate had already been issued. CP&L thus has a license to condemn or just as effectively threaten to condemn and alter its plans as it goes, and seems to have done so.

Response: Your comment is noted.

d. <u>Comment</u>: I believe I am correct in stating, according to my conversation with a member of the staff of the Army Corps of Engineers, that my question at the hearing regarding CP&L placing fill material in Mayo Creek is not going to be pursued, although it is a borderline violation. Also I was told the investigators of this incident were surprised at the extent of the construction that has taken place. Again, as I said at the hearing, these things are for the Corps to decide to its satisfaction. However, I hope it will be remembered that by letting such action go by, CP&L has already been given the benefit of the doubt and shall be held accountable for the best use of the land and for location of construction from this time forward.

Response: See Section 1.1 of the FEIS.

e. <u>Comment</u>: This brings me to the topic over which the Army Corps of Engineers does have control. That is, the construction of ash ponds. Besides the factor of possible pollution, which I feel the Corps will examine rigorously, the other two overriding factors would be economics and conservation. CP&L has purchased over 500 acres for a so-called auxiliary ash pond and have under consideration another much smaller location for its immediate use which they do not yet own. If I understand the procedure correctly, CP&L-intends to use the smaller pond and then construct lines to the larger pond which is located a short distance away. With respect to economics, it would be better to build lines to the larger pond, which would not fill up for a much longer time if ever during the life of the plant, at today's price rates than to wait until later while costs continue to climb. While at present CP&L says it intends to use the larger site for conservation or mitigation purposes, it will eventually be taken up for an ash pond. However, if the smaller site is left in its natural wooded farmland and pasture state and the larger site used for a permanent ash pond, then at least a portion of land is conserved permanently rather than just on a temporary "until needed" basis.

I urge the Corps to gravely consider these points over which it can assert authority.

<u>Response</u>: Concerns on impacts of building an ash pond on Crutchfield Branch have been sufficiently discussed in several areas in Section 4. In Section 6.2.5 of the FEIS, alternate disposal methods and sites have been discussed. It should be noted also that fill discharged into waters of the U.S. for ash pond construction is permitted by regulation. (See Section 1.1)

9.4.10 Mr. John W. Merritt

a. <u>Comment</u>: After reading various studies and evaluations including "The Limits to Growth," "Blueprint for Survival," "The Closing Circle," "Man in the Environment," and a number of magazine and newspaper articles, there is no doubt in my mind that man, intentionally and unintentionally, has polluted, contaminated and poisoned our atmosphere, land and waters beyond belief. It is clear that man has and is wasting our non-renewable resources. It is clear that man has disturbed and disrupted the cycles and balances of nature. While the authorities and experts may disagree on the extent of damages inflicted, the time remaining for corrective actions, how long scarce resources will last and what the solutions are, one thing is certain on which they all agree--we have a most serious problem.

The foregoing paragraph states my authorities and sources and it must serve to establish my credibility, to whatever extent that may be, in presenting my objections and arguments against the proposed Carolina Power and Light Company Mayo Project.

Response: Your opinion is noted.

b. <u>Comment</u>: It has been said by Roderick A. Cameron of the Environmental Defense Fund that "Industries who profit by the rape of our environment see to it that legislators friendly to their attitudes are elected, and that bureaucrats of similar attitude are appointed." At this point, in contemplating how easily CP&L has obtained various permits and certificates and proceeded so far with its work with so little information available to the public, I must conclude that Mr. Cameron was knowledgeable of

the facts which he stated. Only one item, the permit from the US Army Corps of Engineers to place fill material in the Mayo, remains as a possible protection to the rights and health of the citizens of Person County.

Response: Noted.

c. <u>Comment</u>: In resuming my statements of facts which make the proposed CP&L Company Mayo Project both undesirable and intolerable, I wish to reaffirm my comments during the 5 May 1978 public hearing (Appendix A) on the effect of carbon dioxide (CO_2) in the atmosphere.

The burning of coal increases the amount of carbon dioxide in the atmosphere where it acts as a reflector of the earth's heat--sending it back to earth or holding it to earth as the infrared radiation does not penetrate the carbon dioxide layer. Thus in time the earth will undergo a rise in temperature which can affect climate and thereby cause many changes. Specifically, I mentioned a melting of the polar ice caps with a resulting rise in the ocean levels which would overflow low lying land areas. What I have stated is not the plot for a science fiction story, it is scientific fact and possibility and it is the reason many scientists advocate the cessation of burning fossil fuels. Certainly we in Person County do not wish to increase our contribution of carbon dioxide to the atmosphere by 100%--which would result when unit #4 of CP&L Company on the Hyco River becomes operational and then had a Mayo #1 and #2 build and put into operation.

Response: Noted.

d. <u>Comment</u>: Another product of burning sulfur containing coal is sulfur dioxide (and whether the coal is low or high sulfur content you get sulfur dioxide). I have the impression that most low sulfur coal is found in the West—not the East and that CP&L Company states their coal will come from Kentucky and West Virginia.

Response: See response to 9.4.2(b).

e. <u>Comment</u>: For the information and consideration of the uninformed, sulfur dioxide is a gas that attacks the cells lining the lungs' air passages, reducing their natural self protective action against other air pollutants such as dust and bringing on serious respiratory distress.

In 1952, London was blanketed in fog/smoke/smog for four days. In the first 24 hours people died in unusual numbers. All total there were 4,000 more deaths than would have been expected under normal conditions. The deadly component of this smog was sulfur dioxide.

Similar cases exist in the US from New York to Los Angeles.

Studies have shown that humans working outdoors in areas of polluted air have more respiratory diseases from humans working outdoors in areas of cleaner air. The incidence of bronchitis is high in areas of high air pollution.

The condition that causes these smogs is called "temperature inversion." Cool still air below with warm air above hold the chemical saturated smog close to the ground preventing dissipation of the smog.

Air polluted with oxides of sulfur create another hazard in that rain and snow increase in acidity which is carried into the soil. The increased acidity of the soil affects plant growth but an even greater danger may exist in changes in the growth of soil microorganisms and in chemical interactions among soil constituents under these conditions. Pollutants which accumulate in the soil may drastically upset and modify its vital ecological balance.

The citizens of Person County and surrounding areas will be exposed to still other polluting agents in the form of nitrogen oxides. Nitrogen oxides are produced when air becomes hot enough--as it does in high temperature power plants--to cause its natural nitrogen and oxygen to interact. When activated by sunlight, nitrogen oxides combine with organic compounds and form peroxyacetylnitrate (PAN) which is a visible and noxious ingredient of photochemical smog--an eye irritating haze. PAN eventually condenses and settles down to earth as a gummy precipitate.

Nitrogen dioxide is a colored gas which turns the air a sort of whiskey brown. Nitrogen dioxide is highly poisonous with a long history as the cause of serious industrial hazards. This gas destroys the cells of the lung, tends to enlarge lung blood vessels and in high concentration causes accumulation of fluid in the lungs which may lead to death.

The emission of solid particles is also a factor in air pollution. Supposedly, electrostatic precipitators remove these particles, but the efficiency of this equipment leaves much to be desired as it appears that in actual use it falls short of its theoretical efficiency. Then, too, equipment must be serviced. It does break down and at times it is just plain cut off and not operated.

So we see that the burning of coal in our plants exposes us to many undesirable pollutants--smoke, soot, oxides of sulfur, oxides of nitrogen, various chemical combinations of these chemicals, etc. All are harmful. The social harm or damage is beyond measures.

Response: Noted. For your comment regarding air quality, please see Section 9.4.2(a and b). Also, see Appendix D, Section B(d).

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f. <u>Comment</u>: But we still have another byproduct to consider-selenium and its oxides. Selenium is a gray crystalline element (nonmetallic) of the sulfur family. It is toxic and considered poisonous. The EIS shows that this element will cause permanent contamination of the ash pond area; it will enter Mayo Creek downstream and will even get into the reservoir itself. Accumulations of this element will affect the safety of man and animal and have long lasting ill effects that may be permanent. It is thought that this element affects the reproductive process. For example, a lake contaminated with it would show a decline in fish population and less than normal growth of various species. So little is known about the long term effects of various pollutants such as this and its interactions with other substances that we must refrain from any action that would raise future hazards to man and his environment.

Response: See response to comment 9.4.2(b) and Section 2.2.2.

g. <u>Comment</u>: The Corps of Engineers has indicated that all factors relevant to the CP&L Company proposal will be considered, so let us briefly mention these things with a brief comment.

The first item listed in the Public Notice dated 5 May 1978 is Conservation. Conservation is defined as "a conserving," "care and protection of natural resources as forests, land, and water." CP&L is clearing all saw timber, growing timber and pulpwood. They are taking hundreds of acres out of cultivation. They will completely own Mayo Creek and remove it from use for supplying drinking water, water for sanitation and some small business use. To top it all, the land and water will be contaminated for any use except their own. This is about as far from conservation as you can get.

<u>Response</u>: Your opinion is noted; however, CP&L in cooperation with the US Fish and Wildlife Service and the NC Wildlife Resources Commission has developed a mitigation plan to partially offset the impacts of the construction of the proposed facility on wildlife. This mitigation plan is included in Appendix F. Also see Section 9.4.2(b).

h. <u>Comment</u>: Second on the list is economics, which should be at or near the bottom. CP&L Company dangles the bait of expanded tax base, more taxes collectable, payroll money to be spent, jobs for at least some local people and everyone goes wild to get on the money bandwagon--closing their eyes to increased public costs and to social costs that may be beyond measure. It is truly said that "all that glitters is not gold."

<u>Response</u>. Your opinion is noted. Please also note that the order in which an item for consideration is listed in the Public Notices of the Corps of Engineers does not in any way determine the value of the item.

i. <u>Comment</u>: Third on the list "esthetics" (Aesthetics)—the study or philomophy of art and beauty." I suggest that true art and beauty are unexcelled in the natural state. Man can change or modify but not improve. Every time man has tried to improve on nature he has failed—sometimes with disastrous results as shown by his technological contamination of the air, land and sea.

Response: Your opinion is noted.

j. <u>Comment</u>: For fourth we have "general environmental concerns"-all that surrounds us and all the conditions that affect us therein. So first we have our natural surroundings, the air, the trees, grassland, flowers, the earth, the water, the wildlife, etc.--all of which will be <u>adversely</u> affected. Secondly, we have the manmade elements of our surroundings--our home, our neighborhood, our town, the schools, churches, businesses, hospitals--which will change but little. The principal effect is bad.

Response: Your opinion is noted.

k. <u>Comment</u>: In fifth place we have "Historic Values." Whoever made the decision decided there was nothing of historic value so whatever might have been considered of value to some of us has been or is being destroyed.

Response: See Sections 4.2.2.3 and 4.4.6 of the FEIS.

1. <u>Comment</u>: Sixth place considers fish and wildlife values. Here we have a subject worthy of great study and thought. Already the CP&L Company plants on Hyco River have resulted in the destruction of the natural habitat of wildlife. The Mayo Project would destroy four or five thousand more acres of natural habitat. CP&L Company states that much wildlife will be runout or destroyed. Wildlife will be, just as man is, exposed to the same pollution of air, land and water. If fish and game are contaminated, then taken by man for food, the contamination will be passed to man. Those authorities concerned with this should think long and hard before giving their approval.

<u>Response</u>: All of these factors have been considered or are being considered by the NC Department of Natural Resources and Community Development. If a National Pollutant Discharge Elimination System (NPDES) permit is issued for the project, then all pertinent controls will be included as a condition of the permit. In addition, the US Fish and Wildlife Service and the NC Wildlife Resources Commission have withdrawn their concerns about the project based on the mitigation plan offered by CP&L (See Appendix F).

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m. <u>Comment</u>: In seventh place we have flood damage prevention. The Mayo does rise and flood the low grounds at times in its present natural state, but virtually no damage is done. The greatest damage will result from the lake permanently flooding the excellent agricultural low grounds.

<u>Response</u>: Your concerns about the loss of these agricultural land are noted and are addressed in Sections 2.6.3 and 4.2.3.5 of the EIS.

n. <u>Comment</u>: For eighth place we have "land use." Normally land in the Mayo area is used to raise tobacco, corn, grain and some food items. Both small game and big game (deer) are hunted in the area. Should CP&L Company take this area, some eight square miles of land will be lost to agricultural use, growing timber and hunting. The primary use of this land will be to support CP&L Company plants. Any other use will be strictly incidental.

Response: Noted.

o. Comment: Navigation is in ninth place but needs no comment.

Response: Noted.

p. <u>Comment</u>: In tenth place is recreation. As we have one lake available for boating, fishing, swimming, etc., we do not need another at the expense of the additional burden on our natural resources and the loss of land from its normal uses.

Response: Your opinion is noted.

q. <u>Comment</u>: The eleventh and twelfth items are water supply and water quality which may best be commented on jointly. The Mayo is Person County's last, best and least polluted stream to serve the county in future years as a source of drinking water, etc. With no further contamination, the quality would be excellent. Once polluted with selenium, it might never be suitable for use by humans or animals again. The quality would be destroyed.

Response: Your opinion is noted; see the response to 9.4.2(b).

r. <u>Comment</u>: In thirteenth place we consider energy needs. Even conceding a need to supply electricity in the future, we cannot continue to do so by polluting the air, land, and water here or elsewhere. The social costs to the people of this area are too great to inflict further injury to them above that resulting from the Hyco plants. We would have the most concentrated installations of electric plants in the country and therefore the most concentrated and intense pollution problems.

Response: Your opinion is noted. Please see the response to 9.4.2(b).

s. <u>Comment</u>: Safety is item number fourteen. As a natural area, the Mayo presents virtually no safety problem. As a lake the Mayo would create the threat to the safety of individuals from drowning and other recreational activities. The safety factor must be considered as it affects all of the people and the areas for miles around us. The safety hazard is the pollution of air, land, water—its effects on humans, animals, and plants. This we have already stated is undesirable and unacceptable.

Response: Your opinion is noted.

t. <u>Comment</u>: Food production is to be considered as item fifteen. Already the arable lands available for food production are mostly being used. Yield of these lands is dropping and, to sustain yield, massive doses of artificial fertilizer are required, which in turn results in pollution. With the problem of feeding an ever increasing population, we can ill afford to lose more land to power plants, highways, and anything that takes land permanently out of use.

Response: Your opinion is noted.

u. <u>Comment</u>: Last but not least is "the needs and welfare of the people in general." The need of the people is an environment in which they may live in good health and good spirit knowing the air they breathe is pure, the water they drink is pure and the food they eat is pure and uncontaminated.

Response: Your opinion is noted.

v. <u>Comment</u>: To sum it all up, industry has for years polluted and contaminated our surroundings. Our resources have been raped for profit and now these sins are coming back to all of us. Our future depends on a turn about in our ways. We must discontinue our actions against our natural environment. We must repair damage done if possible. While state and federal agencies set so-called acceptable standards of pollution, nothing offsets the continual day-by-day accumulations of pollutants and our day-by-day exposure to them.

Response: Your opinion is noted.

w. <u>Comment</u>: I respectfully submit that the people of Person County should be spared any further exposure to the deterioration of our environment as will be brought about by the CP&L Company Mayo Project.

The permit should be denied.

<u>Response</u>: Your opinion is noted. Please note that no decision has been made whether or not to issue a permit for the proposed project. This decision will not be made until the 30-day review period on the final EIS is complete. At that point, your comments and all other comments and factors will be considered.

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APPENDIX A

Comments on Draft EIS

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DEPUTY SECRETARY

H.A. "Jack" Smith

Box 27687, Rateigh 27611 Telephone 919 733-4918

June 20, 1978

Howard N. Lee, Secretary

MEMORANDUM

TO:	Denny	McGuire
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Ozzie Gray

James B. Hunt, Jr., Governor

FROM:

SUBJECT: Draft Environmental Impact Statement CP&L Mayo Electric Generating Plant; Mayo, Person County-File #054-78

North Carolina Department of Natural

Resources & Community Development

The Department of Natural Resources and Community Development has completed its review of the subject proposal except for the Wildlife Resources Commission. No objections have been voiced and certain requiremen for construction, such as the Sedimentation Pollution Control Act of 1973, have been addressed. One error was noted in the document and that related to cooling tower blow-down. The document lists 4-8 MGD as the volume, but the Company's application for NPDES Permit lists 21 MGD. Some clarification of these figures should be included in the final environmental statment.

Comments from the Wildlife Resources Commission will be directed to the U.S. Army Corps of Engineers, Wilmington District. Problems exist concerning the proposal impact on certain aspects of the fisheries populations. These problems are being discussed, and hopefully solved, by roundtable discussions between CP&L and the WRC.

Thank you for the opportunity to review the subject document. If questions arise concerning this Department's comments, please contact me at 733-4918.

OG:sp .

An Equal Opportunity Allirmative Action Employer



North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

June 26, 1978

MEMORANDUM

TO: Denny McGuire

FROM: Ozzie' Gray



SUBJECT: Addendum to DEIS - Mayo Electric Generating Plant; Mayo, Person Co. 054-78

This Departments comments, dated June 20, 1978, indicated that additional comments would be forthcoming from the Wildlife Resources Commission. Those comments have been received and are as follows.

Two problems associated with the project became apparent during the Wildlife Resources Commission review. These problems related to the potential for a dangerously high selenium content in the lake and to the lands to be dedicated for wildlife management purposes as mitigation for habitat lost to inundation.

In conference with representatives of Carolina Power and Light, these two issues were discussed and Carolina Power and Light prepared an addendum to the subject DEIS for inclusion into the final EIS. If this addendum is included as proposed, the deficiencies cited above will be satisfied.

Thank you for your assistance in this matter. This Department is looking forward to reviewing the FEIS.

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State of North Carolina Utilities Commission Raleigh 27602

June 8, 1978 _

COMMISSIONERS ROBERT K. KOGER, CHAIRMAN BEN E. RONEY DR. LEIGH H. HAMMOND SARAH LINDSAY TATE DR. ROBERT FISCHBACH JOHN W. WINTERS EDWARD B. HIPF

> U. S. Army Engineer District P. O. Box 1890 Wilmington, NC 28402

Gentlemen:

The North Carolina Utilities Commission makes the following comments with respect to Carolina Power and Light Company's proposed Mayo Creek Steam Plant, and particularly with respect to the main reservoir lake at the plant site.

By order of December 21, 1976, the Commission certificated the Mayo plant, and decided that it would be needed in the early 1980's in order to meet Carolina Power and Light Company's generating requirements. In subsequent generic hearings relating to load forecasting, the Commission has reaffirmed the need for the proposed Mayo Creek Plant during the early 1980 time frame.

In response to your request for an evaluation of safety requirements at the plant's main reservoir dam, the Public Staff of the Commission requested the North Carolina Department of Natural Resources and Community Development to review the design drawings and accompanying specifications for the proposed Mayo Creek Dam from a dam safety standpoint. By a letter dated April 14, 1978, the NCDNRCD furnished the Public Staff the results of its review. The NRCD advised the Public Staff that the plans were adequate except in the following respects:

"1. There are no provisions for emergency drainage of the reservoir. If this dam were under the jurisdiction of the N. C. Dam Safety Law, we would require that a bottom drain be provided to allow lowering the reservoir. The detailed requirements for the drain would be determined by the design engineer and submitted to the state for review; in general terms we would be thinking that there should be emergency provision to lower the reservoir level from the maximum pool to within 10 to 20 feet of the foundation level over a period of 60 to 90 days.

2. There are no piezometers in the outer slope of the embankment. We would ask the design engineers to include these, and would expect the number of piezometers to be on the order of 10 to 20. (This is a relatively inexpensive way to confirm the flow net used for seepage and structural stability analyses in design). We would also ask the design engineer to consider installing

U. S. Army Engineer District June 8, 1978 Page 2

settlement plates in the embankment for monitoring, though settlement plates would not necessarily be a requirement.

 There is no underdrainage blanket provided for the service spillway north of Sta. 16+20. We would ask that the design engineer either provide justification or provide an underdrain blanket and collector system.

4. There are no final drawings showing the locations of borrow sources. We would ask the design engineer to document the borrow plans." A copy of this letter is attached as Exhibit A.

Responding to the NRCD comments, Carolina Power and Light Company by its letter of May 12, 1978, informed the Public Staff that it had no real problem with comments 2, 3, and 4 as set out in NRCD's letter, but that it disagreed with NRCD's comment regarding the need for a bottom drain in the reservoir. A copy of this letter is attached as Exhibit B.

On May 22, 1978, at Commission Staff Conference, the Public Staff recommended to the Commission that it adopt NRCD's comments with respect to the main reservoir at the Mayo Creek Plant; a copy of this recommendation is attached as Exhibit C. At this Conference, representatives of CP&L again stated their position that safety requirements could be met without installing a bottom drain.

After considering the letters, the comments from the Public Staff and from representatives of CP&L, which were made at the Staff Conference, the Commission decided on June 6, 1978, to accept the Public Staff's recommendation that it adopt NRCD's position and the comments expressed in the April 12, 1978 letter. The Commission has decided that in the interest of public safety, Carolina Power and Light Company should be required to provide for emergency drainage of the reservoir through a bottom drain as recommended by the North Carolina Department of Natural Resources and Community Development. The Commission is satisfied that safety requirements justify the additional investment in the drainage facilities.

Sincerely,

Robert II Kagen

Robert K. Koger Chairman

RKK:jpm

Attachments

cc: W. E. Graham, CP&L Dave Adams, NRCD ✓Michael Rakouskas Richard Jones CP&L Pat Howe CP&L

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MAY 1 6 1978

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

P. O. Box 27307, Raleigh, North Carolina 27611 Telephone (919) 755-4210

May 11, 1978

Colonel Adolph A. Hight Wilmington District, Corps of Engineers Department of the Army P. O. Box 1890 Wilmington, North Carolina 28402

Dear Colonel Hight:

We have reviewed the draft environmental impact statement for Carolina Power and Light Company's Mayo Electric Generating Plant, SAWC077-N-073-006-0311.

The Soil Conservation Service prepared a preliminary watershed work plan for the Mayo Creek Watershed under the authority of Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress, 68 Stat. 666). Planning was terminated July 31, 1970, because of the proposed CP&L Mayo Electric Generating Plant.

The draft EIS does not adequately address the effects of the construction of the dam or transmission lines on prime farmland and on the irreversible loss of forestland.

The Soil Conservation Service assists soil and water conservation districts in technical phases of their program. If desired, consultive services consistent with priorities of work established by the districts are available from the Service in reviewing or developing plans for controlling erosion during and after construction.

We appreciate the opportunity to review and comment on the draft EIS and would like to receive a copy of your final statement.

Sincerely,

Jesse L. Hicks State Conservationist

Director, Office of Federal Activities, EPA, Washington, D.C. 20460 CC: USDA Coordinator of Environmental Quality Activities, Office of the Secretary, U.S. Department of Agriculture, Washington, D.C. 20250 R.M. Davis, Administrator, SCS, Washington, D.C.

J.V. Martin, Director, STSC, SCS, Fort Worth, Texas S. G. Lane, Director, State Soil & Water Conservation Comm., Raleigh, N Royce Espey, SCS, Raleigh, N.C.

R. E. Powell, SCS, Burlington, N.C.

W. M. Bland, SCS, Roxboro, N.C.

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Duke Energy Progress, LLC E-2, Sub 1219

MAY 3 1 1978

KERR - TAR REGIONAL COUNCIL OF GOVERNMENTS



238 ORANGE STREET HENDERSON, N.C. PHONE (919) 492-8561 27536

J.D. Everett, Executive Director

May 26, 1978

U. S. Army Engineer District Post Office Box 1890 Wilmington, NC 28402

P.O. Bas 709

Re: SCH File No. 054-78; Draft Environmental Statement for the C P & L Mayor Electric Generating Plant proposed for construction in Person County

Dear Sir:

The Kerr-Tar Areawide Clearinghouse Review Committee has completed its review of the above referenced "Notification to Clearinghouse of Instent to Apply for Assistance."

On the basis of the review and comments from the Committee, we find the project to be in keeping with regional objectives and not in conflict with any project, plan or agency program in the Kerr-Tar Region.

This letter may be used as the official Kerr-Tar Areawide Clearinghouse Review and Comment.

Sincerely, Roy M. Williford

701 Planning Director

RMW:sp

cc: A-95 Review Committee J. Denny McGuire Carolina Power & Light Company

MEMBER UNITS

COUNTIES: Franklin, Granville, Person, Vance, Warren

MUNICIPALITIES: Bunn, Creedmoor, Franklinton, Henderson, Kittrell, Louisburg, Middleburg, Norlina, Oxford, Roxbora, Stovall, Warrenton, Youngsville

1 3

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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE REGION IV 101 MARIETTA TOWER, SUITE MICK 1503 ATLANTA, GEORGIA 30323 June 14, 1978

OFFICE OF THE Principal Regional Officia

JUN 211

Re: HEW-863-5-78

Colonel Adolph A. Hight, CE District Engineer Department of the Army Wilmington District, Corps of Engineers P. O. Box 1890 Wilmington, North Carolina 28402

Subject: Draft Environmental Impact Statement for Carolina Power and Light Company's Mayo Electric Generating Plant

Dear Colonel Hight:

We have reviewed the subject draft Environmental Impact Statement. Based upon the data contained in the draft, it is our opinion that the proposed action will have only a minor impact upon the human environment within the scope of this Department's review. The impact statement has been adequately addressed for our comments.

Sincerely yours,

Flilip P.

Philip P. Sayre Regional Environmental Officer Region IV

cc: Ms. A. McGee

Mr. Raymond Goldberg
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JUL 3 1978



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET ATLANTA, GEO IGIA 30308

JUN 26 1978

Colonel Adolph A. Hight, USA District Engineer Corps of Engineers, Wilmington District P. O. Box 1890 Wilmington, North Carolina 28402

Dear Colonel Hight:

Region IV of the U. S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for Carolina Power and Light Company's Mayo Electric Generating Plant.

Three major areas of concern have been identified in the review of the Impact Statement.

1. Water balance: We have serious reservations about several points in the water balance analysis including evaporative losses, stream flow in Mayo Creek and seepage from the ash pond. Since the water balance as presented is at best marginal, increased evaporation and other losses as indicated herein may prove the project to be infeasible.

2. Ash disposal: Both Virginia and North Carolina have EPA approved water quality standards for Crutchfield Branch. We do not believe that use of the proposed pond for ash disposal is an acceptable use of this stream. An acceptable alternative for ash disposal will be necessary before this project can proceed.

3. Fly ash and bottom ash transport system: Water carriage of fly ash and once-through bottom ash sluicing systems are inconsistent with existing and expected (to be re-proposed in September 1978, with re-promulgation scheduled in March 1979) standards of performance for new sources. It is anticipated that re-promulgated regulations will require dry fly ash handling systems and recirculating bottom ash handling systems. However, even in the absence of such requirements, such systems appear necessary to assure that chronic and acute toxicity conditions do not occur in Mayo Creek, Crutchfield Branch and the make-up water reservoir. In the absence of a commitment to the use of such systems by CP&L, the project appears environmentally unacceptable.

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> Page Two Colonel Adolph A. Hight

Any one or all of these areas could render the project environmentally unsatisfactory from the standpoint of health, welfare and environmental quality. Details of these and other comments are included in the attached comments.

Based on the project as described in the Draft Environmental Impact Statement, we have assigned a rating of EU (environmentally unsatisfactor and based on the need for more information as indicated by our review of the DEIS, we have assigned a rating for the Statement of 2 (inadequate information).

My staff and I stand ready to assist you in further developing the EIS.

your Sincerely

John C. White' Regional Administrator

Enclosure

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COMMENTS ON DRAFT EIS MAYO ELECTRIC GENERATING PLANT

A. Water Balance of the Make-up Water Reservoir

Water use information included in the Environmental Report and Draft Environmental Impact Statement appears to have several errors and inconsistencies which could seriously impact the viability of the project. It appears that consumptive water use has been underestimated. This could affect drawdown and water quality in the reservoir and in downstream releases. Items where inconsistencies and possible errors exist include:

- 1. average flow of Mayo Creek
- cooling tower evaporative losses (including plant heat rejection rate and expected plant capacity factors)
- 3. make-up reservoir evaporative losses
- 4. ash pond evaporative losses
- 5. ash pond seepage

Average flow at the dam is noted in the Summary Assessment as 44 cfs; however, both the ER and DEIS indicate the average flow of Mayo Creek is 50 cfs. The detailed basis for average flow estimates of Mayo Creek should be provided in the Final EIS since the water balance. information may ultimately prove the project to be infeasible.

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Evaporative losses from the cooling towers are estimated by CP&L to average 15 cfs. Under maximum load during summer conditions when approximately 90 percent or more of the heat rejected by the cooling towers can be anticipated due to evaporation (10% by conduction and convection), 29 cfs of water would be evaporated if 3.6 billion BTU/hr are dissipated. It is during this period that plant loads are highest and a significant portion of the yearly evaporation will occur.

Monthly average load factors and evaporation losses for eac month of the year for average and for critical meteorologic conditions are necessary to assess the reasonableness of th water balance and have not been provided. Additionally, th 3.6 billion BTU/hr heat rejection rate corresponds to a 36. efficiency factor for the plant which appears high for a coal-fired plant utilizing cooling towers. Decreased efficiency would result in higher rejection rates and corre pondingly higher evaporation. CP&L estimates (Table 1.7-1 the ER) that the maximum annual load factor expected for either unit is 61 percent through 1996. This expected plan utilization is significantly less than historically reporte for newer and larger units in the CP&L system and appears even lower for the newest plant in the system (with 36.5 percent efficiency factor). Increased plant usage would result in higher evaporative losses than projected.

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Evaporative losses from the make-up water reservoir are not estimated or assessed in the DEIS; however, CP&L estimates (ER Page 6) a net natural evaporation of about two cfs. Evaluation of evaporation rates versus evapotranspiration rates for the Mayo site indicates at least 8.5 inches per year of not natural evaporation will occur (almost three cfs). Forced evaporation due to heat discharged in the cooling tower blowdown (which could be as much as 30°F warmer than the water surface during the winter) would further increase water loss from the reservoir. Similarly, there will be a net natural evaporation from the ash pond and a forced evaporation component due to heat transferred to sluice water by the hot In addition to the evaporative losses, seepage through ash. the bottom of the ash pond and through the ash pond dam (with its 85-foot high normal hydrostatic head) can be expected.

Details and clarification of the above inconsistencies and errors are necessary before a full and independent assessment of the water balance can be made. The water balance presented in the ER and Draft EIS is at best marginal for a viable project and additional losses as indicated above may prove the project to be unacceptable. Detailed reassessment is necessary, therefore, to ascertain if the project is viable. The DEIS assumes a 24 cfs average discharge rate from the

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make-up water dam (Page 4-37); however, this value is inconsistent with the expected losses from the facility.

B. Use of Waters of The United States for Ash Disposal

The COE has determined that Crutchfield Branch is waters of the United States (Draft EIS, Summary). Disposal of ash therein would not be allowed by EPA. Since Crutchfield Branch is Waters of The United States, use of the proposed pond for ash disposal would be prohibited. Unless alternate ash disposal could be provided, construction of the entire facility may be prohibited.

C. Ash Handling

It has been proposed that fly ash be pneumatically conveyed to a hopper which would allow sale in a dry form, should a market develop. However, conveyance from the hopper by water sluicing to the ash pond is proposed for excess flyash. Standards of Performance for New Sources as promulgated in October 1974 provided for no discharge of pollutants from flyash handling, based on conclusions in the Development Document that dry flyash handling was available. (See reference.) Although this requirement was remanded as indicated in the DEIS, further evaluation by EPA has indicate that the technology of dry flyash handling is feasible, is not excessively costly, and is being instituted by many power companies now. It is anticipated that dry flyash handling

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will be proposed again in the September 1978 revision to the Effluent Guidelines and promulgated again in March 1979. The FEIS should, therefore, assess dry flyash handling and disposal at the Mayo site or of some other system to assure that there is no discharge of pollutants to Waters of The United States from the flyash handling system. Such evaluation is necessary to assure that the project is viable.

Even were dry flyash handling not required at the site by Effluent Guidelines, it appears that sluicing as proposed by the applicant would be unacceptable. Flyash contains numerous heavy metals and other toxic pollutants (including arsenic, chromium, copper, iron, lead, mercury, nickel, selenium, vanadium and zinc) which are leachable by sluicing water. Other than a projection that selenium might be present at 0.03 mg/1, no other projections are made of expected heavy metal concentrations. This appears to be due to the unavailability of data from an ash pond in the CP&L system or other nearby systems which receive flyash from coal with the extremely low sulfur content proposed for the Mayo plant. Based on the evaporative losses included in the comments on the make-up reservoir water balance and concentration and reconcentration of pollutants naturally present in the Mayo Creek drainage flow and leached from sluiced ash, toxic concentrations (chronic and potentially accute) can be anticipated to be present in the make-up reservoir and

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its releases and in seepage through the ash pond dam. Both Mayo Creek and Crutchfield Branch are interstate streams and both appear to be used for livestock watering. The reservoir itself has been proposed as supporting a viable sport fishery. None of these uses is consistent with the existence of either chronic or accutely toxic concentrations of heavy metals. Since presence of such pollutants in toxic concentration cannot be allowed, assurance that acceptable concentrations will exist must be provided or the project will be deemed environmentally unacceptable. It is, therefore, recommended that samples of the proposed coal be obtained and burned and that leaching tests be performed to determine the concentrations of metals which could be expected. Heavy metal analysis should be conducted on the coal and ash so that projections of long-term leaching effects of heavy metal concentrations can be made. As an alternate, dry fly ash handling and disposal systems could be used at the plant. Performance standards for New Sources are predicated on use of a recycled bottom ash sluicing system; however, a oncethrough system is proposed by CP&L. No information is presented by CP&L to assure that the system proposed is equivalent in treatment efficiency to that provided by the Development Document. Such an assessment is necessary to assure that the project is viable as proposed. To assure

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that the project is viable, (P&L should re-evaluate the proposed ash handling systems and provide a commitment to dry flyash handling and disposal and to a bottom ash handling system which recycles sluice water for ash transport.

D. Discharge Systems

No information is presented on the discharge systems for the cooling tower blowdown or ash pond discharge to the make-up water reservoir or on the required mixing zone necessary to assure conformance with North Carolina Water Quality Standards for heat and other pollutants. Such an assessment is necessary to assure that the project is viable. Assertion by the applicant that he will be able to meet applicable requirements is inadequate.

E. Cooling System Treatments

Effluent guidelines allow discharge of free available chlorine at a maximum concentration of 0.5 mg/l and an average concentration of 0.2 mg/l, but do not allow discharge of total residual chlorine (TRC) for more than two hours per day. Since the applicant proposes continuous discharge of blowdown and since TRC can be expected to remain in the cooling tower system and blowdown for most, if not all, of twenty-four hour period following chloriration, extremely low concentrations of TRC will be necessary to assure that chronic conditions

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do not exist in the vicinity of the discharge to the reservoir. EPA has determined that concentrations of no more than 0.01 mg/1 of TRC are necessary to protect warm water fish and fish food organisms for continuous discharges. In addition, since technology exists for dechlorination, it is anticipated that EPA will propose the effluent limitation for chlorine discharges from power plants as non-detectable. CP&L should, therefore, evaluate dechlorination systems or alternate biocides and such assessment and commitment to such systems be provided in the FES.

CP&L proposes addition of corrosion inhibitors to the cooling towers but does not indicate what compounds will be used or in what concentrations. CP&L further postulates that no detectable amount of inhibitor will be present in the blowdown. Since continuous discharge of blowdown is proposed, and since concentrations of corrosion inhibitors far exceeding detectable concentrations are necessary to protect against corrosion unless corrosion resistant materials are used -- in which case use of corrosion inhibitors would be unnecessary -- clarification and details are necessary in the FEIS.

F. Cooling Tower Blowdown

Cooling tower design parameters include a 78°F wet bulb temperature. This value is exceeded 2-1/2 percent of the time during the summer months and during such time blowdown

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temperatures will exceed design values. Expected maximum instantaneous and maximum 24-hour average discharge temperatures should be provided in the FEIS. No basis for the monthly average discharge temperatures included in the DEIS are provided, i.e., are they estimates or based on design curves for cooling towers already selected for the site? Are they based on maximum load factor or average expected for the month, etc.? Cooling tower blowdown is noted as probably being in the range of 4 to 8 MGD (FEIS Page 1-12); however, the NPDES application indicates that blowdown will be 21.0 MGD. This increase in the blowdown and the necessitated increase in make-up water requirements could have significant impact on the aquatic organisms subject to entrainment and impingement. Re-evaluation of these impacts is, therefore, necessary.

G. Intake Structure

Inadequate information on the intake system is provided to make an assessment of whether or not the proposed intake structure conforms with the requirements of Section 316(b) of the Federal Water Pollution Control Act, as amended. Location, design, construction and capacity of the cooling water intake structure must reflect the best technology available for minimizing adverse environmental impact.

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Details should be provided in the Final EIS. Additionally, a perforated pipe intake with deep submergence away from potentially biologically sensitive areas of the reservoir should be evaluated in the FEIS since environmental impacts of such an intake relative to a conventional shoreline intake would be significantly reduced.

Capacity and number of pumps proposed, as well as maximum and average expected pumping rates, should be provided in the FEIS and environmental impacts of such intake rates addressed in the FEIS. Re-evaluation of the bottom elevatic of the intake structure should be made relative to above comments related to the water balance of the reservoir. Intake velocity of 0.5 fps is stated as the design criteria; however, no indication is provided as to what reservoir elevation would correspond to this intake velocity or if maximum drawdown will result in lighter velocities.

Miscellaneous Comments

1. Make-up water reservoir storage capacity as a function of long-term drought and the associated drawdowns appear to have been taken from information provided by the applican Independent verification should be made. This is especially necessary in relation to the problems noted in relation to the water balance for the make-up water reservoir.

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2. Low flows of Mayo Creek provided in the DEIS are inconsistent. Page 2-3 indicates that the 7-day, 10-year low flow is 0.1 cfs. However, on Page 1-9 it is stated that on a one-in-ten-year frequency no flow would occur for 60 days.

3. On Page 1-9, it is indicated that a release of 2 cfs will be maintained at all times. However, elsewhere in the DEIS, it appears that there may be certain situations when less than 2 cfs will be discharged. Such conditions should be delineated, and the effect of such guaranteed releases on the reservoir drawdown pattern should be reassessed.

4. A table indicating make-up, blowdown and evaporation losses as a monthly average as well as the maximum values anticipated within each month should be provided in the FEIS so that evaluations of impacts on total evaporation and effects of blowdown and other discharges to the impoundment under various depth conditions can be made.

5. A basis should be provided for the assessment that selenium will be concentrated to no more than 0.009 ppm as a result of ash pond discharge of 0.03 ppm, especially under drought conditions. With stratification, drawdown and reservoir configuration significant portions of the

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reservoir volume may not be available for dilution. Likewise, the basis of only 0.03 ppm of selenium being present in the ash pond effluent should be provided.

6. There is no discussion of construction wastes and treatment such as concrete batch plant and washing wastes (high pH and TSS) and pre-operational metal cleaning wastes (high pH, high phosphates, etc.). Such information should be presented in the FEIS.

7. Ash pond flow is noted as 20 cfs (Page 1-13). Of this quantity, 4 cfs is bottom ash transport and 16 cfs is fly ash transport water (per the NPDES application). This flow may exceed the flow resulting from normal inflow less evaporative losses (see comments on reservoir water balance). Such usage will result in increases in dissolved solids and other pollutants present in the rumoff and ash pond effluent. Effects of such materials on the cooling tower concentration factor should be specifically discussed in the FEIS. Limiting concentrations of sulfate, chloride, TDS, silica and other pollutants which would affect the concentration factor(s) of the cooling towers should be provided in the FEIS. Expected maximum, minimum and average concentration factor for average conditions and for critical drawdown periods should be provided in the FEIS.

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8. Discussion of Standards of Performance for New Sources (effluent limitations) are inadequate. The terms "average" and "daily maximum" as used should be defined as 30-day average (average) and 24-hour average (daily maximum). All limitations are quantity limited (mg/l x flow). Bottom ash transport water limitations are not 1.5 mg/l and 5.0 mg/l as stated, but in fact are based on 30 and 100 mg/l and a recirculated bottom ash system with 5 percent blowdown. Inclusion of the attached Table in the FEIS is suggested for clarity.

9. No discussion is provided of proposed treatment of water wash metal cleaning wastes (air preheater, boiler fireside, etc.). These wastes are subject to the same effluent limitations as boiler acid cleaning wastes.

10. No discharge of polychlorinated biphenyl compounds is permitted. If PCB containing equipment is to be present on site, preventative measures proposed to prevent discharge of PCB's should be presented in the FEIS.

11. Air Quality

Presentation of CP&L monitoring data appears adequate, but what was the means of determining prevailing winds at the Raleigh-Durham Airport on a given day? If it was a printed summary issued by the weather bureau, it might help to have

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this included in the FEIS. It would also be helpful to know if the company has firm contracts for the low-sulfur coal it will need for continued compliance with SO_2 emission limits. Is this addressed in the supplement on SO_2 emission

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REFERENCES AND SHORT TITLES USED

- "Summary Assessment": Carolina Power & Light Company, "Mayo Electric Generating Plant, Summary Assessment of Environmental Data and Programs," April, 1977.
- "Environmental Report": Carolina Power & Light Company, "Mayo Electric Generating Plant Environmental Report," June, 1977.
- "Draft EIS or DEIS": U. S. Army Corps of Engineers, Wilmington, North Carolina, "Draft Environmental Impact Statement, Carolina Power and Light Company, Mayo Electric Generating Plant," May, 1978.
- "Development Document": U.S. Environmental Protection Agency, "Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Steam Electric Power Generating Point Source Category,"
 October, 1974.
- 5. "Final EIS or FEIS": U.S. Army Corps of Engineers, Wilmington, North Carolina, "Final Environmental Impact Statement, Carolina Power & Light Company, Mayo Electric Generating Plant," to be published.

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United States Department of the Interior

OFFICE OF THE SECRETARY WASHINGTON, D.C. 20240

JUL 1 7 1978

PEP ER-78/387

Adolph A. Hight Colonel, Corps of Engineers District Engineer Wilmington District P.O. Box 1890 Wilmington, North Carolina 28402

Dear Colonel Hight:

Thank you for your letter of April 26, 1978, transmitting copies of the Corps of Engineers' draft environmental statement for the 1440 MW coal-fired steam electric Mayo Electric Generating Plant, Person County, North Carolina.

Our comments are presented according to the format of the statement or by subject.

Recreation

We find that the draft statement adequately assesses the impacts of the proposed plant on recreation resources.

Mineral Resources

There has been no mineral production reported to the Bureau of Mines from Person County for several years. There are also no known mineral resources in the site area.

Geology

The draft statement refers to a major fault which enters the central part of the site area as one of several in the region and to the possible existence of other faults in the site vicinity. The draft statement concludes that these faults in the vicinity of the site do not constitute earthquake hazards or affect the economic feasibility of the site. This conclusion is based on probability calculations using historical records of earthquakes in this region. We believe that the final statement should provide additional detailed geological and structural information from the site to further substantiate the earthquake hazard calculations.

Ash Pond

The draft statement does not adequately address the integrity of the ash pond. We recommend that a probable maximum flood on Crutchfield Branch that may result from intensive rainfall should be fully discussed in the final statement in order to evaluate the structural integrity of the ash-settling-pond and related dam.

Groundwater

We believe that the groundwater data and assessment necessary to fully evaluate the potential for groundwater impacts of the coal storage pile, plant site, main dam, reservoir, and ash pond should be included in the final statement.

Fish and Wildlife Resources

The Fish and Wildlife Service has been involved in the planning stages of the proposed project since early 1977. Meetings with the applicant have been held separately and in conjunction with the North Carolina Wildlife Resources Commission in efforts to resolve two major issues - the mitigation of losses of terrestrial wildlife habitat that will be inundated and the potential effects of selenium concentrations on the prospective reservoir fishery. However, we believe that these issues are not adequately addressed in the draft statement, and mitigation measures are not identified.

Placement of fill in Mayo Creek and development of a reservoir, as described in the draft statement, will result in the inundation and thus destruction, of over 2800 acres of wildlife habitat and 12 miles of freeflowing stream habitat. We understand that present construction activity at the site has begun and includes logging, clearing, and other onsite activities. Although construction of transmission lines, clearing and logging, and construction of the plant ordinarily do not require Corps of Engineer permits, these activities would not occur in the absence of the prospective Corps permit to place fill material in Mayo Creek and Crutchfield Branch.

Section 404 (c) of the Clean Water Act of 1977 is explicit in stating that unacceptable impacts to fish and wildlife are grounds for denying a permit to place fill in waters of the United States. The Corps of Engineers should clearly state in the final statement that the work already completed or in progress will not prejudice the consideration of the Section 404 permit and is done at the developer's risk. The fact that these activities are well underway gives the appearance that NEPA environmental review and Section 404

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permitting processed are exercises leading to justification, rather than objective evaluation of the proposed action.

We recommend that the final statement should provide an adequate description of the ongoing construction and a complete assessment of the impacts that have already occurred and will continue to occur during preliminary construction at the proposed site.

The draft statement indicates that the North Carolina Wildlife Resources Commission and the Fish and Wildlife Service "have indicated that they are not satisfied with the amount of mitigatic lands offered by CP&L." We understand that the applicant has recently provided detailed mitigation plans for fish and wildlife resources. We recommend that in the final statement this discussion be brought up-to-date on the results of more current negotiations in this matter and any copies of appropriate applicant's letters of commitment to mitigation provided in the Appendix.

The projected levels of selenium in the reservoir of 0.009 ppm after 10 years of plant operation indicated on page 1-13 of the draft statement should be discussed in more detail in the draft statement. It is unclear whether the effects of bioaccumulation of selenium in the reservoir were taken into account in the calculation of this value. Further, the hydrological conditions assumed in the calculation should be stated in the final statement These are vital considerations in projecting potential impact to the anticipated sport fishery in the reservoir and should be fully addressed in the final statement.

The applicant's report of experience at the Belews Creek coalfired plant indicates a correlation between high selenium concentrations and a failure of fishes to reproduce in the lake. The Fish and Wildlife Service is concerned about the potential of a similar situation occurring at the proposed Mayo Creek Plant. These concerns have been expressed to the District Engineer and the applicant, and the need for a contingency plan to handle this potential problem has been emphasized. We understand that the applicant has recently proposed mitigation plans that include consideration of selenium accumulation. We recommend that the selenium mitigation plans be mandatory to assure protection of a reservoir fishery.

We believe that creation of "a potential sport fishery" in the proposed reservoir wilk not compensate for the loss of both creek and terrestrial habitat. In order for fishery values to be realized, the fishery must actually be developed and maintained. Furthermore, we believe the substitution of a flat-water fishery

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for terrestrial habitat is unacceptable compensation. The final statement should clarify mitigation measures that the applicant actually intends to implement.

The draft statement indicates that an Erosion Control Plan "will be filed" with the State of North Carolina. In view of the ongoing land disturbance, the final statement should state whether this document was filed with the State and when approval was obtained.

We suggest that the woodcock (Philohela minor) should be included in the final statement as an important game species in the Mayo Creek watershed. We note in p. C-15 of the draft statement that the species is known to occur in the area. Although the woodcock may not be sought by local hunters, its migratory nature and high esteem in other parts of the country qualifies it as an important species.

The wild turkey population has recovered dramatically in North Carolina over the past 10-15 years as a result of wildlife management efforts by the North Carolina Wildlife Resources Commission and numerous concerned sportsmen. The fact that wild turkeys exist at the Mayo Creek site is significant. Further, in the absence of intensive field investigation, conclusions in the draft statement concerning the abundance of wild turkey are questionable due to the secretive nature of the bird and its intolerance of human intrusion. Based on knowledge that the species exists in the area, a discussion of habitat suitability would be more meaningful and should be included in the final statement.

It should be pointed out in the final statement that all the mammals discussed in section 2.3.2.3.3 have an ecological importance as well as commercial and recreational importance. In addition, the importance of the Mayo Creek area to wildlife habitat should not be minimized because of past disturbance of the original forest communities on the site and the fact that the area was typical of northern piedmont of North Carolina. The final statement should objectively assess the project impacts on wildlife habitat.

We note that the draft statement references minimization of impact through "prompt erosion control" and keeping unrevegetated disturbed land to a minimum. During a site visit by Fish and Wildlife Service biologists on April 4, 1978, there was no indication of provisions being taken to limit the acreage of disturbed land or no indication of silt fences, brush barriers, and settling basins being constructed. However, extensive grading operations in the vicinity of the dam site and two logged areas, one along NC highway 49 and another near SR highway 1512, were observed. We recommend that a more detailed description of the referenced erosion control provisions and their implementation should be included in the final statement.

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Potential impacts to wetlands, streams and wildlife resources are not discussed in reference to construction of the railroad spur. An adequate description and evaluation of these potential impacts should be presented in the final statement.

The analogy that the "many pools and slow areas now present" in the stream environment are similar to a lake environment is ecologically inaccurate and should be corrected in the final statement.

Schedule

The schedule depicted is inaccurate based on statements elsewhere in the draft statement that construction is currently underway. The discrepancies should be corrected in the final statement to reflect current conditions.

Alternatives

The conclusion that the impact on fish and wildlife resources was minimized by selection of the Mayo Creek site cannot be substantiated based upon information contained within the draft statemen The final statement should fully disclose the consideration given environmental factors during site selection and evaluation of alternatives.

It is unclear from the discussion presented in the draft statemen whether the alternative sites are actually suitable for developme of electrical generating plants. The draft statement on page 6-6 indicates that the problems associated with the alternative sites are insurmountable within time constraints for providing needed electrical energy. NEPA guidelines require that the alternatives considered might be less detrimental to the environment. The fin statement should provide an adequate discussion of potentially viable alternate sites and a realistic assessment of each one.

Fish and Wildlife Coordination

The draft statement indicates that the proposed project would require issuance by the Corps of Engineers of a permit for the conduct of dredge and fill activities under Section 404 of the Clean Water Act as amended in 1977. Since the draft statement is intended to evaluate the impacts of the proposed permit action, we will use this opportunity to provide the Fish and Wildlife Service's comments, pursuant to the Fish and Wildlife Coordination Act (16 U.S.C. 661 et. seq.).

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We do not believe that the draft statement adequately addresses either the mitigation of fish and wildlife losses or the potential impacts on fish of accumulation of selenium in the reservoir. In addition, we believe that the clearing of the reservoir area outside of the stream channel that has proceeded may prejudice both the decision on permit issuance and efforts to resolve remaining environmental issues.

Adequate plans were not presented by the applicant in the draft statement to mitigate the substantial losses of wildlife habitat and potential impacts of selenium pollution that may occur as a result of this project. However, based upon firm commitments by the applicant in a letter of June 15, 1978, (copy attached), to the Raleigh, North Carolina Field Office of the Fish and Wildlife Service with respect to mitigation lands and the potential selenium problem, the Fish and Wildlife Service would have no objections to issuance of a Section 404 permit by the Corps, provided that those mitigation commitments become part of the permit stipulations and are fully discussed in the final statement.

Specific Comment

Page 4-23 - It is unclear why reference is made in this section to the annual property tax on the Roxboro Plant, Units 1 through 4. Such reference should be clarified or deleted in the final statement.

Page 5-7 - The initial comment on the public notice by the Fish and Wildlife Service (letter to District Engineer from Mr. Bob A. Robinson, dated May 26, 1977) was not included in part, or in whole, in Appendix D.

We hope these comments will be useful to you in the preparation of a final statement.

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Larry E. Meierotto SECRETARY

Attachment

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 521 of 565



SIERRA CLUB & Joseph LeConte Chapter ... To explore, enjoy and preserve the nation's forests, waters, wildlife and wilderness...

> 1428 Sedwick Rd. Durham, NC 27713 23 June 1978

JUN 27

Col. Adolph Hight Corps of Engineers Wilmington District Box 1890 Wilmington, NC 28402

RE: SAWC077-N-073-006-0311

Dear Col. Hight:

Please forgive the delay in responding to your request for comments on the Draft Environmental Impact Statement for the Mayo Electric Generating Plant. It seems that other interested parties have raised the questions that we would ask as shown in previous comments included in the DEIS.

We await those answers in the Final EIS, Among the questions are:

1. Has the project sponsor established the need for the plant? The DEIS fails to clearly make the case against the purchase of the adequate supply (as shown in the sub-region charts) from other utilities. Also, CP & L has not discuss the increase in capacity that will be provided by the Harris Nuclear Generating plant.

2. What are the water quality protection actions to be taken by the sponsor? The DEIS recognizes the air and water pollution hazards of the plant, but fails to detail the mitigation measures for water pollution. The statement goes to great length in the discussion of the abatement of air pollution. We expect an equally thorough discussion of the measures to be required in the NPDES permit to be included in the Final EIS.

. Thank you for your attention to these questions. Please send me a copy of the final document.

Sincerely,

David W. Levy V Conservation Chairman

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 522 of 565

JUN 1 9 1978

LAW OFFILES MALONE, JOHNSON, DEJARMON & SPAULDING SUITE 202-204 MUTUAL SAVINGS & LOAN ASSOCIATION BUILDING . 112 WEST PARRIE H STREET

BURHAM. NORTH CAROLINA 27702

P. O. BOX 667 AREA CODE 818 662-8407

C. C. MALONE, JR. M. E. JOHNSON LEMARQUIS DEJARMON C. C. SPAULDING, JR. GEORGE W. BROWN, ABSOCIATE

June 17, 1978

Col. Adolph Hight Corps of Engineers Wilmington District Wilmington, N. C.

Dear Mr. Hight:

I am writing this letter on behalf of Mr. Harvey Rogers, a landowner in Person County, who opposes the dam and power plant being proposed by Carolina Power & Light Company.

Mr. Rogers's opposition to this construction is based upon several considerations: 1) The ecological damage that this proposed facility will have upon the area; 2) the inherent danger that the facility and the high intensity wires could cause; 3) the interruption and disturbance of radio and television reception that the high intensity wires could cause; and 4) the relatively low land prices being paid by Carolina Power & Light Company for easements and fee simple title to land being acquired.

For these and other reasons, Mr. Rogers urges that the Corps of Engineers refuse to issue a license for Carolina Power & Light Company to construct their proposed dam and power plant in Person County.

Very truly yours,

MALONE, JOHNSON, DEJARMON & SPAULDING

tinger, gr.

T. Mdodana Ringer, Jr. Attorney at Law

TMRjr/rb

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 523 of 565

JUN 1 6 1978

ollas. H. Alharton Winstrad Rt. 5, Box 188 Roxboro, N. C. 27573 June 12, Dept o the army, 4.5. Eurory Engineer Destrict, Wilmington Carps of Engineers Wilshington, M.C. Dear Mr. yelaciton, The public Learney on June to which the Carps held to review the Mays Electric Generating Plant Was of great interest to me, since I line and farm two miles from the mays Plant site and about four form the Hype Plant. Being hetereen two Coal fired Generating Plosts this Clase to earlicher Concern me greatly. I know for fast that the fly and on tabacco in the area her Cauch geneinment tabacco graders to pear anew the tabacco will out guding It. Since economical is the second Consideration you list and since an short sighted County Commissioners list this as first This is indeed a factor of Concern. air ond water are going to effect all g the

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 525 of 565

people in the area and if the quelity, unler state supervision, should fail to be high enough it will be too late to restore health impored by these mistaked. "Food queen in contaminated sail and air with fumer and gases Con sleerly deatres human life. me are first hand the air quality from the Hypo Generating Plant. It is for from good, regardles of regulations and CPY L'a permises, How con The helenne there is no donger in adding onether plant at mago? Mr zimmennon speke 3 meeting state and federal requiremente . the all know stark to. 3 at Hydo deer not much these requests and get it continues to be used . There was also pome mention of a high quality card to be used at mayo. I wonder into con heleane the plat will consider the Coal questity if it is for the well being of the apergle CP+ of the abused in all their destings in this area? If the weight of the CPVZ muney spect on the Mayo site to dete is a fine demonding

the permit even aur cry to you is useless and yet no provision to he head was previously made. The fact that Mr Zimmernon stated that 2900 acres, 500 al pord one cleared flood area around the lake, would take care g will life dimen from 6229 acres of forent and 1756.9 acres I apen lond leads me & understand that CP& & Cares not you man over heart is in the way girlet they want. the in the mays area do appreceate your pludy and concerns of this peticates and may your conceisus he your quide. Sincerely yours Mary E. Winsterd

6 0

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 527 of 565

NUN 1 6 1972 olles. H. Wharton Winstead Rt. 5, Box 188 Roxboro, N. C. 27573 June 15, 197 Ma short excluenton, Wilmington D.C. Dear Mr. Zelverter, This week in a general Conversition With prome oner toto fish at Lake Hypeo-Their abservation was that ther are very few have and much smaller in size that they ence one year ago. I knew matting about fisher and did not wont to be guarded on this but thought I would call it to your attention in a seperate mate, for what its would . yours bruly-Mary Lik Winsterd

JUN 1 2 1978

Dear m. yelverton, I can add no further information to what has already tion gothered by the Corps of Engineers relevant to the mayo Creek Project. you are aware of the thousands of acres of Person County farmland That has already been destroyed, and of the additional acres that will he restricted by the miles high tension worses connecting the two plants to each atter and to the substations. The fact that the two main streams, and their surrounding area, will be Controlled by Carolina Person and Light has been brought out. The air and the water, as well as the farmlands, are already affected by the placing ash into the atmosphere, and can be seen in the Kyco area. As a citizen I do Thank you for doing the study and for the time and Consideration that I know will be put into the decision. and no matter what the decision may be as to The

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 529 of 565

t, we would like to solucit your cooperation in trying to formulate a plan of action to try to avoid this situation in the future whereby a utility company can go this far with the purchase and destruction of farms, hames, roads , and people without every perm t That ia required. Do not forget to send me a of the CPL application permit for my files, blease ! Sincerely, Ellen m. Kane 825. S. William St. Henderson, n.C. 27536

June 9. 1978

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 530 of 565

JUN 1 9 1978



General Court of Justice

9th Judicial District

RAMA J. WILLIAMS. CLEPK

CLERK SUPERIOR COURT

June 16, 1978

PERSON COUNTY ROXBORD, NORTH CAROLINA BERT M MONTAGUE DIRECTOR ADMINISTRATIVE OFFICE OF THE COURTE

HAMILTON H. HOBGOOD RESIDENT JUDGE

U. S. Army Corps of Engineers Post Office Box 1890 Wilmington, North Carolina 28402

Dear Sirs:

I believe that one dam built by Carolina Power and Light Company in this small County is quite enough for this small area. The smoke from the power stacks boils all over the area and emits smoke and cinders. The people who live near the plant say that the fumes are most obnoxious and eats the paint off their automobiles and houses. One does not see a bird or animal moving or flying over any of the area where the dam has been built.

Carolina Power ans Light is now going ahead to build another dam on Mayo Creek. I believe that the enviroment will be taxed to the utmost to support two dama in one small county. I hope that you will not allow a permit for them to build a second dam.

The majority of the people in this County can see nothing but money, but there are some people who know that we need a balanced enviroment as well as money for people to live and thrive.

Thanking you, I am

Réma J. Williams Clerk Superior Court Person County Roxboro, North Carolina

27573

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 531 of 565

Rente 5. Box 160 Revilen 16.

JUN 1 3 1978

May Complante its it has them a lat of fall People but my science your her ... he it has been a lat ET lord took for Proper that find need to be word and it that piople to have to pick of and liane the band of all there lines because you sweight there land.

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 532 of 565

Duke Energy Progress, LLC E-2, Sub 1219

JUN + 3 1978

Rentossofico Rofforce NI.

My Complante l'a Carolina Pourder Compan It is a distancest to me because it is taking up a lat of imp land that a could use to farme on about the water land that is not going to be in used to you . I had and agreement to get from you to mayo creek the line that un between Jacqo Street and maya creek and the hand on the back of facy that we to the patmond it was in the agreement and which it would like for your to Consider between me and this have the soment of an returning the Repiet to your in thit

letter. I have know more land to be sold to your all at all even Bend strif

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will jeopardize my development and immediate farm rental agreement and therefore affect the economic value of my land and prospects of putting it to the best use.

There are already four existing power lines between Roxboro City limits and my property, and I think they could use one of these existing power line right-of-ways that would be more economical to the consumer as well as the company, and far less unsightly.

I sincerely hope that you will give this letter serious consideration.

Sincerely,

aberta

Isabelle B. Robertson (Mrs. Edwin M. Robertson)

1534 Hermitage Court Durham, North Carolina 27707

Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 535 of 565

Duke Energy Progress, LLC E-2, Sub 1219

June 2, 1978

North Carolina Utilities Commission Post Office Lox 991 Raleigh, North Carolina 27602

Dear Sir:

I would like to register an informal complaint in regard to CPL proposed 500 KV line connecting the new Person County Plant with the existing Poxboro plant.

I have been approached by Mr. Charles A. Benfield, senior land agent for CPL, in regard to a proposed 500 kV line crossing my property on its northerly side (Map A) and surrounding my property on adjoining land. This is very objectionable to me as the land I own and describe is at Woodsdale in Person County and has already been platted for development in the near future. This land is divided by 5.4. 1322 and bordered by Marlowe's Creek on its westerly side. This property is approximately four (4) unles north of the Poxboro City limits and 1⁴ miles north of the Country Club of Roxboro.

Mr. Benfield told me that the reason this route was selected was because it is the shortest route between the two plants; but when I examined the proposed power line at the M.C. Utilities Commission office I noted that it was not the shortest route between the two points. Also Mr. Benfield showed me the proposed line going across my property. At that time the map showed a change or deviation to about a 5 to 10 degree more northerly course was shown on that map. However, when CPL sent me a copy of that proposed line later, it had been changed to a straight line.

When the Roxboro plant was built, a 230 KV line was built on this property which is parallel to the new proposed lines. At that time my husband encountered a great deal of difficulty and loss from CPL because they extended their right-of-way to include danger to trees, for which my husband was not compensated. As a result, these two power lines will circumvent or surround my property physically and mesthetically and I can no longer have a view from any of my property without seeing a power line.

Since I am a widow, I um dependent upon this property for an income during this time of rising costs of living and inflation. This project

will jeopardize my development and immediate farm rental agreement and therefore affect the economic value of my land and prospects of putting it to the best use.

There are already four existing power lines between Roxboro City limits and my property, and I think they could use one of these existing power line right-of-ways that would be more economical to the consumer as well as the company, and far less unsightly.

I sincerely hope that you will give this letter serious consideration.

Sincerely,

hell B. Johertea

Isabelle B. Robertson (Mrs. Edwin M. Robertson)

1534 Hermitage Court Durham, North Carolina 27707

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Duke Energy Progress, LLC E-2, Sub 1219

JUN 8

1534 Hermitage Ct. Durham, N.C. 27707 June 6, 1978

Mr. G. Wayne Wright Asst. Chief Regulatory Functions Branch US Army Engineer District, Wilmington P.O. Box 1890 Wilmington, N.C. 28401

Dear Mr. Wright,

Please see the enclosed copy of my letter to Mrs. Catherine Bishir with regard to the proposed Transmission Corridor between the Roxboro Plant and the Mayo Plant of Carolina Power and Light.

I have not as of yet been contacted by Carolina Power and Light, but have had to obtain my information from adjoining land owners.

I feel that Carolina Power and Light has misled you and your staff. In that regard I draw your attention to page 2-59 of your proposed draft of the environmental impact of the proposed Mayo Electric Generating Plant.

"historic sites in the county were described as being 'scarce' and of 'little value'."

The subject House was probably built around the time of our Revolution for National Independence from Great Britain, a time that is of considerable significance to the U.S.Army.

The House is currently on the Study List for inclusion in the National Register of Historic Sites. It has not as of yet been listed in the National Register primarily because of the great work load that exists in the North Carolina Department of Archives and History.

Please consider this letter as an objection to the proposed Roxboro-Mayo Transmission Corridor.

Thank you for your kind attention.

Edwin M. Robertson, Jr.

enclosure (1) cc:Mrs. Catherine Bishir

1534 Hermitage Ct. Durham, N.C. 27707 June 6, 1978

Mrs. Catherine Bishir Survey and Planning Division North Carolina Department of Archives and History Raleigh, N.C. 27611

Dear Mrs. Bishir,

This letter is prompted by our telephone conversation earlier this day, in regards to the House of Historical Significance located on Person County Road Number 1326 as shown on Person County Tax Map A-45, Lot Number 28 in Woodsdale Township known as the John Rogers House.

Carolina Power and Light Company proposes to run a 500-KV Power Line adjacent to if not in fact through the house. The line will be a tie line from the existing Electric Generating Plant located on Hyco Lake known as the Roxboro Plant to the proposed Electric Generating Plant located on the Mayo Creek to be known as the Mayo Plant.

My concerns are many, particularly in view of the fact that the proposed route of the 500-KV Power Line is not the shortest distance between the two Plants mentioned above.

At this juncture, I feel I can best illustrate my concerns by quoting from the DRAFT-ENVIRONMENTAL IMPACT STATEMENT - CAROLINA POWER AND LIGHT COMPANY - MAYO ELECTRIC GENERATING PLANT - PREPARED BY - U.S. ARMY, CORPS OF ENGINEERS - WILMINGTON DISTRICT - MAY 1978 as recorded in the Federal Register May 5, 1978.

Page ii "Finally, the aesthetics of the area will be altered." Page 1-20 "Tentative plans call for the Mayo-Roxboro line to be constructed on steel lattice towers útilizing 2-2515 MCM ACSR conductors for each of the three phases.

Page 1-19 "Structure heights would range from 27m (90ft) to 48m (160ft.) above ground, and span lengths would average about 330m (1100ft.). The right-of-way would be 54m (180ft) wide. The actual width to be cleared for the right-of-way would depend on economic considerations, electrical constraints, and minimal environmental impact.'

Page 1-35"Some blasting may be required if rock is encountered in digging the foundations."

Page 4-61"..., there will be some visual effects due to the size of the 500-KV structures."

Page 4-62"Both archaeological and historical sites will be given careful consideration in determining the location of the Mayo-Roxboro line."

One further note, the "proposed" Transmission Corridors were clearly shown on maps submitted to the N.C. Utilities Commission in excess of one year ago.

Maps and further data will be forwarded to you as soon as possible.

dwin M. Robertson.Jr.

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Wells/Williams Rebuttal DEP Redirect Exhibit No. 1 Page 539 of 565

Mouto 5, Box 52 JUN 1 9 197 Kodboro, n.C. 27573 June 16, 1978

U.S. armyEngine District P.O. Box 1890 Wilmington, M.C. 28402

Dear Sir, The need of the proposed Mayo Electric Senerating Plant is questionable in some respects even as shown in the Draft of the Environmental mpact Statement regarding the project itself. I say this because Jable 12-2, page 1-38, indicates the Virginia Carolinas Subregion reserves in 1985 without the Mays Plantwould be 19.8%. This figure corresponds well with the 15-20% reserve capacity the North Carolina Utility Commission desices to maintain and is well above the 12% reserve CPEL desires. With this bit opinformation taken as fact, down to State of Porth Carolina need the plant, or is it just CAEL! If this state does need it and I am not in a position to argue with the Utility Commission, and they must take Porth Caroline land for it, then perhaps CP, Latould be restricted to the selling opelectricity just in North Carolina and not to companies outside, contrary to their usual practices. I know these are not concerns of the army Corpoop Engineers, but I hope these points will preface thatact That when and if the Corps issues a permit for construction 17.2

(2)

That This permit shall control and modify proposed Construction in such a manner as to cause the least detriment to the area and its inhabitants. as you may have noticed at the recent meeting, and have on tape CPEL is extremely "flexible" with its feel remise in making to comment that if they wish to change or addits this data and information as they go along, they would have no hesitation in spontaneously and capriciously fabricating it. They are able to get away with much of this due to the inexactness and unplanned manner in which they attack such projects. For instance even maps presented to the Utility Commission by which CFEL obtained a Certificate of Public Convenience and Versity were letter size sketches with questionall accuracy and obscure detaile. CPEL has since produced larger maps, detaile still sketchy after the Utility Commission was questiond by landowners, but of course the certificate had already been issued. CPEL thus has a liene to condemn or just as effectively threaten to condemn and alter its plans as it goes, and seems to have done so. I believe lam correct in stating, according to my conversation with a member of the staff of the army Corps of Engineers, that my question at the learing regarding CPEL placing fill material in Mays Creek is not going to be

(3)

pursued, although it is a borderline violation. also In told the investigators of this incident were surprised a the extentof the construction that has taken place. again as I said at the hearing, these Things are for the Corporto decide to its satisfaction. However, I hope it will be remembered that by letting suchaction go by CPEL has already been given the benefit of the doct and shall be held accountable for the best use of the land and for location of construction from this time forward. This brings me to the topic over which the army Corps of Engineers does have control. That is the construction a ask porde. Besides the factor of possible pollution, which I feel the corps will examine rigorously, the other Two overriding factors would be economics and conservation CPEL haspurchased over 500acres for a so called aufiliary ash pond and have underconsideration anot much smalle location for its emmediate use which they not yet own. If I understand the procedure correctly Che intends to use the small is pond and then construct lines to the larger bond which is located a short distance away With respect to economics it would be better to build lines Tothe larger fond, which would not fill up for a much been time if ever during the life of the plant, at todays price rates than to wait until later while costs continue to climb.

Mr. + Mrs Travic W. Feed

(4)While at present CPEL says it intende to use the larger site for concervation or mitigation purposes, it will eventually betaken up for an ach pond. However, if the smaller site is left in its matural wooded farmland and fasture state and the larger site used for a permanent as pond, then at least a portion of land is conserved permanently rather than just on a tomporary until meaded " basis . I unge the Corps to gravely consider these points over which it can assort authority. If I may be help-ful in anyway please call upon me. Sincerely yours, Doyle P. Reed

JUN 19

SUBJECT: Carolina Power & Light Company Mayo Project (Proposal)

TO: U. S. Army Corps of Engineers P. O. Box 1890 Wilmington, NC 28402

For the past year and a half to two years, I, as a layman, have undertaken to familiarize myself with and acquire some knowledge of the Environmental and Ecological problems facing mankind.

After reading various studies and evaluations including "The Limits to Growth," "Blueprint for Survival," "The Closing Circle," "Man in the Environment" and a number of magazine and newspaper articles, there is no doubt in my mind that man, intentionally and unintentionally, has polluted, contaminated and poisoned our atmosphere, land and waters beyond belief. It is clear that man has and is wasting our non-renewable resources. It is clear that man has disturbed and disrupted the cycles and balances of nature. While the authorities and experts may disagree on the extent of damages inflicted, the time remaining for corrective actions, how long scarce resources will last and what the solutions are, one thing is certain on which they all agree--we have a most serious problem.

The foregoing paragraph states my authorities and sources and it must serve to establish my credibility, to whatever extent that may be, in presenting my objections and arguments against the proposed Carolina Power & Light Company Mayo Project.

It has been said by Roderick A. Cameron of the Environmental Defense Fund that "Industries who profit by the rape of our environment see to it that legislators friendly to their attitudes are elected, and that bureaucrats of similar attitude are appointed". At this point, in contemplating how easily C.P.& L. has obtained various permits and certificates and proceeded so far with its work with so little information available to the public, I must conclude that Mr. Cameron was knowledgeable of the facts which he stated. Only one item, the permit from the U. S. Army Corps of Engineers to place fill material in the Mayo, remains as a possible protection to the rights and health of the citizens of Person County.

In resuming my statements of facts which make the proposed C.P.& L. Company Mayo Project both undesirable and intolerable, I wish to reaffirm my comments on the effect of carbon dioxide (CO_2) in the atmosphere.

The burning of coal increases the amount of carbon dioxide in the atmosphere where it acts as a reflector of the earth's heat-sending it back to earth or holding it to earth as the infrared radiation does not penetrate the carbon dioxide layer. Thus in time the earth will undergo a rise in temperature which can effect climate and thereby cause many changes. Specifically, I mentioned a melting of the polar ice caps with a resulting rise in the oceans levels which would overflow low lying land areas. What I have stated is not the plot for a science fiction story, it is scientific fact and possibility and it is the reason many scientists advocate the cessation of burning fossil fuels. Certainly we in Person County do not

wish to increase our contribution of carbon dioxide to the atmosphere by 100%--which would result when unit #4 of C.P. & L. Company on the Hyco River becomes operational and then had a Mayo #1 and #2 build and put into operation.

Another product of burning sulfur containing coal is sulfur dioxide (and whether the coal is low or high sulfur content you get sulfur dioxide.) I have the impression that most low sulfur coal is found in the West--not the East and that C.P. & L. Company states their coal will come from Kentucky and West Virginia.

For the information and consideration of the uninformed, sulfur dioxide is a gas that attacks the cells lining the lungs' air passages, reducing their natural self protective action against other air pollutants such as dust and bringing on serious respiratory distress.

In 1952 London was blanketed in fog/smoke/smog for four days. In the first 24 hours people died in unusual numbers. All total there were 4000 more deaths than would have <u>been</u> expected under normal conditions. <u>The deadly</u> <u>component</u> of this smog was sulfur <u>dioxide</u>.

Similar cases exist in the U. S. from New York to Los Angeles.

Studies have shown that humans working outdoors in areas of polluted air have more respiratory diseases than humans working outdoors in areas of cleaner air. The incidence of bronchitis is high in areas of high air pollution.

The condition that causes these smogs is called "temperature inversion". Cool still air below with warm air above hold the chemical saturated smog close to the ground preventing dissipation of the smog.

Air polluted with oxides of sulfur create another hazard in that rain and snow increase in acidity which is carried into the soil. The increased acidity of the soil effects plant growth but an even greater danger may exist in changes in the growth of soil microorganisms and in chemical interactions among soil constituents under these conditions. Pollutants which accumulate in the soil may drastically upset and modify its vital ecological balance.

The citizens of Person County and surrounding areas will be exposed to still other polluting agents in the form of nitrogen oxides. Nitrogen oxides are produced when air becomes hot enough-as it does in high temperature power plants--to cause its natural nitrogen and oxygen to interact. When activated by sunlight, nitrogen oxides combine with organic compounds and form peroxyacetylnitrate (PAN) which is a visible and noxious ingredient of photochemical smog--an eye irritating haze. PAN eventually condenses and settles down to earth as a gummy precipitate.

Nitrogen dioxide is a colored gas which turns the air a sort of whiskey brown. Nitrogen dioxide is highly poisonous with a long history as the cause of serious industrial hazards. This gas destroys the cells of the lungs, tends to enlarge lung blood vessels and in high concentration causes accumulation of fluid in the lungs which may lead to death.

The emission of solid particles is also a factor in air pollution. Supposedly, electrostatic precipitators remove these particles, but the efficiency of this

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Duke Energy Progress, LLC E-2, Sub 1219

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equipment leaves much to be desired as it appears that in actual use it falls short of its theoretical efficiency. Then, too, equipment must be serviced. It does break down and at times it is just plain cut off and not operated.

So we see that the burning of coal in our plants exposes us to many undesirable pollutants--smoke, soot, oxides of sulfur, oxides of nitrogen, various chemical combinations of these chemicals, etc. All are harmful. The social harm or damage is beyond measures.

But we still have another byproduct to consider--selenium and its oxides. Selenium is a gray crystaline element (nonmetalic) of the sulfur family. It is toxic and considered poisonous. The EIS shows that this element will cause permanent contamination of the ash pond area; it will enter Mayo Creek downstream and will even get into the reservoir itself. Accumulations of this element will effect the safety of man and animal and have long lasting ill effects that may be permanent. It is thought that this element effects the reproductive process. For example, a lake contaminated with it would show a decline in fish population and less than normal growth of various species. So little is known about the long term effects of various pollutants such as this and its interactions with othersubstances that we must refrain from any action that would raise future hazards to man and his environment.

The Corps of Engineers has indicated that all factors relevant to the C. P. & L. Company proposed will be considered, so let us briefly mention these things with a brief comment.

The first item listed in the Public Notice dated 5 May 1978 is Conservation. Conservation is defined as "a conserving", "care and protection of natural resources as forests, land and water." C. P. & L. Company is clearing all saw timber, growing timber and pulpwood. They are taking hundreds of acres out of cultivation. They will completely own Mayo Creek and remove it from use for supplying drinking water, water for sanitation and some small business use. To top it all, the land and water will be contaminated for any use except their own. This is about as far from conservation as you can get.

Second on the list is economics, which should be at or near the bottom. C. P. & L. Company dangles the bait of expanded tax base, more taxes collectable, payroll money to be spent, jobs for at least some local people and everyone goes wild to get on the money bandwagon--closing their eyes to increased public costs and to social costs that may be beyond measure. It is truly said that "all that glitters is not gold".

Third on the list "esthetics" (aesthetics) -- the study or philosophy of art and beauty". I suggest that true art and beauty are unexcelled in the natural state. Man can change or modify but not improve. Every time man has tried to improve on nature he has failed--sometimes with disastrous results as shown by his technological contamination of the air, land and sea.

For fourth we have "general environmental concerns"--all that surrounds us and all the conditions that effect us therein. So first we have our natural surroundings, the air, the trees, grassland, flowers, the earth, the water, the wildlife, etc.--all of which will be <u>adversely</u> affected. Secondly, we have the manmade elements of our surroundings--our home, our neighborhood, our town

the schools, churches, businesses, hospitals -- which will change but little. The principal effect is bad.

In fifth place we have "Historic Values". Whoever made the decision decided there was nothing of historic value so whatever might have been considered of value to some of us has been or is being destroyed.

Sixth place considers fish and wildlife values. Here we have a subject worthy of great study and thought. Already the C. P. & L. Company plants on Hyco River have resulted in the destruction of the natural habitat of wildlife. The Mayo Project would destroy four or five thousand more acres of natural habitat. C. P. & L. Company states that much wildlife will be run out or destroyed. Wildlife will be, just as man is, exposed to the same pollution of air, land and water. If fish and game are contaminated, then taken by man for food, the contamination will be passed to man. Those authorities concerned with this should think long and hard before giving their approval.

In seventh place we have flood damage prevention. The Mayo does rise and flood the low grounds at times in its present natural state, but virtually no damage is done. The greatest damage will result from the lake permanently flooding the excellent agricultural low grounds.

For eighth place we have "land use". Normally land in the Mayo area is used to raise tobacco, corn, grain and some food items. Both small game and big game (deer) are hunted in the area. Should C. P. & L. Company take this area, some eight square miles of ¹ and will be lost to agricultural use, growing timber and hunting. The primary use of this land will be to support C. P. & L. Company plants. Any other use will be strictly incidental.

Navigation is in ninth place but needs no comment.

In tenth place is recreation. As we have one lake available for boating, fishing, swimming, etc., we do not need another at the expense of the additional burden on our natural resources and the loss of land from its normal uses.

The eleventh and twelfth items are water supply and water quality which may best be commented on jointly. The Mayo is Person County's last, best and least polluted stream to serve the county in future years as a source of drinking water, etc. With no further contamination, the quality would be excellent. Once polluted with selenium, it might never be suitable for use by humans or animals again. The quality would be destroyed.

In thirteenth place we consider energy needs. Even conceding a need to supply electricity in the future, we cannot continue to do so by polluting the air, land, and water here or elsewhere. The social costs to the people of this area are too great to inflict further injury to them above that resulting from the Hyco plants. We would have the most concentrated installations of electric plants in the country and therefrom the most concentrated and intense pollution problems.

Safety is item number fourteen. As a natural area, the Mayo presents virtually no safety problem. As a lake the Mayo would create the threat to the safety of individuals from drowning and other recreational activities. The safety factor must be considered as it effects all of the people and the areas for miles around us. The safety hazard is the pollution of air, land, water--its effects on humans, animals and plants. This we have already stated is undesirable and unacceptable.

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Food production is to be considered as item fifteen. Already the arable lands available for food production are mostly being used. Yield of these lands is dropping and, to sustain yield, massive doses of artificial fertilizer are required, which in turn results in pollution. With the problem of feeding an ever increasing population, we can ill afford to lose more land to power plants, highways and anything that takes land permanently out of use.

Last but not least is "the needs and welfare of the people in general". The need of the people is an environment in which they may live in good health and good spirit knowing the air they breathe is pure, the water they drink is pure and the food they eat is pure and uncontaminated.

To sum it all up, industry has for years polluted and contaminated our surroundings. Our resources have been raped for profit and now these sins are coming back to all of us. Our future depends on a turn about in our ways. We must discontinue our actions against our natural environment. We must repair damage done if possible. While state and federal agencies set so called acceptable standards of pollution, nothing offsets the continual day by day accumulations of pollutants and our day by day exposure to them.

I respectfully submit that the people of Person County chould be spared any further exposure to the deterioration of our environment as will be brought about by the C. P. & L. Company Mayo Project.

The permit should be denied.

Respectfully submitted, ,

Chan er- Turnes

John W. Merritt Landowner 933 Badger Circle Roxboro, NC 27573

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RECORD OF PUBLIC MEETING REGARDING MAYO CREEK PROJECT HELD IN ROXBORO, NORTH CAROLINA 6 JUNE 1978 - 7:30 P.M.

COLONEL ADOLPH A. HIGHT (District Engineer, US Army Engineer District, Wilmington, North Carolina): Good evening, ladies and gentlemen. I am Colonel Adolph A. Hight, District Engineer, Wilmington District, Wilmington, North Carolina, US Army Corps of Engineers. I'd like to welcome each of you here tonight for this public meeting regarding the proposed project by Carolina Power and Light.

First of all, is there anyone here who has not signed an attendance card? If not, please raise your hand and we will see that you get one so that we can have a complete record of the meeting. These attendance cards serve first two purposes: One, as I mentioned to provide a vehicle for indicating who has shown up; also to indicate who would like to make oral statements, written statements and complete our record. This is a public record and, as you can see, it is being taped and is also being recorded by our stenographer.

Assisting me tonight are several members of my staff and I'll introduce them to you very quickly: Mr. David Hewitt, in the rear, my Public Affairs Officer; Mr. Charles Hollis, Chief of the Regulatory Functions Branch, also in the rear; Dr. G. Wayne Wright, Assistant Chief of the Regulatory Functions Branch, also in the rear; Mr. Frank Yelverton, District Biolgist, to my left; Mr. Allen Tyrrell, District Counsel, seated here to the front; Mr. Charles Blanton, Chief of my office of Administrative Services; and Mrs. Marilyn Knowlton, our stenographer.

The purpose of our meeting this evening is to obtain any comments that you may have on the Draft Environmental Impact Statement for the Carolina Power and Light Mayo Creek Project.

In a moment, I'll call on Mr. Yelverton to explain some of the highlights of our permit responsibility and the process, and also to give you a brief overview of Carolina Power and Light's application. Then, Mr. Zimmerman will give a short presentation on his proposal. Afterwards, using the cards that you have completed, I'll call on those of you who have indicated a desire to make a comment. For the sake of time, I would appreciate it if you would please limit your initial statement to 10 minutes or less.

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We will stay here as long as there is anything left to be said. Please save your questions until after the statements have been made when we will open the floor for questions. When you do come up to make your statement, please use the microphone afforded here so that we can get a good recording of your statement for the record. We would also like for you to identify yourselve before you begin your statement. If you have a written statement or if you are reading from a statement, we would appreciate a copy. This will give us a greater degree of accuracy for our transcription.

The comments from this meeting will be included in the Final Environmental Impact Statement and they will play an integral part in my decision regarding the permit application. No decision will be made tonight. And additional comments will be received by mail until the close of business on the 19th of June, 1978. At that time, the record of comments on the draft will be closed.

Now, Mr. Yelverton will briefly describe the Corps' permit program and the processing of the Carolina Power and Light project. Frank.

MR. FRANK YELVERTON (Biologist, US Army Corps of Engineers): Thank you, Colonel. The Department of the Army, acting through the Corps of Engineers conducts a permit program in this area of the state under the authority of the Clean Water Act. This program became effective in the project area on 1 July 1977. Under this act permits are required for the discharge of dredged or fill materials in most streams and water bodies and their associated wetlands. The Corps of Engineers conducts for each permit application what has come to be called a "public interest review." It is through this review that a determination is made as to whether or not a particular project is in the best public interest. This is the purpose of this meeting. No permit is granted unless its issuance is found to be in the best public interest. Comments and opinions are solicited from all known agencies in order to develop an administrative record on which to base a final decision. This includes Congressional and Legislative comments, Federal and State comments, and comments from agencies and individuals. Particular weight is given to comments of agencies and individuals with particular expertise in certain fields. For example,

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comments from State and Federal Wildlife agencies on a wildlife matter. Upon receipt of all comments, any objections are referred to the applicant for possible resolution. The applicant may then modify the project to attempt to resolve any objections. If substantial objections still remain and the project is not found to be in the best public interest, the permit is usually denied. The review procedure may take a considerable length of time when objections exist since the applicant is given every opportunity to resolve the objections with the objecting party. In cases like the proposed project, when the application has the potential for causing significant impacts or there is significant controversy surrounding the project or controversy is likely, the Corps prepares an Environmental Impact Statement. The applicant in this case is required to prepare a detailed assessment to help the Corps in preparing our draft.

Now, regarding the Carolina Power and Light Company application in particular, Carolina Power and Light applied for the Department of the Army permit on 6 April 1977. This application requested permission to construct a main dam on Mayo Creek to create a 2800-acre reservoir for makeup water for a 1440 MW coal-fired steam electric generating plant. Other aspects of the project requiring permits are the ash disposal facilities to be constructed on Crutchfield Branch and a road relocation on Mayo Creek.

The proposed project was previously advertised by four public notices. They were the Public Notices of 28 April 1977; 23 June 1977; 8 December 1977; and 5 May 1978. The 28 April 1977 Public Notice announced the application, the 23 June 1977 Public Notice indicated the availability of an Environmental Assessment prepared by Carolina Power and Light and also notified additional people of the project. The 8 December 1977 Public Notice announced our decision to prepare an Environmental Impact Statement on the project. The 5 May 1978 Public Notice announced the availability of our Draft Environmental Impact Statement and advertised the time and place of this meeting. A news release was also made available at the 5 May 1978 publication of Public Notice and also during the 8 December 1977 Public Notice announcing our decision to go with the Impact Statement.

The Draft Environmental Impact Statement was noted in the <u>Federal Register</u> on 5 May 1978 and the review period on the draft lasts 45 days past this period and will end on 19 June 1978. I want to emphasize that an inhouse decision has not been made on this project and will not be made until all the record has been closed and after the Final Impact Statement has been filed.

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Three specific issues have been raised during the permit review. These are concerns by the Wildlife agencies on mitigation and also the potential of an element called selenium getting into the reservoir and possibly damaging fish life and, three, the need for an evaluation of the groundwater regime near the coal storage pile, the plant site area, main dam, reservoir and ash pond site to determine seepage from these areas.

First of all regarding the mitigation issue, CP&L plans to protect approximately 1,800 acres of land along with the 2,800-acre reservoir from private development and manage it in cooperation with the NC Wildlife Resources Commission. The land includes 1,300 acres for flood control around the reservoir and 500 acres for an auxiliary ash pond site if the site is needed. Both the Wildlife Resources Commission and the US Fish and Wildlife Service in previous meetings have indicated that they feel that additional mitigation lands are required.

The second issues are regarding selenium. In the processing of the plant the ash is collected, the fly ash is collected in stacks and processed to the ash pond. This ash contains several toxic substances that can be released when dissolved in water in the ash pond. It appears that the only substance of noteworthy concentration in the fly ash effluent is selenium which may have sublethal and lethal effects on fish. The most noticeable sublethal effect is the accumulation of selenium in the reproductive organs of fish which may inhibit successful spawning. However, selenium levels that cause these effects are not exactly known.

Also, the Division of Environmental Management will require a NPDES (National Pollutant Discharge Elimination System) Permit for the ash pond discharge to the main reservoir.

Thirdly, little groundwater data at the project site is available. Additional studies of the groundwater regime at the project activity site, such as the coal storage area, the plant site, main dam, reservoir site and ash pond will be required before a Section 404 permit decision can be made. These studies are needed to determine what affect seepage from these sites may have on groundwater.

CP&L has been discussing all these three specific concerns with the agencies that have expressed concerns regarding it. In addition to these three specific comments, several property owners that are within the Mayo project boundaries have submitted various comments about the project to us. These comments have been addressed in the Draft Statement. - + hose of you who desire further details on this project, we have a tes of Impact Statements along with some public notices that aw.

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<u>COLONEL ADOLPH A. HIGHT</u>: Thank you, Mr. Yelverton. Now I would like to call on Mr. Sherwood Zimmerman from Carolina Power and Light to make a brief presentation.

MR. SHERWOOD ZIMMERMAN: Col Hight, ladies and gentlemen, my name is Sherwood Zimmerman. I am the Manager of Licensing and Siting Section at CP&L. I would like to briefly summarize CP&L's assessment of the proposed Mayo Steam Electric Plant. This plant is being built in accordance with the certificate of public convenience and necessity, issued to CP&L by the North Carolina Utilities Commission in March of 1977. In response to energy demand forecast prepared by CP&L, an independent forecast made by the Utilities Commission, the Commission found that new coal-fired electric generation was essential in the service area of CP&L. These forecasts show that in the early 1980's without additional generation, reserves on the CP&L system would be minus 1.8% in 1983 and minus 4.2% in 1985. More recent forecasts made in 1978 show reserves with the Mayo units in service in 1982 and 1985 to be 20.4% and 19.2%. This complies with the Commission's policy on reserve generating capacity of 15 to 20% reserves as the minimum necessary to maintain reliable electric service for North Carolina citizens. The Mayo Plant site in Person County was chosen for numerous reasons. Two key factors supporting the site selection were the relative closeness to the load center and the compatibility of the site with respect to environmental considerations. The Mayo plant will consist of two coal-fired steam electric generating units, each unit having 720 megawatts of electric generating capability. To service the plant's water needs, a 2800-acre impoundment will be built on the Mayo Creek watershed. The dam will be located approximately 2,000 feet south of the North Carolina/Virginia border. In addition to providing a dependable water source for plant needs the impoundment will provide flood mitigation and water base recreation to area residents as well as to other visitors.

In designing the Mayo plant, CP&L has incorporated a variety of the latest, sophisticated and environmental control equipment to fully comply with all air and water regulatory requirements. Expenditures for environmental control equipment at the Mayo Plant will exceed \$80 million dollars. With regard to water quality matters, the plant will use mechanical draft cooling towers. The cooling towers will help to insure no adverse thermal effects in the impoundment. The North Carolina Division of Environmental Management has issued a Water Quality Certification to CP&L which finds that wastewater discharges resulting from the construct: and operation of the plant will, in accordance with CP&L's application, be in compliance with all applicable regulations. The certification further found that an NPDES water quality permit will be issued for the plant and will protect the water quality in Mayo Creek and in the impoundmen for fish and wildlife propogation. During the air quality related

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aspects of the Mayo plant, the project has been reviewed by the US Environmental Protection Agency and the North Carolina Division of Environmental Management. Both agencies, after extensive evaluation, found that the control of airborne emissions proposed by CP&L would comply with all Federal and State air quality requirements and accordingly issued all necessary approvals and permits for air emissions. Both units will be fitted with up to date electrostatic precipitators to control fly ash or particulate emissions. Collection efficiencies of greater than 99.6% have been designed into the precipitators. Sulphur dioxide emission limits will be met by burning coal of a very low sulphur content, that the company has specifically earmarked for the Mayo plant. During 1976 and 1977 CP&L biologists conducted a comprehensive one-year study of the project area to accurately record the condition of the environment prior to construction.

The results of our investigations have been reported in detail in our environmental report and have been considered by you in preparing the Draft Environmental Impact Statement for this project. Our studies lead us to conclude that the area will be enhanced by this project as an environmental and recreational resource. The plant reservoir will be attractive for fishing and other recreation and wildlife utilization of required project lands and waters will be encouraged through cooperative program with the North Carolina Wildlife Resources Commission. One area of the reservoir will be maintained as flooded timber to form an attractive habitat for waterfowl and fish. To permit the greatest use of the reservoir by the greatest number of people, CP&L will cooperate with the North Carolina Wildlife Resources Commission to provide public access for boating, fishing, hunting and other uses which are not inconsistent with the primary purpose of the lake, which is to cool the plant. Now with regard to the three issues that Mr. Yelverton raised, we have been under discussion with both the North Carolina Wildlife Resources Commission and the US Fish and Wildlife Service. The first two issues of lands that are donated to the gamelands program and the selenium issue; for the lands issue we have reached a tentative agreement today with the local staff of the US Fish and Wildlife Service. We are placing 2,905 acres into the gamelands program. This tentative agreement has been reached at the local staff level of the US Fish and Wildlife which is subject to review by their management. On the selenium issue, we have also reached a tentative agreement in that the NPDES will be issued by the North Carolina Environmental Management Commission and this NPDES permit will address whatever toxic substances are permitted at that time so we will meet whatever requirements are necessary in the future on selenium and other toxic substances. On groundwater, we do have a groundwater investigation program identified and we are pursuing that program to supply the results that will be submitted within the next several weeks. In summary, the selection of the Mayo Creek site for

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the new generating plant will create a multi-purpose impoundment providing a year-round fishery resource and multiplying the recreational benefits to be derived from the waters of Mayo Creek. It is estimated that this investment by CP&L in this project would result in approximately \$3.5 million dollars in Annual Taxes paid to Person County based on the 1977 tax rate. Additionally, at its peak of construction, a work force of approximately 800 persons will be employed in Person County. Many of these workers will be recruited from the local area with estimated total wages paid by CP&L during Mayo Plant construction of approximately \$64 million dollars. In addition, the Mayo facility will be a continuatio of CP&L's contribution to Person County as a responsible corporate citizen contributing to the economic, educational and recreational life of the community. Thank you.

COL HIGHT: Thank you, Mr. Zimmerman. There have been several individuals who have indicated a desire to speak. I would like now to call on them. The first is Mr. M. H. Montgomery, County Commissioner. Sir.

MR. M. H. MONTGOMERY (County Commissioner, Businessman, 503 Clayton Avenue, Roxboro, NC 27573): Thank you, Mr. Chairman. I am speaking on behalf of the Person County Commissioners in this presentation. First of all, I would like to say that we are interested in protecting our environment and certainly we share and appreciate some of the concerns that the people who live in this area have. But I feel that we must look at the situation as its exists today and be objective about the situation. At the present time CP&L has acquired a substantial amount of the land that they need for this project and in doing so this has brought to Person County already some economic impact. And this brings me to my point that I really want to speak about the economic impact that this project will have on Person County. Now we realize that in Person County we need more jobs. We need more employment opportunities for our people and we understand that in the next 4 to 5 years that this project will employ some 500 to 800 people depending upon the time that you look at and after the project is completed, approximately 150 people. All this will bring in about \$1,554,000 more Personal Income for families in Person County. It will bring in \$735,000 more Bank Deposits and we'll have about \$750,000 more in Retail Sales per year. To give you a little bit of back-up information as to why we need these jobs: In our agricultural economy, our Agricultural Income had gotten up to \$26 million dollars in 1976. In 1977, because of weather conditions, and prices for agricultural products, Agricultural Income dropped to \$17 million dollars. And as we look at 1978, while we anticipate some improvement we don't anticipate nearly recovering to the \$26 million dollar level. We still have a lot of unemployed people in Person County. The employed labor force in Person County has grown only 1,000 people in the past seven years. So we need these jobs and it is estimated that

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this project will have a payroll of about \$64 million dollars for people that are working on this project. We understand that it will have an estimated Tax Value of \$679 million dollars to expand the Tax Base of this county. So, we can see that this thing can have a very beneficial and positive effect upon the overall economy of Person County. Now getting back to the point that CP&L has acquired a substantial amount of this land, if this project is stopped where it is, it will have a reversed effect on the economy in Person County. First of all, we will lose the jobs that have already opened up there. Second, this agricultural land that they have acquired has been phased out of agricultural production for the most part and this has an effect on our agricultural income because they are clearing this land, they are making preparation for this project, and it has been taken out of agricultural production and forestry production. Third, we will lose the expanding tax base for Person County which certainly we can use in this county. In conclusion, let me say: Number one, we feel that this project has gone too far for it to be stopped and not have an adverse effect on the economy of Person County. Second, we feel that this project will have a positive effect on the economy if it is continued, that it will expand opportunities of jobs in this area and provide more jobs and bring into this area more money and more earned income for people who have an opportunity to work. Number three, it will provide an expanded Tax Base that will certainly help the tax-paying public of this county. Number four, we know that there is a need for more electricity and we have to think and realize that every year we delay this project, we increase the cost of it. We know that the consumer in the end will have to bear this additional cost. Number five, this land has been taken out of any constructive use for all practical purposes at the present time. If this project is not continued; it is definitely being phased out of agricultural production, out of forestry production and they are proceeding with this work. So I think that this project will have a very positive effect on the economy of Person County and certainly we have to realize that when we look at man's total environment, the economy is part of it. Thank you.

COL HIGHT: Thank you very much, sir. Our next speaker will be Mr. A. Tommy Bowes, also a County Commissioner.

MR. A. TOMMY BOWES (County Commissioner, Route 3, Roxboro, NC 27573): He (referring to Mr. Montgomery) was spokesman for us.

COL HIGHT: Okay, fine. Our next speaker then is Mr. John Merritt, who is speaking for himself. Mr. Merritt, please.

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MR. JOHN W. MERRITT (Representing self, 933 Badger Circle, Roxboro, NC 27573): Colonel Hight, ladies and gentlemen, I am John W. Merritt. My brother and I own the largest tract of land being sought by CP&L for this project. I would like to make an introductory remark which is not in my notes. I think it is unfortunate that many of our citizens listen to the appeal of the great god, money, as their only basis for wanting something. It is unfortunate that some of our citizens want to create an industrial slum in Person County such as exists in our northern states. I would like you to keep that in mind but my thrust is not in that direction. Person County is already overburdened with pollutants spewed into the air from the smoke stacks of three Carolina Power and Light Company's coal-fired steam electric generating plants now operating on Hyco River in Person County with a fourth unit under construction. Daily, millions of cubic feet of super-heated noxious gases are discharged into the atmosphere we breath. It is a known fact that these gases are harmful to humans, animals, plants and property. A recent news article has stated that many deaths of humans can be blamed on such gases. It is a further fact that the burning of coal increases the amount of carbon dioxide in the atmosphere. And this is a matter of worldwide concern, not merely local. Since carbon dioxide makes up only about 1% of the atmosphere, it is called a trace gas. Relatively small additions of the supply can have a large effect. If expanding industry should increase the carbon dioxide content of the air by one-third, it might change in the air's absorption of infra red radiation and this reradiating of this heat back to the earth; temperatures might increase and only a few more degrees could melt the polar ice caps. If that happened the coastal cities of the world from New York to Hong Kong could be covered by water. The oceans would roll over. Now this quotation is from Man and the Environment by Ruth Moore, published by Alfred Knock of New York, 1975. Many scientists are studying this problem and some are already advocating a cessation of burning oil fossil fuels. It is unfortunate that the public at large is virtually uninformed on the dangers of continued pollution of the atmosphere, land and seas. Those scientists who have made, and are making studies of our worldwide environmental and ecological conditions have appealed to their governments for corrective measures to be taken. In the United States, the Army Corps of Engineers has been assigned this responsibility for overseeing such projects as CP&L's Mayo project and its impact on the environment and deciding whether the project should be permitted. As the people in Person County and adjacent areas are already subjected to excessive pollution from the existing CP&L plants, it is unreasonable to ask or expect them to accept the tremendous increase in pollution, which would result from the two units proposed for the Mayo Creek. Speaking for myself, persons known and unknown to me who oppose the CP&L Mayo project, I respectfully urge the Corps of Engineers to fulfill their responsibility to the people of Person County and adjacent areas, to protect the health

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of these people, to protect our wildlife and plant life and thereby maintain the environmental and ecological integrity of the Mayo area by denying CP&L a permit to dam Mayo Creek. Thank you.

COL HIGHT: Thank you, Mr. Merritt. Our next speaker is Mr. J. M. Carter, representing CP&L.

MR. J. M. CARTER (CP&L, 581 Manchester, Raleigh, NC 27609): I'm sorry, Colonel, that (indicating marking on SAW Form 405) was supposed to be a "no."

COL HIGHT: Please?

MR. J. M. CARTER: That was supposed to be a "no."

COL HIGHT: Oh, that was supposed to be a "no."

MR. J. M. CARTER: I'm sorry.

COL HIGHT: Then our next speaker is Mr. Gordon P. Alken, citizen. Is it Allen?

MR. GORDON P. ALLEN (Representing self, 107 N. Main Street, Roxboro, NC 27573): Allen, A double 1, en. My name is Gordon Allen, a citizen of this county. I would first like to say I do not have prepared remarks. I concur with the sentiment expressed by Mr. Montgomery for the Person County Commissioners insofar as the economic impact is concerned. However, I think that in a project of this nature we must look much farther than our immediate county. Some years ago, the people of this county and the adjoining counties were kind enough to allow me to serve for some six years in the North Carolina Senate. And these were during the years when we had the so-called environmental interests, the environmental years -- the late 60's and the early 70's. It was my good fortune to have served in the '71 session as the Chairman of the then Natural and Economic Resources Committee, the old Conservation and Development Committee. It was my privilege to introduce and sponsor some 26 different bills relating to clean air and clean water. And during the '71 session 25 of these bills became law. One of the mattters that we dealt with that hadn't been touched for many years was the matter of clean water. Having had this opportunity to serve in the Senate and to work closely

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with our Department of Natural and Economic Resources, I became quite familiar with our Clean Water Act and our Clean Air Act. And I am satisfied as a citizen that with the power of law that our enforcement agencies have they will see that the environment is properly protected. I would close by simply saying that this project goes far beyond the people of Person County. It touches the people in the whole Carolina Power and Light service area, which as I understand is something like 3.5 million people and it serves part of Virginia through their transfer system. We had in January of this year a very, very severe ice storm in our county. Some of our good friends and our neighbors were without electric power for a full week. Our economy, our way of life depends upon electric power. We must find ways to use our vast coal reserves. We know that we are running out of natural gas reserves; we know that we are running out of petroleum reserves. We have a vast unused supply of coal in this country. I believe that it can be properly used with proper safeguards. I feel comfortable with the laws that we have. I urge the approval of this project. Thank you very much.

COL HIGHT: Thank you, sir. Our next speaker is Mr. Doyle T. Peed, of Roxboro.

MR. DOYLE T. PEED: (Representing self, Route 5, Box 32, Roxboro, NC 27573): Col Hight, ladies and gentlemen, please forgive me if my statements are a little disjointed. I don't have a prepared statement but I would like to make a few points that I noticed since the discussions have been going on tonight. I would also like to reserve the opportunity to file a written statement later on. In our local area, it said that employment will increase quite a bit for two or three years, maybe four or five. That is possibly true. But upon reading this Draft, submitted mostly by CP&L, I assume, it states that 75 people will be required to run the plant. Also, it also states that 83 people have been displaced out of their homes, approximately; I don't know that to be for a firm fact. So, after the period of construction, it states 75, and 83 people have already been displaced, so I would like you to keep that in mind as we are talking tonight. Also, it stated that these jobs were very much needed. I agree with that. Person County needs jobs very greatly. There is no doubt about that at all. But we need permanent jobs, not temporary jobs that give us a boom for awhile and then will let us down. Number two, I have a few questions on the way CP&L is going about this project. They have started clearing land. It is true. The County Commissioners have pointed that out. I'm in agreement with them; they have gone quite a ways and done a considerable amount of damage. But, should this have been allowed to start with? True, it might be too late to recant it now but some regulation probably should be somewhere that before this type of thing can happen, the total thing is decided upon thoroughly. They did have a statement from the Utilities Commission saying that this plant was needed. Probably so.

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It's not within my realm to challenge the Utilities Commission. But, still, I think the idea should have been more thoroughly examined before the actual construction began. For instance, the Mayo Creek was diverted. It was diverted out of its natural stream bed, without permission of the adjoining landowners and without their consent or without any consideration as to their need of their riparian rights. From this, the Creek then later in the course of time flooded and washed out the manmade diversion. When it washed out that manmade diversion, CP&L repaired one portion of it. One portion they did not. That portion again started to follow its natural course. Recently, some more land has been sold to CP&L; the adjoining land to the part that was not at the immediate time repaired. And CP&L it appears has dredged and filled that part of the Creek. It is my understanding from reading this Draft that CP&L had no authority to dredge and fill any part of the stream bed until the permission was given by the Army Corps of Engineers. I would like further clarification of that point to the effect that it is looked into and satisfied to the Army Corps of Engineers' point of view. Also, it is stated that CP&L has already purchased a great deal of land. That's true. They have purchased all the land, I would assume, nearly required for the reservoir; quite a bit of surrounding land. They have 500 acres and a proposed, or future, ash pond. That has been stated. I have no complaint with that. But rather than saying that they have purchased nearly all the land that they would have, I would say they have purchased all the land they have had as far as for ash ponds and generating facilities. The lake itself might require a little more, but as fac as the ash pond and generating facilities, they should have the maximum amount. They should not be allowed, in my opinion, to condemn land for future use. If they already have sufficient land, more land should not be now condemned for the same purpose that this can be used for later in 'he event that "it is needed". Due to so little information on the ash pond that they have now proposed, I would say that it would be not too improballe that it could be moved without great difficulty and put upon their future site, which they do now own, have access to, and should have at this time have ample opportunity to make complete studies of it. As far as the total impact of the project, 1 do agree again that Person County needs more money and more funds. They will get greater tax revenues. I will agree with that. But 1 cannot see where the great number of jubs from the local people will be furthcoming. Construction companies are subcontracted from other locations. They bring their personnel with them that have worked on previous juls. These construction companies by nature like to hire personnel that have had experience in this type of construction before because they do a better job. That's just plain good commonsense, business sense. And they do not like to fire employees that will follow, so I cannot see from that how a great number of Person County cople will be employed. In closing, I would again like to request that the Army Corps of Engineers follow up on the dredging and fill of the

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stream bed and take into consideration the fact of the amount of land that CP&L already now owns and what they actually need. I thank you.

COL HIGHT: Thank you, Mr. Peed. Are there any late arrivals who desire to make a statement? If not, we will call for questions from the audience.

MR. ZIMMERMAN: Colonel.

COL HIGHT: Yes.

MR. ZIMMERMAN: We, based on some of the comments, do have a couple of responses we would like to make.

COL HIGHT: Please move to the microphone. Mr. Zimmerman would like at this time to amplify his statement.

MR. ZIMMERMAN: Just a couple of points of clarification. I did mention that we do have a permit for all of our air emissions from both EPA and from the State. I wanted to make clear that these permits are based on ambient air standards and these ambient air standards in North Carolina are designed to protect the health of the public. And, of course, we are permitted to release air emissions at less than these ambient air standards, in order to comply with the ambient air standards, which will protect the health of the public. And number two, I think Mr. Peed mentioned that only 75 people will remain to operate the plant. Our generation department has informed us that, and we will be submitting comments to this effect, that 150 people are required to operate this plant at the conclusion of construction and not 75. He also made reference to us dredging and filling in Mayo Creek and again, this was not dredging and filling in the context of your permit, but rather a maintenance of an existing structure, which it is our understanding, is a permitted activity. Thank you.

<u>COL HIGHT</u>: Before I proceed with the questions, there are a number of individuals who indicated that they will submit written statements. I am going to run through these cards (SAW Form 403) very quickly, and if you have your statements with you now, we'll collect them. Mr. Travis Peed.

MR. TRAVIS W. PEED: (Farmer, Route 5, Box 52, Roxboro, NC 27573): That will be submitted later.

COL HIGHT: Okay. Mr. Don Stephenson.

MR. DON W. STEPHENSON (US Fish and Wildlife Service, Rm 468, 310 New Bern Avenue, Raleigh, NC 27602): That will be submitted later.

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COL HIGHT: Mr. Maurice Robertson.

MR. MAURICE B. ROBERTSON: (Representing self, PO Box 1076, Roxboro, NC 27573): That will be submitted later.

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COL HIGHT: Mrs. Edwin M. Robertson.

MRS. EDWIN M. ROBERTSON (Representing self, 1534 Hermilage Ct., Durham, NC 27707): That will be submitted later.

COL HIGHT: Mrs. G. W. Kane.

MRS. G. W. KANE (Farmer, housewife, 825 S. William, Henderson, NC 27536): Submitted later.

COL HIGHT: Mrs. Mary Merritt Winstead.

MRS. MARY MERRITT WINSTEAD (Farmer, housewife, Route 5, Box 188, Roxboro, NC 27573): Later.

COL HIGHT: Mr. Don Willett.

MR. DON WILLETT: (CP&L, 3408 Lubbock Drive, Raleigh, NC 27612): That should have been a no.

COL HIGHT: That should have been a no. Mr. Edwin M. Robertson, Jr.

MP. EDWIN M. ROBERTSON, JR. (Realtor, property owner in Person County, 1534 Hermitage Ct., Durham, NC 27707): Later.

COL HICHT: Later. Mr. Enos Slaughter.

MR. ENOS SLAUGHTER (Farmer, Roxboro, NC 27573): Later.

COL HIGHT: Mr. James E. Ramsey.

MR. 1AMES F. RAMSLY (Local attorney, PO Box 601, Roxboro, NC 27573): Later.

COL HIGHT: Thank you. I will now proceed with questions from the audience. Yes, sir

MR. DOYLE T PEED: I would like to make one more statement. Do I need to move to the make?

COL HIGHT: Please. Would you please restate your name, Mr. Feed?

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<u>MR. DOYLE PEED</u>: My name is Doyle Peed. In response to Mr. Zimmerman's statement about the 75 people, I do not argue about how many people it would take to run the plant. I was just quoting the Draft that they had submitted to the Army Corps of Engineers. I would like to make a statement though that this has been a difficulty in dealing with CP&L the entire time, as to the validity of the information that we are given. And I would like to go on record as stating that it makes impossible very businesslike and congenial dealings when the information that you are given cannot be depended upon as fact. Thank you.

<u>COL HIGHT</u>: Any other questions? If there are no further questions, this meeting stands adjourned. I thank you very much for coming and your comments are greatly appreciated.

The meeting adjourned at 8:20 p.m.

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