Exelon Generation

NP-08-0002

April 11, 2008

Mr. James Bruseth, Ph.D.
Director, Archeology Division
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

SUBJECT: Transmittal of Phase 1a Investigations Report for the Exelon Victoria County Site

Dear Mr. Bruseth:

As discussed previously, Exelon Generation Company, LLC (Exelon) is preparing a combined construction and operating license (COL) application for submittal to the Nuclear Regulatory Commission (NRC) for a proposed nuclear power plant at a site in Victoria County, Texas. Although Exelon is preparing a COL application, no decision or commitment has been made at this time to move forward with construction of a nuclear power plant.

Exelon met with you and Mr. Martin on December 17, 2007, to discuss cultural resource surveys at the Victoria County site. During that meeting, Exelon indicated that it would perform screening activities (referred to as Phase 1a Investigations) to help define the Areas of Potential Effect for the proposed project and aid in determining an appropriate scope for subsequent, more detailed resource surveys.

The Phase 1a Investigations, which included geoarchaeological surveys, historical context research, and regional screening for historic resources, were completed by Geo-Marine, Inc. (Geo-Marine) of Plano, Texas in February and March 2008. The enclosed report summarizes the findings of those investigations.

During the meeting scheduled for April 17, Exelon would like to review the findings of the Phase 1a Investigations and discuss the definition of the Areas of Potential Effect and proposed methodologies for Phase 1b studies. Together, these items will guide Exelon's approach for more detailed cultural resource investigations at the proposed Victoria County site. In order to facilitate your preliminary review of the report findings prior to the meeting, a Management Summary capturing the scope and results of the investigations has been provided at the beginning of the report.

If you have any questions about the project or the Phase 1a report prior to the meeting, please contact Mr. Joshua Trembley at 610-765-5345.

Respectfully,

FOR K. AINGER

Kenneth A. Ainger
Director, New Plant Licensing

Enclosure: Phase 1A Investigations of the Proposed Site for the Victoria County Station, Units 1 and 2, Victoria County, Texas: Preliminary Analysis of Historic Property and Impact Potential

cc: William Martin, Texas Historical Commission

TEXAS HISTORICAL COMMISSION
The State Agency for Historic Preservation

RICK PERRY, GOVERNOR
JOHN L. NAU, III, CHAIRMAN
F. LAWERENCE OAKS, EXECUTIVE DIRECTOR

May 8, 2008

Kenneth A. Ainger
Director, New Plant Licensing
Exelon Generation
200 Extension Way
KSA-3N, Suite 320
Kennett Square, PA 19348

Re: Project review under Section 106 of the National Historic Preservation Act
Draft report: *Phase IA Investigations of the Proposed Site for Victoria County Station, Units 1 and 2, Victoria County Texas: Preliminary Analysis of Historic Property and Impact Potential.* (NRC)

Dear Mr. Ainger:

This letter serves as comment on the undertaking referenced above from the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission.

The review staff, led by Bill Martin, has examined the document referenced above. After reviewing the documentation and recommendations for further survey for prehistoric and historic resources, we concur with all of the authors' recommendations. If intensive survey proceeds as described in this document, we believe it will demonstrate a good faith effort to identify historic properties.

The report contains a few typographical errors, but our review found nothing substantive that needs to be addressed. We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this federal review process, and for your efforts to preserve the irreplaceable heritage of Texas. **If you have any questions concerning our review or if we can be of further assistance, please contact Bill Martin at 512/463-5867.**

Sincerely,

for
F. Lawerence Oaks, State Historic Preservation Officer

FLO/wam

Exelon Generation

NP-08-0006

May 13, 2008

Mr. James Bruseth, Ph.D.
Director, Archeology Division
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Subject: 1) Addition of Victoria County Project Site to Section 106 Consultation for the Proposed Exelon Nuclear Power Generation Project; and

2) Consultation on Proposed APE and Investigation Methodology for Phase Ib at the Proposed Exelon Victoria County Project Site

Dear Mr. Bruseth:

Exelon Generation Company, LLC (Exelon) previously notified you, via letter dated September 5, 2008, that it is preparing a combined construction and operating license (COL) application for submittal to the Nuclear Regulatory Commission (NRC) for a proposed nuclear power plant. As part of the COL application, Exelon is preparing an environmental report that will be used by the NRC to prepare an environmental impact statement for the proposed action under the *National Environmental Policy Act*. The decision by the NRC on whether to issue the license for construction and operation of the power plant meets the definition of an "undertaking" under the *National Historic Preservation Act* (NHPA).

Addition of Victoria County Project Site

The previous notification was focused on the proposed Exelon Matagorda County Site. Exelon has since determined that it will study a proposed site location in Victoria County, Texas. This letter is to notify you of the Victoria County site as part of consultation with the Texas State Historic Preservation Officer and the Texas Historical Commission (THC) under Section 106 of the NHPA. Please note that although Exelon is preparing a COL application, no decision or commitment has been made at this time to move forward with construction of a nuclear power plant at either the Matagorda County or Victoria County site.

Attached Figure 1 shows the proposed location for the project in Victoria County. The proposed undertaking would occur approximately 13 miles south of Victoria and 1 mile north of McFaddin. To the west of the site is U.S. Highway 77 and to the east are Linn Lake and the Guadalupe River. The proposed project site can be found on the United States Geological Survey (USGS) 7.5 minute McFaddin, Raisin, Bloomington, and Bloomington SW, Texas (all 1995) topographic quadrangles.

The proposed undertaking would include construction and operation of a nuclear power generation plant with two reactors and associated plant facilities, all co-located in the northern portion of the project site. A large portion of the project site would be used for an approximately 6,100-acre cooling basin and reservoir. The proposed project site is located on private land that has been used for cattle grazing since the late nineteenth century. It has continued in that use to the present day, with the addition of limited development of wells for natural gas and petroleum production.

Included in the proposed power plant would be a heavy haul road extending east from U.S. Highway 77, passing north of the proposed plant to the Victoria Barge Canal, and running north along the levee to the existing barge loading facility at the barge turn-around in Pickering Basin. The haul road would facilitate delivery of construction materials and equipment and would likely remain in place after construction of the proposed nuclear plant is completed. The proposed power plant would also require an intake pipeline for water used by the plant cooling basin and the Guadalupe-Blanco River Authority (GBRA) reservoir. This underground pipeline would extend from the southern portion of the cooling basin and reservoir south and east to an intake and pumphouse located on the GBRA canal system near North Seadrift. The final locations of these two project features have not yet been defined.

Consultation on Project Site Phase Ib APE and Methodology

Exelon met with you and Mr. William Martin, also of THC, on December 17, 2008, to discuss the proposed Victoria County site. At that time, you recommended that Exelon conduct Phase Ia investigations to help in determining the Area of Potential Effect (APE) for the proposed undertaking and the methodology for conducting investigations in Phase Ib. Exelon acquired the services of Geo-Marine, Inc. to conduct Phase Ia studies of the project site, which included geoarchaeological studies, development of the prehistoric and historic cultural contexts, GIS studies to identify the visual impact assessment area, and a windshield survey to initiate identification of historic properties within the visual impact assessment area. A report was prepared describing the methodology and results of the Phase Ia work, which Exelon has provided to you for your review. The report also contained recommendations for Phase Ib investigations. Exelon has adopted these recommendations, as described below.

Exelon has identified the area within the overall project site that would be required for use during the construction and operation of the proposed nuclear power plant. This area includes not only the location of project infrastructure, but also temporary use areas during construction for storage, material laydown, parking, maneuvering of equipment, and other such uses. This area also includes an additional 100-foot buffer zone along the Guadalupe River valley margin, due to the probability for cultural resources along the valley margin. Exelon proposes this area as the APE for potential direct and indirect physical impacts to historic properties. Within this APE, Exelon proposes the following Phase Ib methodology to determine potential effects to historic properties. The recommendations below correspond to those found in the Phase Ia report, and are shown on attached Figure 2.

- Conduct a 10-percent sample survey of the upland terrace. Thirteen "quadrats," each measuring 500 x 500 meters (62 acres), would comprise the sample area, represented by the black-hatched squares on Figure 2. Within each quadrat, survey will include a shovel test at least every two acres.

- Conduct survey of four contiguous quadrats (248 acres) surrounding a wetland on the upland terrace, represented by the yellow area on Figure 2. Survey will include shovel testing at 30 meter intervals.

- Conduct survey of four contiguous quadrats (248 acres) surrounding the lower incised portion of Dry Kuy Creek, represented by the yellow area on Figure 2. Survey will include shovel testing at 30 meter intervals.

- Conduct survey of four separate quadrats (each 62 acres) at the locations of four historic homesteads, represented by the blue squares on the Figure 2. Survey will include shovel testing at 30 meter intervals. It will also include geophysical survey for metal artifacts using a Time Domain Electromagnetic Induction Meter and a Fluxgate Gradiometer.

- Conduct survey of the Guadalupe River valley margin, represented by the yellow area on Figure 2, west of the black APE boundary. Survey will include shovel testing at 30 meter intervals with targeted backhoe trenching at those locations where shovel testing identifies intact deep deposits.

- Conduct survey of the portion of the heavy haul road (200 foot corridor) and the water intake pipeline (100 foot corridor) located within the proposed project site boundaries, as labeled on Figure 2. Survey will include shovel testing at 30 meter intervals.

Positive shovel tests will have additional shovel tests placed at 6 meter intervals in a radial pattern extending out from the discovery to determine site boundaries. Isolated discoveries and defined sites will be recorded using forms from the Texas Archeological Research Laboratory. Archaeological survey and recording will be conducted in accordance with the guidelines promulgated by the Council of Texas Archeologists. Recorded resources will be evaluated for eligibility to the National Register of Historic Places. Eligible and potentially eligible properties will be assessed to determine the potential for impacts from the proposed undertaking.

The proposed nuclear power plant would include structures that are up to approximately 180 feet above the current site elevation. During the Phase Ia investigations, GIS analysis coupled with field confirmation were used to define the area surrounding the proposed project site within which there could possibly be visual impacts to the settings of historic properties. Based on this analysis, Exelon proposes that the APE for potential visual impacts to historic properties be a 10-mile radius surrounding the proposed project site. Within this APE, Exelon proposes to identify and record historic structures and evaluate them for eligibility to the National Register. For those properties that are evaluated as eligible or potentially eligible, the potential visual impacts to the properties will be assessed. The determination of visual impacts will take into account elevation,

topography, vegetation, distance, and orientation in relation to the proposed project. This proposed methodology corresponds to that found in the Phase Ia report.

The proposed project site is part of a potentially significant rural historic landscape. Exelon proposes that the Phase Ib methodology include definition of the boundaries, themes, and significance of this landscape, in accordance with the National Park Service's *Guidelines for Evaluating and Documenting Rural Historic Landscapes*. Potential impacts to this landscape will be determined. This proposed methodology corresponds to that found in the Phase Ia report.

The methodology and results of the Phase Ib identification, evaluation, and determination of potential effects within the APEs defined above will be presented in reports and submitted to the THC for review.

Exelon respectfully requests concurrence by THC that the definition of APE and the proposed Phase Ib methodology, as described herein, are suitable and sufficient to determine the potential effects of the proposed undertaking on historic properties. If you have any questions, please contact Mr. Joshua Trembley at 610-765-5345.

Respectfully,

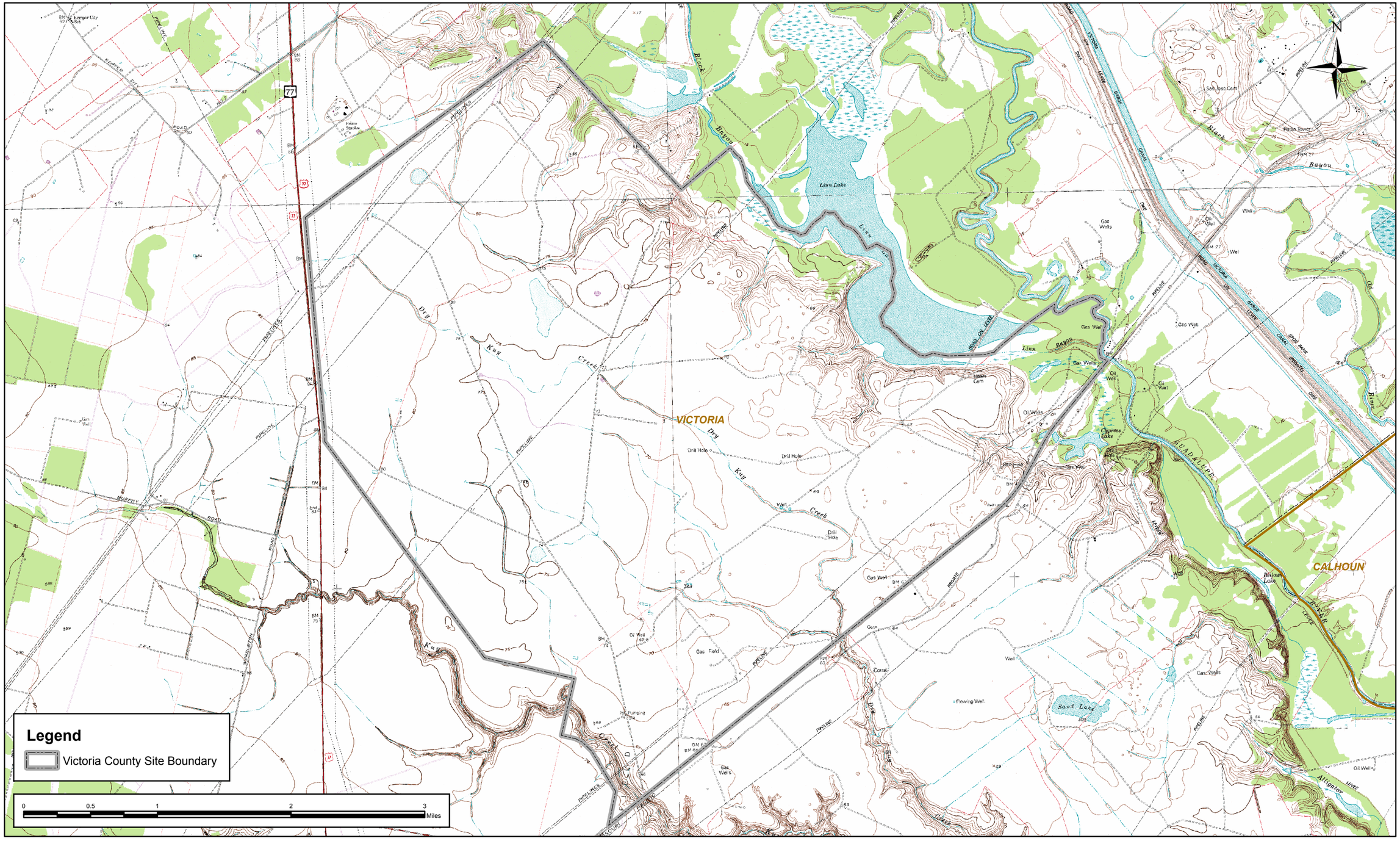
FOR KAA

Kenneth A. Ainger
Director, New Plant Licensing

Enclosures: Figure 1 - Map of Proposed Victoria County Site
Figure 2 - Map of Proposed Archaeological Survey Areas

cc: William Martin, Texas Historical Commission

Figure 1 - Map of Proposed Victoria County Site



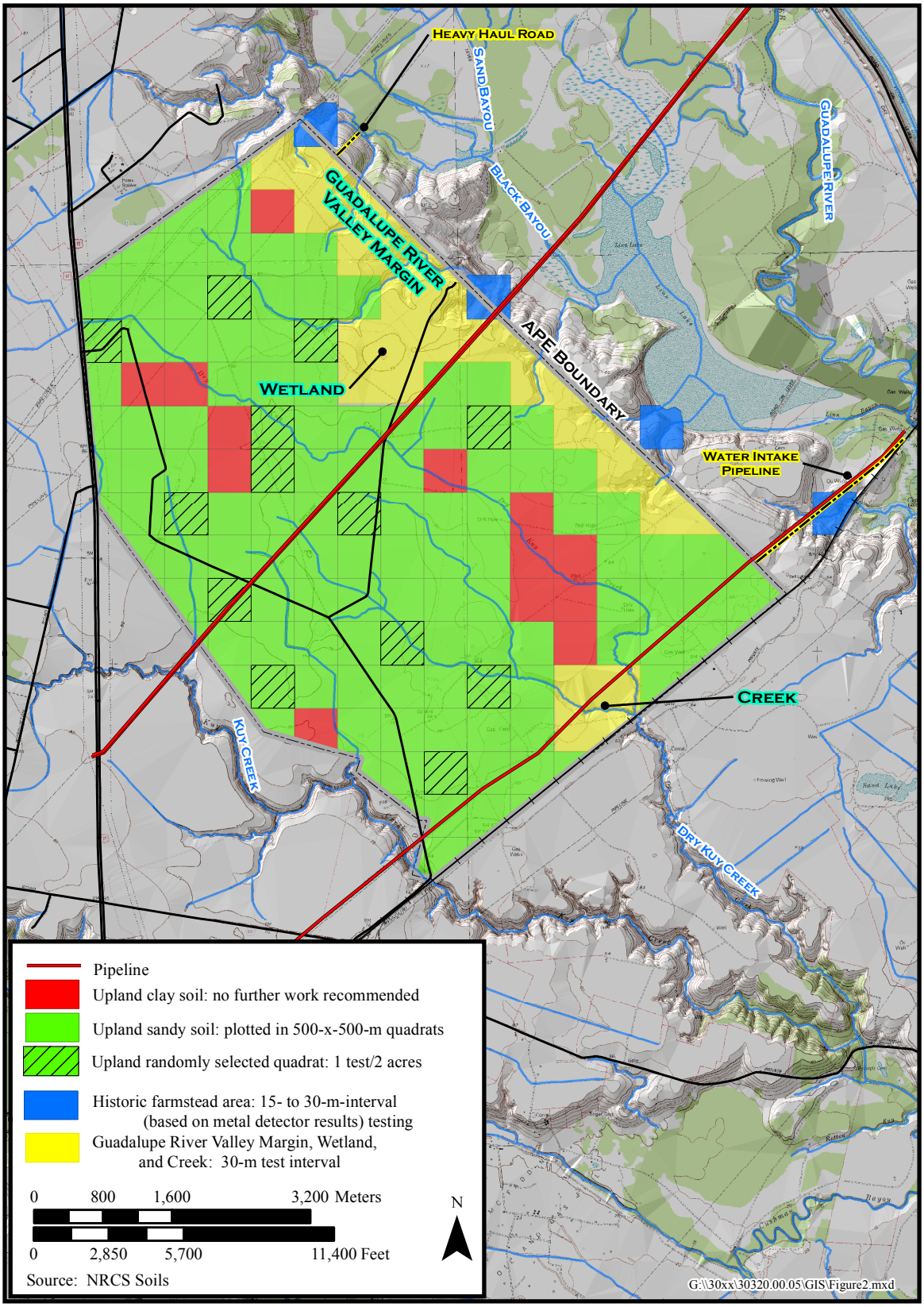


Figure 2 - Map of Proposed Archaeological Survey Areas.

Exelon
Generation

NP-08-0006

May 13, 2008

Mr. James Bruseth, Ph.D.
Director, Archeology Division
Texas Historical Commission
P.O. Box 12276
Austin, Texas 78711-2276

Subject: 1) Addition of Victoria County Project Site to Section 106 Consultation for the Proposed Exelon Nuclear Power Generation Project; and

2) Consultation on Proposed APE and Investigation Methodology for Phase Ib at the Proposed Exelon Victoria County Project Site

Dear Mr. Bruseth:

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Attached Figure 1 shows the proposed location for the project in Victoria County. The proposed undertaking would occur approximately 13 miles south of Victoria and 1 mile north of McFaddin. To the west of the site is U.S. Highway 77 and to the east are Linn Lake and the Guadalupe River. The proposed project site can be found on the United States Geological Survey (USGS) 7.5 minute McFaddin, Raisin, Bloomington, and Bloomington SW, Texas (all 1995) topographic quadrangles.

The proposed undertaking would include construction and operation of a nuclear power generation plant with two reactors and associated plant facilities, all co-located in the northern portion of the project site. A large portion of the project site would be used for an approximately 6,100-acre cooling basin and reservoir. The proposed project site is located on private land that has been used for cattle grazing since the late nineteenth century. It has continued in that use to the present day, with the addition of limited development of wells for natural gas and petroleum production.

Included in the proposed power plant would be a heavy haul road extending east from U.S. Highway 77, passing north of the proposed plant to the Victoria Barge Canal, and running north along the levee to the existing barge loading facility at the barge turn-around in Pickering Basin. The haul road would facilitate delivery of construction materials and equipment and would likely remain in place after construction of the proposed nuclear plant is completed. The proposed power plant would also require an intake pipeline for water used by the plant cooling basin and the Guadalupe-Blanco River Authority (GBRA) reservoir. This underground pipeline would extend from the southern portion of the cooling basin and reservoir south and east to an intake and pumphouse located on the GBRA canal system near North Seadrift. The final locations of these two project features have not yet been defined.

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Respectfully,

FOR KAA

Kenneth A. Ainger
Director, New Plant Licensing

Enclosures: Figure 1 - Map of Proposed Victoria County Site
Figure 2 - Map of Proposed Archaeological Survey Areas

cc: William Martin, Texas Historical Commission

CONCUR
by
for F. Lawerence Oaks
State Historic Preservation Officer
Date 5/29/08
Track#

Exelon Generation

NP-08-0005

April 30, 2008

Mr. David Bernhart
Asst. Regional Administrator for Protected Resources
NOAA Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

Subject: Proposed Nuclear Plant in Victoria County, Texas
Request for Information on Threatened or Endangered Species

Dear Mr. Bernhart:

Exelon Generation Company, LLC (Exelon) is preparing an application to the U.S. Nuclear Regulatory Commission (NRC) for a Combined Construction and Operating License (COL) that would allow the company to build and operate a new nuclear plant at a site in Victoria County, Texas. Exelon expects to submit the COL application to the U.S. Nuclear Regulatory Commission (NRC) in September 2008.

As part of the licensing process, the NRC requires applicants to "assess the impact of the proposed action on threatened or endangered species in accordance with the Endangered Species Act" (10 CFR 51.53). The NRC will formally consult with your office at a later date under Section 7 of the Endangered Species Act. By contacting you in advance via this letter, our goal is to identify any issues that need to be addressed or any information your office may need to support the NRC consultation.

In the following sections of the letter, we briefly describe the site, the proposed action, and the potentially affected species.

The Site

The Victoria County site is an approximately 11,000 acre tract about 13 miles south of the city of Victoria (see attached Figure 1.0). Botanists, wildlife biologists, and wetlands scientists under contract to Exelon began conducting surveys of the site's wetlands, plant communities, and wildlife in the fall of 2007.

This work is on-going and will continue through December 2008. In addition, fishery biologists will be conducting seasonal surveys of fish in the site's streams and wetlands in 2008. The surveys are intended to gather baseline information on the site's ecological resources to support the impact assessment and to determine if any sensitive species are present. The surveys are also intended to evaluate the natural communities of the site as potential habitat for sensitive species.

The approximately 11,000-acre site is located on a "bench" or terrace west of the Guadalupe River in southern Victoria County, Texas (Figure 2.0). The terrain is relatively flat in the western portion of the site, sloping gently down toward the eastern side of the site. The topography in the area of northeastern site boundary slopes sharply downward to the Guadalupe River floodplain, more specifically Black Bayou (shown on some maps as *McDonald* Bayou) and Linn Lake, an oxbow lake into which Black Bayou flows.

The site is drained by three streams: Black Bayou and tributaries drain the northern and eastern portion of the site; Dry Kuy Creek and tributaries drain the central and southeastern portions of the site; Kuy Creek and tributaries drain the southwestern portion of the site. Black Bayou and Kuy Creek appear to be perennial streams, based on an October 2007 reconnaissance, while Dry Kuy Creek appears to be an intermittent stream. Dry Kuy Creek and several other small tributary streams held standing water in only their lower-lying sections in October 2007, and are presumed to be mostly dry during extended periods of low rainfall.

In addition to these drainages, the site contains ephemeral depressional wetlands of varying hydroperiod and a number of stock ponds. Some of the wetland depressions appear to have been created when site roads were constructed many years ago and natural drainages were blocked or dammed. The centers of some of the depressional wetlands have been deepened, apparently to provide additional water storage for livestock, creating open water habitats (ponds). Several additional livestock ponds have been created on site, with most augmented by windmill-driven wells.

Most of the wet areas are populated by senna bean (*Sesbania drummondii*), as well as the herbaceous plants delta arrowhead (*Sagittaria platyphylla*), squarestem spikerush (*Eleocharis quadrangulata*), smartweed (*Polygonum* spp.), and assorted sedges and grasses. One of the more persistent depression wetlands also contained cow lilies (*Nuphar advena*). Willows (*Salix nigra*) are the dominant trees along the shores of Linn Lake and Black Bayou, with occasional bald cypress (*Taxodium distichum*).

Although there are gas wells scattered across the property, the approximately 11,000-acre site is used primarily for raising livestock (mostly cattle, with a few

horses). Fencing divides the upland portions of the site into separate grazing units. These grazing units are subjected to prescribed burns on a four-year cycle. The burns are intended to encourage the growth of native grassland vegetation and discourage the formation of thickets of shrubs and low-growing trees such as senna bean, huisache, McCartney rose, and mesquite.

The Proposed Action

Exelon proposes to build and operate two new nuclear generating units, each rated at approximately 1,600 megawatts-electrical (gross). Much of the infrastructure, including the generating units and supporting facilities, would be concentrated in an approximately 300 acre area in the northwest part of the approximately 11,000-acre site, as shown in Figure 3.0.

Site construction activities are expected to be performed in the following sequence:

- Preconstruction planning and exploration activities, including a new meteorology tower built at the northwest corner of the plant property, and such site activities as soil boring/sampling and monitoring wells or additional geophysical borings as allowed by 10 CFR 50.10(a)(2).

  This work was completed in early 2008.

- Site preparation activities, to include installation of temporary facilities, construction support facilities, service facilities, utilities, docking and unloading facilities, excavations and backfill for facility structures and foundations, and construction of structures, systems and components (SSCs) that do not constitute “construction” activities as defined by 10 CFR 50.10(a)(1).

- Construction activities will include the major power plant construction activities under the COL.

Exelon has developed a construction schedule based on providing additional electric generation to the regional grid in December 2016 (Unit 1) and June 2018 (Unit 2). Based on preliminary planning, the duration of sequential construction of Units 1 and 2 is estimated to be approximately eight and a half years (from the commencement of site preparation activities to commercial operation of Unit 2).

Offsite infrastructure would be constructed in support of the proposed nuclear generating units, including a heavy-haul road that would be constructed from the plant to a barge slip constructed on the Victoria Barge Canal. The barge slip would accommodate delivery of large components for the construction of the proposed nuclear units. The road would traverse undeveloped land, Black

Bayou, and the Guadalupe River (via a newly constructed bridge). A pipeline for discharging plant effluent to the Guadalupe River would parallel the heavy-haul road for most of its route, then turn south along the river.

Current plans call for the construction of a 4,800-acre cooling reservoir on the site to serve as the source for condenser cooling water (see Figure 3.0). Makeup water for the cooling reservoir would be purchased from the Guadalupe-Blanco River Authority (GBRA). The GBRA operates a system of canals that supply water to industrial, agricultural, and municipal users. The Exelon Victoria County site would obtain its water from the Calhoun Canal, southeast of Green Lake, via a newly constructed pipeline. The ultimate source of the water would be the Guadalupe River, just downstream of its confluence with the San Antonio River. Preliminary plans include the construction of an approximately 1,300-acre water storage basin east of and adjacent to the proposed 4,800-acre cooling reservoir. The storage basin and an associated pipeline would be operated by the GBRA.

Plans for improvement of transmission system infrastructure are less well defined than facility development plans. Based on preliminary analysis, it appears that it may be necessary to build at least two new transmission lines, including a west-running line that would extend to the Coleto Creek Reservoir area of Goliad County and a northeast-running line that would pass through Calhoun, Jackson, Wharton, and Matagorda Counties.

Potentially Affected Species

Based on a review of historical documents and information on the Texas Parks and Wildlife Department website ("Annotated County lists of Rare Species"), Exelon has developed a preliminary list (Table 1) of state and federally listed species in the six counties that could be affected by the proposed project (including offsite infrastructure). Only two of the protected species listed in Table 1, the white-tailed hawk and the bald eagle, have been observed in the project area by Exelon's consulting biologists. Neither species has been observed nesting in the project area in surveys conducted to date.

Table 1. Protected Species In Counties Associated With the Exelon - Victoria County Site in Texas.

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Amphibians			
Sheep Frog	*Hypopachus variolosus*	-	T	Calhoun, Goliad
Black-spotted newt	*Notopthalmus meridionalis*	-	T	Calhoun, Goliad,Victoria

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Birds			
White-tailed hawk	*Buteo albicaudatus*	-	T	All
Piping plover	*Charadrius melodus*	LT	T	Calhoun, Matagorda
Reddish egret	*Egretta rufescens*	-	T	Calhoun, Jackson, Victoria, Matagorda
Peregrine falcon	*Falco peregrinus anatum*	DL	T	All
Arctic peregrine falcon	*Falco peregrinus tundrius*	DL	T	All
Whooping crane	*Grus Americana*	LE	E	All
Bald eagle	*Haliaeetus leucocephalus*	DL	T	All
Wood stork	*Mycteria americana*	-	T	All
Eskimo curlew	*Numenius borealis*	LE	E	Calhoun, Matagorda
Brown pelican	*Pelecanus occidentalis*	LE	E	Jackson, Victoria, Matagorda
White-faced ibis	*Plegadis chihi*	-	T	All
Interior least tern	*Sterna antillarum athalassos*	LE	E	Goliad, Jackson, Victoria, Wharton
Sooty tern	*Sterna fuscata*	-	T	Calhoun, Jackson, Matagorda
Attwater's prairie chicken	*Tympanuchus cupido attwateri*	LE	E	Victoria, Wharton
	Mammals			
Red wolf	*Canis rufus*	LE	L	All
Jaguarundi	*Herpailurus yaguarondi*	LE	E	Calhoun
Ocelot	*Leopardus pardalis*	LE	E	Calhoun, Goliad, Matagorda
White-nosed coati	*Nasua narica*	-	T	Victoria
West Indian manatee	*Trichechus manatus*	LE	E	Calhoun, Matagorda
Black bear	*Ursus americana*	T/SA	T	Calhoun

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Mammals *(Continued)*			
Louisiana black bear	*Ursus americana luteolus*	LT	T	Jackson, Victoria, Wharton, Matagorda
	Reptiles			
Loggerhead sea turtle	*Caretta caretta*	LT	T	Calhoun, Jackson
Texas scarlet snake	*Cemophora coccinea lineri*	-	T	Calhoun, Jackson
Green sea turtle	*Chelonia mydas*	LT	T	Calhoun
Timber/canebrake rattlesnake	*Crotalus horridus*	-	T	All
Leatherback sea turtle	*Dermochelys coriacea*	LE	E	Calhoun
Indigo snake	*Drymarchon corais*	-	T	Goliad
Atlantic hawksbill sea turtle	*Eretmochelys imbricata*	LE	E	Calhoun
Kemp's ridley sea turtle	*Lepidochelys kempii*	LE	E	Calhoun
Texas tortoise	*Gopherus berlandieri*	-	T	Calhoun, Jackson, Goliad, Victoria
Cagle's map turtle	*Graptemys caglei*	-	T	Victoria
Texas horned lizard	*Phrynosoma cornutum*	-	T	Calhoun, Goliad, Jackson

[1] LE/E = Endangered; T = Threatened; C = Candidate; **-** = Not listed; DL = delisted taxon, recovered, monitored for first five years post delisting; SA = listed due to similarity of appearance with a threatened species.

Sources:

TPWD (Texas Parks and Wildlife Department) 2007**.** Rare, Threatened and Endangered Species of Texas. Available at http://gis.tpwd.state.tx.us/ TpwEndangeredSpecies/ Desktop Default. aspx.

USFWS (U.S. Fish and Wildlife Service) 2007. County Lists, Lists of Endangered, Threatened, Proposed and Candidate Species for Texas, as of 2007. Available at

http://www.fws.gov/ Southwest/es/EndangeredSpecies/lists/ListSpecies.cfm

We would appreciate your providing a letter within 60 days of receiving this correspondence that details any concerns you may have about listed species or critical habitat in the areas potentially affected by construction and operation of the proposed generating facilities and associated infrastructure. Exelon will include a copy of this letter and your response in the Environmental Report that will be submitted to the NRC as part of the COL application.

Please contact Joshua Trembley at 610-765-5345 should you have any questions regarding the project.

Respectfully,

FOR KAA

Kenneth A. Ainger
Director, New Plant Licensing

Attachments: Figure 1.0 50-Mile Region
Figure 2.0 Habitat Types on the Victoria County Site
Figure 3.0 Victoria County Site and Proposed Plant Footprint

Figure 1.0 50-Mile Region

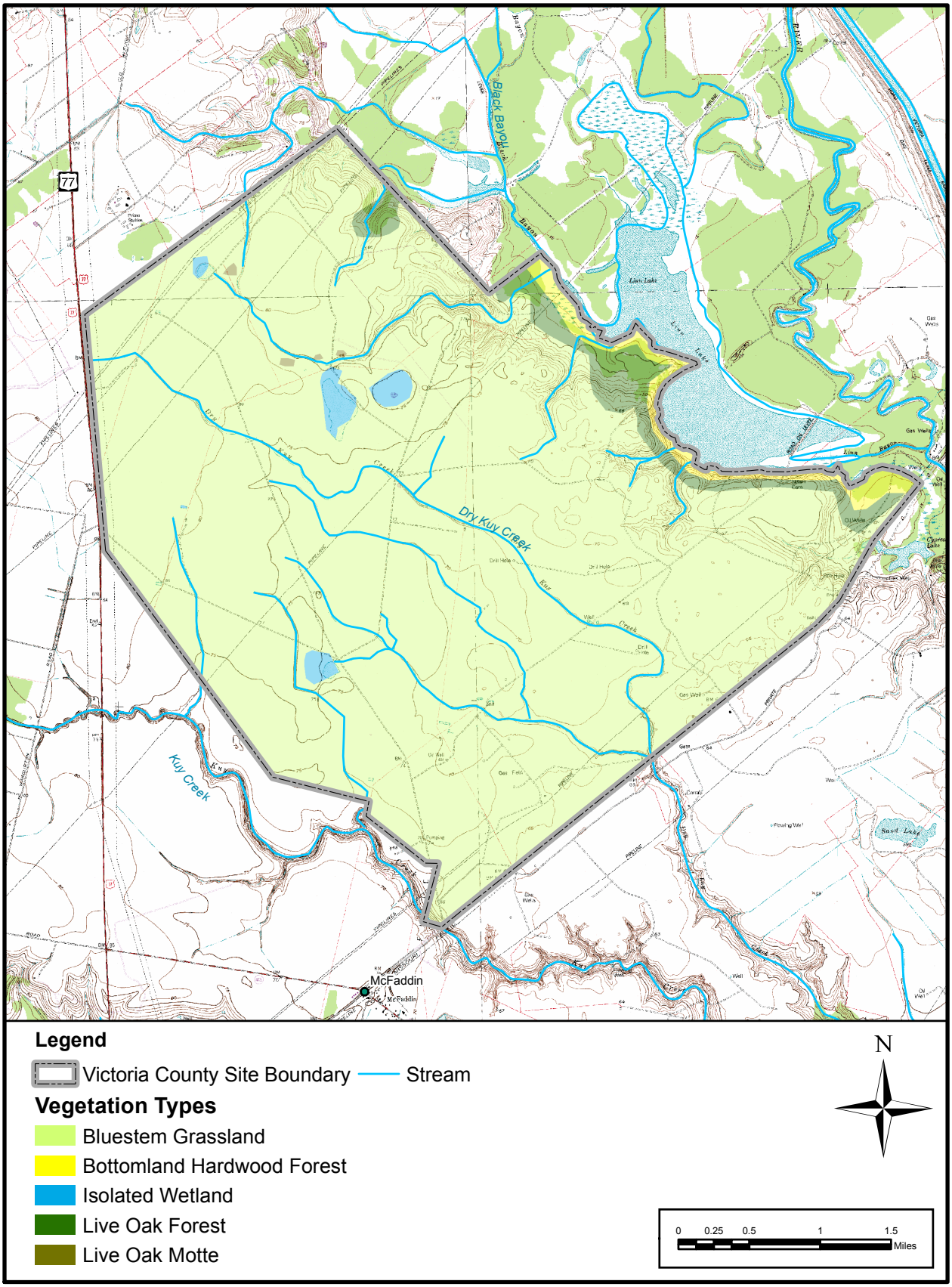

Figure 2.0 Habitat Types on the Victoria County Site

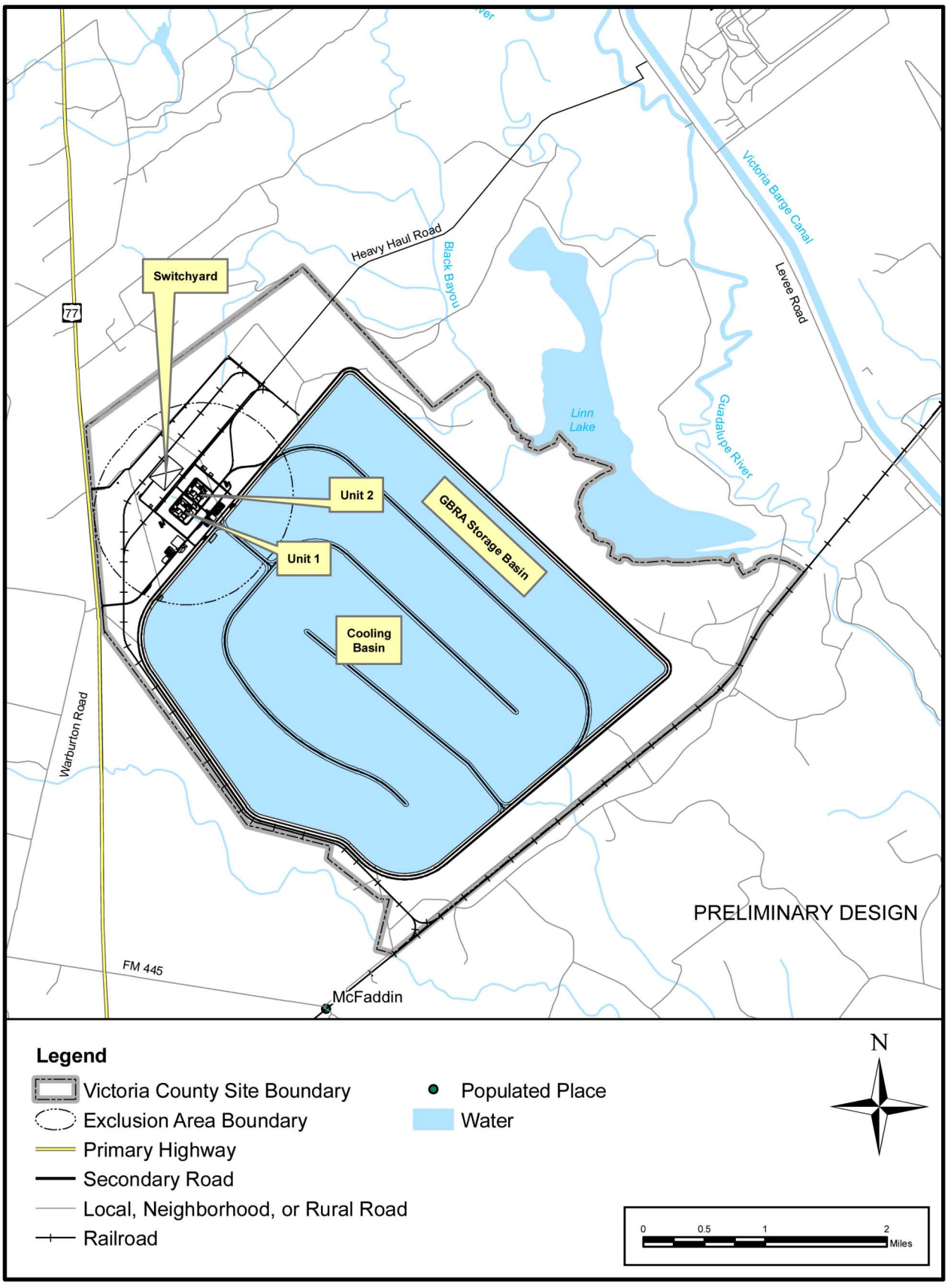

Figure 3.0 Victoria County Site and Proposed Plant Footprint

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Ave. South
St. Petersburg, Florida 33701
(727) 824-5312, FAX (727) 824-5309
http://sero.nmfs.noaa.gov

MAY - 8 2008 F/SER3:EH:tm

Mr. Kenneth A. Ainger
Director, New Plant Licensing
Exelon Generation Company, LLC
200 Exelon Way
Kennett Square, Pennsylvania 19348

Dear Mr. Ainger:

This correspondence responds to your letter dated April 30, 2008, regarding the proposed licensing of a nuclear power plant in Victoria County, Texas. It appears that the project as described is located distant enough from Endangered Species Act (ESA) listed species, under the National Marine Fisheries Service's (NMFS) purview, that no adverse impacts to them could result from plant construction and operation.

However, ESA consultation is between federal agencies. If Exelon is acting as the designated non-Federal representative for the Nuclear Regulatory Commission (NRC), please submit a copy of the designation letter to NMFS for future consultations.

I have enclosed guidelines for effects analyses and preparation of biological assessments. If you have any ESA questions, please contact our ESA section 7 Coordinator, Eric Hawk at (727) 824-5312 or by e-mail at eric.hawk@noaa.gov.

Sincerely,

Eric G. Hawk for

David M. Bernhart
Assistant Regional Administrator
Protected Resources Division

Enclosure

File: 1514-22.M
Ref: T/SER/2008/02792

National Marine Fisheries Service
Recommendations for the Contents of
Biological Assessments and Biological Evaluations
O:\FORMS\BA GUIDE-INITGUIDE COMBO .doc

When preparing a Biological Assessment (BA) or Biological Evaluation (BE), keep in mind that the people who read or review this document may not be familiar with the project area or what is proposed by the project. Therefore your BA or BE should present a clear line of reasoning that explains the proposed project and how you determined the effects of the project on each threatened or endangered species, or critical habitat, in the project area. Try to avoid technical jargon not readily understandable to people outside your agency or area of expertise. Remember, this is a **public document**. Some things to consider and, if appropriate, to include in your BA or BE, follow.

1. What is the difference between a Biological Evaluation and a Biological Assessment?

By regulation, a Biological Assessment is prepared for "major construction activities" — defined as "a construction project (or other undertaking having similar physical effects) which is a major Federal action significantly affecting the quality of the human environment (as referred to in the National Environmental Policy Act of 1969 (NEPA) [(42 U.S.C. 4332(2)(C)])." A BA is required if listed species or critical habitat may be present in the action area. A BA also may be recommended for other activities to ensure the agency's early involvement and increase the chances for resolution during informal consultation. Recommended contents for a BA are described in 50 CFR 402.12(f).

Biological Evaluation is a generic term for all other types of analyses in support of consultations. Although agencies are not required to prepare a Biological Assessment for non-major construction activities, **if a listed species or critical habitat is likely to be affected, the agency must provide the Service with an evaluation on the likely effects of the action.** Often this information is referred to as a BE. The Service uses this documentation along with any other available information to decide if concurrence with the agency's determination is warranted. Recommended contents are the same as for a BA, as referenced above.

The BAs and BEs should not be confused with Environmental Assessments (EA) or Environmental Impact Statements (EIS) which may be required for NEPA projects. These EAs and EISs are designed to provide an analysis of multiple possible alternative actions on a variety of environmental, cultural, and social resources, and often use different definitions or standards. However, if an EA or EIS contains the information otherwise found in a BE or BA regarding the project and the potential impacts to listed species, it may be submitted in lieu of a BE or BA.

2. What are you proposing to do?

Describe the project. A project description will vary, depending on the complexity of the project. For example, describing the construction or removal of a fixed aid-to-navigation in the Intracoastal Waterway, or the abandonment/dismantling of an oil-producing-platform may be relatively simple, but describing a the extent and amplitude of potential impacts of military training exercises involving different military assets, combinations of weaponry, locations, and seasons would necessarily be more detailed and complex. Include figures and tables if they will help others understand your proposed action and its relationship with the species' habitat.

How are you (or the project proponent) planning on carrying out the project? What tools or methods may be used? How will the site be accessed? When will the project begin, and how long will it last?

Describe the "action area" (all areas to be affected directly or indirectly by the Federal action and not merely the immediate areas involved in the action [50 CFR 402.02]). Always include a map (topographic maps are particularly helpful). Provide photographs including aerials, if available. Describe the project area (i.e., topography, vegetation, condition/trend).

Describe current management or activities relevant to the project area. How will your project change the area?

Supporting documents are very helpful. If you have a blasting plan, best management practices document, sawfish/sea turtle/sturgeon conservation construction guidelines, research proposal, NEPA or other planning document or any other documents regarding the project, attach them to the BA or BE.

3. What threatened or endangered species, or critical habitat, may occur in the project area?

A request for a species list may be submitted to the Service, or the Federal action agency or its designated representative may develop the list. If you have information to develop your own lists, the Service should be contacted periodically to ensure that changes in species' status or additions/deletions to the list are included. Sources of biological information on federally-protected sea turtles, sturgeon, Gulf sturgeon (and Gulf sturgeon critical habitat), and other listed species and candidate species can be found at the following website addresses: NMFS Southeast Regional Office, Protected Resources Division (http://sero.nmfs.noaa.gov/pr/protres.htm); NMFS Office of Protected Resources (http://www.nmfs.noaa.gov/pr/species); U.S. Fish and Wildlife Service (http://noflorida.fws.gov/SeaTurtles/seaturtle-info.htm); http://www.nmfs.noaa.gov/pr/; http://www.sad.usace.army.mil/protected%20resources/turtles.htm; http://endangered.fws.gov/wildlife.html#Species; the Ocean Conservancy (http://www.cmc-ocean.org/main.php3); the Caribbean Conservation Corporation (http://www.cccturtle.org/); Florida Fish and Wildlife Conservation Commission (http://floridaconservation.org/psm/turtles/turtle.htm); http://www.turtles.org; http://www/seaturtle.org; http://alabama.fws.gov/gs/; http://obis.env.duke.edu/data/sp_profiles.php; www.mote.org/~colins/Sawfish/SawfishHomePage.html; www.floridasawfish.com; http://www.flmnh.ufl.edu/fish/Sharks/sawfish/srt/srt.htm; www.flmnh.ufl.edu/fish/sharks/InNews/sawprop.htm; also, from members of the public or academic community, and from books and various informational booklets. Due to budget constraints and staff shortages, we are only able to provide general, state-wide, or country-wide (territory-wide) species lists.

Use your familiarity with the project area when you develop your species lists. Sometimes a species may occur in the larger regional area near your project, but the habitat necessary to support the species is not in the project area (including areas that may be beyond the immediate project boundaries, but within the area of influence of the project. If, for example, you know that the specific habitat type used by a species does not occur in the project area, it does not need to appear on the species list for the project. However, documentation of your reasoning is helpful for Service biologists or anyone else that may review the document.

4. Have you surveyed for species that are known to occur or have potential habitat in the proposed project area?

The "not known to occur here" approach is a common flaw in many BA/BEs. The operative word here is "known." Unless adequate surveys have been conducted or adequate information sources have been referenced, this statement is difficult to interpret. It begs the questions "Have you looked?" and "How have you looked?" Always reference your information sources.

Include a clear description of your survey methods so the reader can have confidence in your results. Answer such questions as:

How intensive was the survey? Did you look for suitable habitat or did you look for individuals? Did the survey cover the entire project area or only part of it? Include maps of areas surveyed if appropriate.

Who did the surveys and when? Was the survey done during the time of year/day when the plant is growing or when the animal can be found (its active period)? Did the survey follow accepted protocols?

If you are not sure how to do a good survey for the species, the Service recommends contacting species experts. Specialized training is required before you can obtain a permit to survey for some species.

Remember that your evaluation of potential impacts from a project does not end if the species is/are not found in the project area. You must still evaluate what effects would be expected to the habitat, even if it is not known to be occupied, because impacts to habitat that may result indirectly in death or injury to individuals of listed species would constitute "take".

5. Provide background information on the threatened or endangered species in the project area.

Describe the species in terms of overall range and population status. How many populations are known? How many occur in the project area? What part of the population will be affected by this project? Will the population's viability be affected? What is the current habitat condition and population size and status? Describe related items of past management for the species, such as stocking programs, habitat improvements, or loss of habitat or individuals caused by previous projects.

6. How will the project affect the threatened or endangered species or critical habitat that occur in the project area?

If you believe the project will not affect the species, explain why. Effects analyses must include evaluating whether adverse impacts to species' habitats, whether designated or not, could indirectly harm or kill listed species.

If you think the project may affect the species, explain what the effects might be. The Endangered Species Act requires you consider <u>all</u> effects when determining if an action funded, permitted, or carried out by a Federal agency may affect listed species. Effects you must consider include direct, indirect, and cumulative effects. Effects include those caused by interrelated and interdependent actions, not just the proposed action. Direct effects are those caused by the action and occur at the same time and place as the action. Indirect effects are caused by the action and are later in time but are reasonably certain to occur. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no significant independent utility apart from the action under consideration. Interrelated or interdependent actions can include actions under the jurisdiction of other federal agencies, state agencies, or private parties. Cumulative effects are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal actions subject to consultation.

Describe measures that have or will be taken to avoid or eliminate adverse effects or enhance beneficial effects to the species. Refer to conversations you had with species experts to achieve these results.

Consider recovery potential if the project area contains historic range for a species.

Evaluate impacts to designated critical habitat areas by reviewing any project effects to the physical or biological features essential to the conservation of the species.

7. What is your decision? The Federal action agency must make a determination of effect.

Quite frequently, effect determinations are not necessarily *wrong;* they simply are not justified in the assessment. The assessment should lead the reviewer through a discussion of effects to a logical, well-supported conclusion. Do not assume that the Service biologist is familiar with the project and/or its location and that there is no need to fully explain the impact the project may have on listed species. If there is little or no connection or rationale provided to lead the reader from the project description to the effect determination, we cannot assume conditions that are not presented in the assessment. Decisions must be justified biologically. The responsibility for making and supporting the determination of effect falls on the Federal action agency; however, the Service cannot merely "rubber stamp" the action agency's determination and may ask the agency to revisit its decision or provide more data if the conclusion is not adequately supported by biological information.

You have three choices for each listed species or area of critical habitat:

1. "No effect" is the appropriate conclusion when a listed species will not be affected, either because the species will not be present or because the project does not have any elements with the potential to affect the species. "No effect" does not include a *small* effect or an effect that is *unlikely* to occur: if effects are insignificant (in size) or discountable (extremely unlikely), a "may affect, but not likely to adversely affect" determination is appropriate. A "no effect" determination does **not** require written concurrence from the Service and ends ESA consultation requirements unless the project is subsequently modified in such manner that effects may ensue.

2. "May affect - is not likely to adversely affect" (NLAA) means that all effects are either beneficial, insignificant, or discountable. Beneficial effects have concurrent positive effects without any adverse effects to the species or habitat (i.e., there cannot be "balancing," wherein the benefits of the project would be expected to outweigh the adverse effects - see #3 below). Insignificant effects relate to the magnitude or extent of the impact (i.e., they must be small and would not rise to the level of a take of a species). Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur. A "NLAA" determination by the action agency requires **written** concurrence from the Service.

3. "May affect - is likely to adversely affect" means that all adverse effects cannot be avoided. A combination of beneficial and adverse effects is still "likely to adversely affect," even if the net effect is neutral or positive. Adverse effects do not qualify as discountable simply because we are not certain they will occur. The probability of occurrence must be extremely small to achieve discountability. Likewise, adverse effects do not meet the definition of insignificant because they are less than major. If the adverse effect can be detected in any way or if it can be meaningfully articulated in a discussion of the results, then it is not insignificant, it is likely to adversely affect. This requires formal consultation with the Service.

A fourth finding is possible for proposed species or proposed critical habitat:

4. "Is likely to jeopardize/destroy or adversely modify proposed species/critical habitat" is the appropriate conclusion when the action agency identifies situations in which the proposed action is likely to jeopardize a species proposed for listing, or destroy or adversely modify critical habitat proposed for designation. If this conclusion is reached, conference is required.

List the species experts you contacted when preparing the BE or BA but avoid statements that place the responsibility for the decision of "may affect" or "no effect" on the shoulders of the species experts. Remember, this decision is made by the Federal action agency.

Provide supporting documentation, especially any agency reports or data that may not be available to the Service. Include a list of literature cited.

Originally prepared: January 1997
U.S. Fish and Wildlife Service
Arizona Ecological Services Field Office

Revised: January 2006
National Marine Fisheries Service
Protected Resources Division
263 13th Avenue South
St. Petersburg, FL 33701
(727) 824-5312

OUTLINE EXAMPLE FOR A BIOLOGICAL ASSESSMENT OR BIOLOGICAL EVALUATION

Cover Letter - **VERY IMPORTANT** - Include purpose of consultation, project title, and consultation number (if available). A determination needs to be made for each species and for each area of critical habitat. You have three options: 1) a "no effect" determination; 2) request concurrence with an "is not likely to adversely affect" determination; 3) make a "may affect, is likely to adversely affect" determination, and request "formal" consultation. If proposed species or critical habitat are included, state whether the project is likely to result in jeopardy to proposed species, or the destruction or adverse modification of proposed critical habitat. If the critical habitat is divided into units, specify which critical habitat unit(s) will be affected.

Attached to Cover Letter: Biological Assessment or Biological Evaluation document, broken down as follows:

Title: e.g., BA (or BE) for "Project X"; date prepared, and by whom.

A. Project Description - Describe the proposed action and the action area. Be specific and quantify whenever possible.

For Each Species:

1. Description of affected environment (quantify whenever possible)
2. Description of species biology
3. Describe current conditions for each species
    a. Range-wide
    b. In the project area
    c. Cumulative effects of State and private actions in the project area
    d. Other consultations of the Federal action agency in the area to date
4. Describe critical habitat (if applicable)
5. Fully describe effects of proposed action on each species and/or critical habitat, and species' response to the proposed action.
    a. Direct effects
    b. Indirect effects
    c. Interrelated and interdependent actions
    d. Potential incidental take resulting from project activities

Factors to be considered/included/discussed when analyzing the effects of the proposed action on each species and/or critical habitat include: 1) Proximity of the action to the species, management units, or designated critical habitat units; 2) geographic area(s) where the disturbance/action occurs); timing (relationship to sensitive periods of a species' lifecycle; 3) duration (the effects of a proposed action on listed species or critical habitat depend largely on the duration of its effects); 4) disturbance frequency (the mean number of events per unit of time affects a species differently depending on its recovery rate); 5) disturbance intensity (the effect of the disturbance on a population or species as a function of the population or species' state after the disturbance); 6) disturbance severity (the effect of a disturbance on a population or species or habitat as a function of recovery rate – i.e., how long will it take to recover)

6. Conservation Measures (protective measures to avoid or minimize effects for each species)
7. Conclusions (effects determination for each species and critical habitat)
8. Literature Cited
9. Lists of Contacts Made/Preparers
10. Maps/Photographs

Guidance on Preparing an Initiation Package for Endangered Species Consultation

This document is intended to provide general guidance on the type and detail of information that should be provided to initiate consultation with U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS). This is not intended to be an exhaustive document as specific projects may require more or less information in order to initiate consultation. Also, note that this contains guidance on the information required to initiate formal consultation procedures with USFWS and/or NMFS. Additional information needs may be identified during consultation. Texts in italics below are examples. Normal text is guidance. A glossary of terms is appended.

INTRODUCTION

Here is an example of introductory language:

The purpose of this initiation package is to review the proposed [project name] in sufficient detail to determine to what extent the proposed action may affect any of the threatened, endangered, proposed species and designated or proposed critical habitats listed below. In addition, the following information is provided to comply with statutory requirements to use the best scientific and commercial information available when assessing the risks posed to listed and/or proposed species and designated and/or proposed critical habitat by proposed federal actions. This initiation package is prepared in accordance with legal requirements set forth under regulations implementing Section 7 of the Endangered Species Act (50 CFR 402; 16 U.S.C. 1536 (c)).

Threatened, Endangered, Proposed Threatened or Proposed Endangered Species

Example language:

The following listed and proposed species may be affected by the proposed action:

common name (Scientific name) ***T***

common name (Scientific name) ***E***

common name (Scientific name) ***PT***

common name (Scientific name) ***PE***

This list should include all of the species from the species lists you obtained from USFWS and NMFS. If it doesn't, include a brief explanation here and a more detailed explanation in your record to help USFWS, NMFS and future staff understand your thought process for excluding a species from consideration.

Critical Habitat

Example language:

The action addressed within this document falls within Critical Habitat for [identify species].

CONSULTATION TO DATE

"Consultation" under the ESA consists of discussions between the action agency, the applicant (if any), and USFWS and/or NMFS. It is the sharing of information about the proposed action and related actions, the species and environments affected, and means of achieving project purposes while conserving the species and their habitats. Under the ESA, consultation can be either informal or formal. Both processes are similar, but informal consultation may result in formal consultation if there is a likelihood of unavoidable take. Formal consultation has statutory timeframes and other requirements (such as the submission of the information in this package and a written biological opinion by USFWS or NMFS).

Summarize any consultation that has occurred thus far. Identify when consultation was requested (if not concurrent with this document). Be sure to summarize meetings, site visits and correspondence that were important to the decision-making process.

DESCRIPTION OF THE PROPOSED ACTION

The purpose of this section is to provide a clear and concise description of the proposed activity and any interrelated or interdependent actions.

The following information is necessary for the consultation process on an action:

1. The action agency proposing the action.

2. The authority(ies) the action agency will use to undertake, approve, or fund the action.

3. The applicant, if any.

4. The action to be authorized, funded, or carried out.

5. The location of the action.

5. When the action will occur, and how long it will last.

6. How the action will be carried out

7. The purpose of the action.

8. Any interrelated or interdependent actions, or that none exist to the best of your knowledge.

Describe and specify: **WHO** is going to do the action and under what authority, include the name and office of the action agency and the name and address of the applicant; **WHAT** the project or action is; **WHERE** the project is (refer to attached maps); **WHEN** the action is going to take place, including time line and implementation schedules; **HOW** the action will be accomplished, including the various activities that comprise the whole action, the methods, and the types of equipment used; **WHY** the action is proposed, including its purpose and need; and **WHAT OTHER** interrelated and interdependent actions are known. This combination of actions are what is being consulted on for the 7(a)(2) analysis.

Include a clear description of all conservation measures and project mitigation such as avoidance measures, seasonal restrictions, compensation, restoration/creation (on-site and in-kind, off-site and in-kind, on-site and out-of-kind, off-site and out-of-kind), and use of mitigation or conservation banks.

Here are some examples of commonly overlooked items to include in your project description:

Type of project

Project location

Project footprint

Avoidance areas

Start and end times

Construction access

Staging/laydown areas

Construction equipment and techniques

Habitat status on site

Habitat between work areas and endangered species locations

Permanent vs. temporary impacts

Surrounding land-use

Hydrology and drainage patterns

Duration of "temporary" impacts

Prevailing winds and expected seasonal shifts

Restoration areas

Conservation measures

Compensation and set-asides

Bank ratios and amounts

Mitigation: what kind and who is responsible?

Dust, erosion, and sedimentation controls

Whether the project is growth-inducing or facilitates growth

Whether the project is part of a larger project or plan

What permits will need to be obtained

Action Area

Describe all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. This includes any interrelated and interdependent actions. Remember that the action area is not based simply on the Federal action and should not be limited to the location of the Federal action. The same applies to the applicant's action. The action area is defined by measurable or detectable changes in land, air and water, or to other measurable factors that may elicit a response in the species or critical habitat.

To determine the action area, we recommend that you first break the action down into its components (*e.g.,* vegetation clearing, construction of cofferdams, storage areas, borrow areas, operations, maintenance, etc.,) to assess the potential impacts resulting from each component.

Determine the impacts that are expected to result from each component. For example, instream actions may mobilize sediments that travel downstream as increased turbidity and then settle out as sediments on the stream substrate. Sound levels from machinery may be detectable hundreds of feet, thousands of feet, or even miles away. Use these distances when delineating the extent of your action area. Note: don't forget to subsequently reconstruct the action to assess the combined stressors of the components. You may find that some stressors are synergistically minimized or avoided, whereas other stressors may increase.

Finally, describe the action area, including features and habitat types. Include photographs and an area map as well as a vicinity map. The vicinity map for terrestrial projects should be at a 1:24,000 scale with the USGS quad name included.

SPECIES ACCOUNTS AND STATUS OF THE SPECIES IN THE ACTION AREA

Provide local information on affected individuals and populations, such as presence, numbers, life history, etc. Identify which threats to the species' persistence identified at the time of listing are likely to be present in the action area. Identify any additional threats that are likely to be present in the action area.

If the species has a distribution that is constrained by limiting factors, identify where in the action area factors are present that could support the species and where they are absent or limiting. For example, if a species is limited to a narrow thermal range and a narrow humidity range, show where in the action area

the temperatures are sufficient to support the species, where the humidity is sufficient to support the species, and where those areas overlap.

Include aspects of the species' biology that relate to the impact of the action, such as sensitivity to or tolerance of: noise, light, heat, cold, inundation, smoke, sediments, dust, etc. For example, if the species is sensitive to loud sounds or vibration, and your project involves loud tools or equipment, reference that aspect of their biology. Include citations for all sources of information

Describe habitat use in terms of breeding, feeding, and sheltering. Describe habitat condition and habitat designations such as: critical habitat (provide unit name or number, if applicable), essential habitat, important habitat, recovery area, recovery unit (provide unit name or number, if applicable). Also discuss habitat use patterns, including seasonal use and migration (if relevant), and identify habitat needs.

Identify and quantify the listed-species habitat remaining in the action area. GIS layers are useful here, as are land ownership patterns--especially local land trusts and open space designations.

Identify any recovery plan implementation that is occurring in the action area, especially priority one action items from recovery plans.

Include survey information. For all monitoring and survey reports, please clearly identify how it was done, when, where, and by whom. If survey protocols were followed, reference the name and date of the protocol. If survey protocols were modified, provide an explanation of how the surveying occurred and the reasoning for modifying the protocol.

Keep it relevant. It is unnecessary to discuss biology that is totally unrelated to project impacts--*e.g.*, discussion of pelage color, teat number, and number of digits fore and aft when the project is a seasonal wetland establishment.

Utilize the best scientific and commercial information available. Use and cite recent publications/journal articles/agency data and technical reports. Include local information, relative to the action area, views of recognized experts, results from recent studies, and information on life history, population dynamics, trends and distribution. Reference field notes, unpublished data, research in progress, etc.

Things to consider:

Existing threats to species

Fragmentation

Urban growth area

Drainage patterns

Information on local sightings and populations

Population trends

Home range and dispersal

Sensitivity of endangered species to: dust, noise, head, desiccation, etc.

Trap stress/mortality

Predators

ENVIRONMENTAL BASELINE AND CUMULATIVE EFFECTS

Provide information on past, present and future state, local, private, or tribal activities in the action area: specifically, the positive or negative impacts those activities have had on the species or habitat in the area in terms of abundance, reproduction, distribution, diversity, and habitat quality or function. Include the impacts of past and present federal actions as well. Don't forget to describe the impacts of past existence and operation of the action under consultation (for continuing actions).

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area. Future Federal actions that are unrelated (*i.e.*, not interrelated or interdependent) to the proposed action are not considered in this analysis because they will be subject to separate consultation pursuant to section 7 of the Act. (Note: Cumulative effects under ESA are ***not*** the same as the definition under NEPA. Be careful not to mix them up.) Describe the impacts of these cumulative effects in terms of abundance, reproduction, distribution, diversity, and habitat quality or function.

Present all known and relative effects to population, *e.g.*, fish stocking, fishing, hunting, other recreation, illegal collecting, private wells, development, grazing, local trust programs, etc. Include impacts to the listed and proposed species in the area that you know are occurring and that are unrelated to your action--*e.g.*, road kills from off-road vehicle use, poaching, trespass, etc.

EFFECTS OF THE ACTION

The purpose of this section is to document your analysis of the potential impacts the proposed action will have on species and/or critical habitats. This analysis has two possible conclusions for listed species and designated critical habitat:

(1) May Affect, Not Likely to Adversely Affect – the appropriate conclusion when effects on a listed species are expected to be *discountable, insignificant,* or completely *beneficial.*

Beneficial effects – contemporaneous positive effects without any adverse effects

Insignificant effects – relate to the size of the impact and should never reach the scale where take would occur.

Discountable effects – those that are extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

(2) May Affect, Likely to Adversely Affect – the appropriate finding if *any* adverse effect may occur to listed species or critical habitat as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial.

A finding of "may affect" is the primary trigger for initiating section 7 consultation. Further analysis leads to one of the two conclusions above. In the case of a determination that an action is "not likely to adversely affect" a species or critical habitat, you can request USFWS and/or NMFS concurrence with this determination and consultation can be concluded upon receipt of our concurrence. Determinations of "likely to adversely affect" require further consultation between the action agency and USFWS and NMFS. These consultations typically lead to the preparation of a biological opinion, although they can also lead to incorporation of additional protective measures that render the project "not likely to adversely affect" listed species or designated critical habitat. Any actions that are likely to result in the incidental take of a listed species are automatically considered "likely to adversely affect."

In the case of proposed species or proposed critical habitat, the possible conclusions are:

Species

Likely to Jeopardize the Continued Existence

Not Likely to Jeopardize the Continued Existence

Critical Habitat

Likely to Destroy or Adversely Modify

Not Likely to Destroy or Adversely Modify

The effects analysis includes assessment of:

Direct and indirect effects (stressors) of Federal action

Direct and indirect effects (stressors) of applicant's action

Direct and indirect effects (stressors) of interrelated or interdependent actions

Direct and indirect effects (stressors) of conservation and minimization measures

Remember: Direct and indirect effects under ESA are **not** the same as direct and indirect effects under NEPA. Be careful not to mix them up. Under ESA, direct effects are those that are caused by the action(s) and occur at the time of the action(s), and indirect effects are those that are caused by the action(s) and are later in time, but are still reasonably certain to occur.

Based on the various components of your action that you used to determine the extent of the action area, this analysis assesses the potential stressors resulting from each component and predicts the likely responses species and critical habitat will have. Note: don't forget to subsequently reconstruct the action to assess the combined stressors of the components. You may find that some stressors are synergistically minimized or avoided, whereas other stressors may increase.

Describe the stressors that are expected to result from each component. For example, instream actions may mobilize sediments that travel downstream as increased turbidity and then settle out as sediments on the stream substrate. Sound levels from machinery may be detectable hundreds of feet, thousands of feet, or even miles away. Describe these stressors in terms of their intensity, frequency, and duration.

Once you have determined the expected stressors resulting from an activity, the next step is to assess the overlap between those stressors and individuals of the species or components of critical habitat. The purpose of determining this overlap is to accurately and completely assess the potential exposure of species and habitat to the stressors resulting from the action. This exposure is the necessary precursor to any possible response those species and habitat may have. Your conclusions of "not likely to adverse affect" or "likely to adversely affect" are based in large part on this response.

To determine exposure, here is a basic set of questions you might answer:

- What are the specific stressors causing the exposure
- Where the exposure to the stressors would occur
- When the exposure to stressors would occur
- How long the exposure to stressors would occur
- What is the frequency of exposure to stressor
- What is the intensity of exposure to stressor
- How many individuals would be exposed
- Which populations those individuals represent
- What life stage would be exposed

For critical habitat, the questions would be similar but would focus on constituent elements of critical habitat.

Remember that exposure to a stressor is not always direct. For example, in some cases individuals of a species may be directly exposed to the sediment mobilized during construction. However, in other cases, individuals of the species would be exposed indirectly when sediment mobilized during construction settles out in downstream areas, rendering those areas unusable for later spawning or foraging.

Here are some examples of stressors you should address:

Exposure to abiotic factors affecting land, air, or water

Exposure to biotic factors affecting species behavior

Spatial or temporal changes in primary constituent elements of critical habitat

Loss or gain of habitat--direct and indirect

Fragmentation of habitat

Loss or gain of forage and/or foraging potential

Loss or gain of shelter/cover

Loss or gain of access through adjacent habitat/loss of corridors determine the potential response or range of responses the exposed individuals or components of critical habitat will have to those levels and types of exposure.

This is where the use of the best scientific and commercial information available becomes crucial. Your analysis must take this information into consideration and the resulting document must reflect the use of this information and your reasoning and inference based on that information. Bear in mind that this analysis may not be the final word on the expected responses as further consultation with USFWS or NMFS may refine this analysis.

Be sure to describe the expected responses clearly and focus your analysis towards determining if any of the possible responses will result in the death or injury of individuals, reduced reproductive success or capacity, or the temporary or permanent blockage or destruction of biologically significant habitats (*e.g.*, foraging, spawning, or lekking grounds; migratory corridors, etc.,). Any of these above responses are likely to qualify as adverse effects. If the available information indicates that no observable response is expected from the levels and types of exposure, the action may be unlikely to adversely affect a species or critical habitat. However, remember that no observable response may actually mask an invisible internal response such as increased stress hormone levels, elevated heart rate, etc. Depending on the fitness of the exposed individual and the surrounding environment (including other threats), these "invisible" responses may lead to more serious consequences. We recommend working with your NMFS or USFWS contact to determine the appropriate conclusion.

Don't forget to consider:

Individual responses based on the species biology and sensitivity to exposure

The combined effects of existing threats and new exposure

The combined effects of limiting factors and new exposure

Disrupted reproduction and/or loss of reproduction

Exposure and response of species and critical habitat to interrelated and interdependent actions

Understanding and avoiding the common flaws in developing an effect determination will save you considerable time. These common flaws are: the "Displacement" Approach (*i.e.*, the species will move out of the way; there are plenty of places for them to go); the "Not Known to Occur Here" Approach (*i.e.*, looking at survey results, or lack of results, instead of the Recovery Plan for the species); the "We'll Tell You Later" Approach (*i.e.*, if we find any, then we'll let you know and that is when we will consult); or the "Leap of Faith" Approach (*i.e.*, the agency wants the USFWS or NMFS to accept a determination based on trust, rather than the best scientific and commercially available information.). Sticking to flawed determinations will cost everyone time, money, and aggravation.

Analysis of alternate actions

This analysis is required for actions that involve preparation of an EIS. For all other actions, a summary of alternatives discussed in other environmental documents is useful.

OTHER RELEVANT INFORMATION

Provide any other relevant available information the action, the affected listed species, or critical habitat. This could include local research, studies on the species that have preliminary results, and scientific and commercial information on aspects of the project.

CONCLUSION

This is where you put your overall effect determination after you have analyzed the exposure and response of species and habitat to the stressors resulting from the proposed action and interrelated or interdependent actions. Effect determinations must be based on a sound reasoning from exposure to response and must be consistent with types of actions in the project description, the biology in the species accounts, the habitat status and condition, changes to the existing environment, and the best scientific and commercial information available.

Again, the two potential conclusions for **listed species** are:

Not likely to adversely affect species

Likely to adversely affect species

The two potential conclusions for **designated critical habitat** are:

Not likely to adversely affect critical habitat

Likely to adversely affect critical habitat

The two potential conclusions for **proposed species** are:

Not likely to jeopardize species

Likely to adversely jeopardize species

The potential conclusions for **proposed critical habitat** are, under informal and formal consultation respectively:

Not likely to adversely affect species

Likely to adversely affect species

Not likely to destroy or adversely modify critical habitat

Likely to destroy or adversely modify critical habitat

Include the basis for the conclusion, such as discussion of any specific measures or features of the project that support the conclusion and discussion of species expected response, status, biology, or baseline conditions that also support conclusion.

If you make a "no effect" determination, it doesn't need to be in the assessment, but you might have to defend it. Keep the documentation for your administrative record.

LIST OF DOCUMENTS

Provide a list of the documents that have bearing on the project or the consultation, this includes relevant reports, including any environmental impact statements, environmental assessment, or biological assessment prepared for the project. Include all planning documents as well as the documents prepared in conformance with state environmental laws

IMPORTANT NOTE: Each of these documents must be provided with the initiation package consultation for the Services to be able to proceed with formal consultation.

LITERATURE CITED

We are all charged with using the best scientific and commercial information available. To demonstrate you did this, it is a good idea to keep copies of search requests in your record. If you used a personal communication as a reference, include the contact information (name, address, phone number, affiliation) in your record.

LIST OF CONTACTS/CONTRIBUTORS/PREPARERS

Please include contact information for contributors and preparers as well as local experts contacted for species or habitat information.

GLOSSARY

Action Area - all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

Beneficial Effects – contemporaneous positive effects without any adverse effects.

Cumulative Effects – are those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur in the action area of the Federal action subject to consultation.

Discountable Effects – those that are extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

Effects of the Action – refers to the direct and *indirect effects* of an action on the species or critical habitat, together with the effects of other activities that are *interrelated* or *interdependent* with that action, that will be added to the environmental baseline.

Environmental Baseline – includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions that are contemporaneous with the consultation in process.

Indirect Effects - Indirect effects are those that are caused by the action(s) and are later in time, but are still reasonably certain to occur.

Insignificant Effects – relate to the size of the impact and should never reach the scale where take would occur.

Interdependent Actions - Interdependent actions are those that have no significant independent utility apart from the action that is under consideration, *i.e.* other actions would not occur "but for" this action.

Interrelated Actions - Interrelated actions are those that are part of a larger action and depend on the larger action for their justification, *i.e.* this action would not occur "but for" a larger action.

Likely to Jeopardize the Continued Existence of – to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

May Affect, Likely to Adversely Affect – the appropriate finding if any adverse effect may occur to listed species or critical habitat as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. Requires that a biological opinion be prepared by the Service.

May Affect, Not Likely to Adversely Affect – the appropriate conclusion when effects on a listed species are expected to be *discountable, insignificant*, or completely *beneficial*. Requires written concurrence from the Service.

No Effect – the appropriate conclusion when a listed species will not be affected, either because the species will not be present or because the project does not have any elements with the potential to affect the species. A "no effect" determination does **not** require written concurrence from the Service and ends ESA consultation requirements. Action agency should document their reasoning for this conclusion in their file.

Exelon Generation

NP-08-0004

April 30, 2008

Ms. Celeste Brancel
Environmental Review Coordinator
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, TX 78744-3291

Subject: Proposed Nuclear Plant in Victoria County, Texas
Request for Information on Threatened or Endangered Species

Dear Ms. Brancel:

Exelon Generation Company, LLC (Exelon) is preparing an application to the U.S. Nuclear Regulatory Commission (NRC) for a Combined Construction and Operating License (COL) that would allow the company to build and operate a new nuclear plant at a site in Victoria County, Texas. Exelon expects to submit the COL application to the U.S. Nuclear Regulatory Commission (NRC) in September 2008.

As part of the licensing process, the NRC requires applicants to "assess the impact of the proposed action on threatened or endangered species in accordance with the Endangered Species Act" (10 CFR 51.53). The NRC will formally consult with your office at a later date under Section 7 of the Endangered Species Act. By contacting you in advance via this letter, our goal is to identify any issues that need to be addressed or any information your office may need to support the NRC consultation.

In the following sections of the letter, we briefly describe the site, the proposed action, and the potentially affected species.

The Site

The Victoria County site is an approximately 11,000 acre tract about 13 miles south of the city of Victoria (see attached Figure 1.0). Botanists, wildlife biologists, and wetlands scientists under contract to Exelon began conducting surveys of the site's wetlands, plant communities, and wildlife in the fall of 2007. This work is on-going and will continue through December 2008. In addition,

fishery biologists will be conducting seasonal surveys of fish in the site's streams and wetlands in 2008. The surveys are intended to gather baseline information on the site's ecological resources to support the impact assessment and to determine if any sensitive species are present. The surveys are also intended to evaluate the natural communities of the site as potential habitat for sensitive species.

The approximately 11,000-acre site is located on a "bench" or terrace west of the Guadalupe River in southern Victoria County, Texas (Figure 2.0). The terrain is relatively flat in the western portion of the site, sloping gently down toward the eastern side of the site. The topography in the area of northeastern site boundary slopes sharply downward to the Guadalupe River floodplain, more specifically Black Bayou (shown on some maps as *McDonald* Bayou) and Linn Lake, an oxbow lake into which Black Bayou flows.

The site is drained by three streams: Black Bayou and tributaries drain the northern and eastern portion of the site; Dry Kuy Creek and tributaries drain the central and southeastern portions of the site; Kuy Creek and tributaries drain the southwestern portion of the site. Black Bayou and Kuy Creek appear to be perennial streams, based on an October 2007 reconnaissance, while Dry Kuy Creek appears to be an intermittent stream. Dry Kuy Creek and several other small tributary streams held standing water in only their lower-lying sections in October 2007, and are presumed to be mostly dry during extended periods of low rainfall.

In addition to these drainages, the site contains ephemeral depressional wetlands of varying hydroperiod and a number of stock ponds. Some of the wetland depressions appear to have been created when site roads were constructed many years ago and natural drainages were blocked or dammed. The centers of some of the depressional wetlands have been deepened, apparently to provide additional water storage for livestock, creating open water habitats (ponds). Several additional livestock ponds have been created on site, with most augmented by windmill-driven wells.

Most of the wet areas are populated by senna bean (*Sesbania drummondii*), as well as the herbaceous plants delta arrowhead (*Sagittaria platyphylla*), squarestem spikerush (*Eleocharis quadrangulata*), smartweed (*Polygonum* spp.), and assorted sedges and grasses. One of the more persistent depression wetlands also contained cow lilies (*Nuphar advena*). Willows (*Salix nigra*) are the dominant trees along the shores of Linn Lake and Black Bayou, with occasional bald cypress (*Taxodium distichum*).

Although there are gas wells scattered across the property, the approximately 11,000-acre site is used primarily for raising livestock (mostly cattle, with a few horses). Fencing divides the upland portions of the site into separate grazing

units. These grazing units are subjected to prescribed burns on a four-year cycle. The burns are intended to encourage the growth of native grassland vegetation and discourage the formation of thickets of shrubs and low-growing trees such as senna bean, huisache, McCartney rose, and mesquite.

The Proposed Action

Exelon proposes to build and operate two new nuclear generating units, each rated at approximately 1,600 megawatts-electrical (gross). Much of the infrastructure, including the generating units and supporting facilities, would be concentrated in an approximately 300 acre area in the northwest part of the approximately 11,000-acre site, as shown in Figure 3.0.

Site construction activities are expected to be performed in the following sequence:

- Preconstruction planning and exploration activities, including a new meteorology tower built at the northwest corner of the plant property, and such site activities as soil boring/sampling and monitoring wells or additional geophysical borings as allowed by 10 CFR 50.10(a)(2).

  This work was completed in early 2008.

- Site preparation activities, to include installation of temporary facilities, construction support facilities, service facilities, utilities, docking and unloading facilities, excavations and backfill for facility structures and foundations, and construction of structures, systems and components (SSCs) that do not constitute “construction” activities as defined by 10 CFR 50.10(a)(1).

- Construction activities will include the major power plant construction activities under the COL.

Exelon has developed a construction schedule based on providing additional electric generation to the regional grid in December 2016 (Unit 1) and June 2018 (Unit 2). Based on preliminary planning, the duration of sequential construction of Units 1 and 2 is estimated to be approximately eight and a half years (from the commencement of site preparation activities to commercial operation of Unit 2).

Offsite infrastructure would be constructed in support of the proposed nuclear generating units, including a heavy-haul road that would be constructed from the plant to a barge slip constructed on the Victoria Barge Canal. The barge slip would accommodate delivery of large components for the construction of the proposed nuclear units. The road would traverse undeveloped land, Black Bayou, and the Guadalupe River (via a newly constructed bridge). A pipeline for

discharging plant effluent to the Guadalupe River would parallel the heavy-haul road for most of its route, then turn south along the river.

Current plans call for the construction of a 4,800-acre cooling reservoir on the site to serve as the source for condenser cooling water (see Figure 3.0). Makeup water for the cooling reservoir would be purchased from the Guadalupe-Blanco River Authority (GBRA). The GBRA operates a system of canals that supply water to industrial, agricultural, and municipal users. The Exelon Victoria County site would obtain its water from the Calhoun Canal, southeast of Green Lake, via a newly constructed pipeline. The ultimate source of the water would be the Guadalupe River, just downstream of its confluence with the San Antonio River. Preliminary plans include the construction of an approximately 1,300-acre water storage basin east of and adjacent to the proposed 4,800-acre cooling reservoir. The storage basin and an associated pipeline would be operated by the GBRA.

Plans for improvement of transmission system infrastructure are less well defined than facility development plans. Based on preliminary analysis, it appears that it may be necessary to build at least two new transmission lines, including a west-running line that would extend to the Coleto Creek Reservoir area of Goliad County and a northeast-running line that would pass through Calhoun, Jackson, Wharton, and Matagorda Counties.

Potentially Affected Species

Based on a review of historical documents and information on the Texas Parks and Wildlife Department website ("Annotated County lists of Rare Species"), Exelon has developed a preliminary list (Table 1) of state and federally listed species in the six counties that could be affected by the proposed project (including offsite infrastructure). Only two of the protected species listed in Table 1, the white-tailed hawk and the bald eagle, have been observed in the project area by Exelon's consulting biologists. Neither species has been observed nesting in the project area in surveys conducted to date.

Table 1. Protected Species In Counties Associated With the Exelon - Victoria County Site in Texas.

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Amphibians			
Sheep Frog	*Hypopachus variolosus*	-	T	Calhoun, Goliad
Black-spotted newt	*Notopthalmus meridionalis*	-	T	Calhoun, Goliad,Victoria

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Birds			
White-tailed hawk	*Buteo albicaudatus*	-	T	All
Piping plover	*Charadrius melodus*	LT	T	Calhoun, Matagorda
Reddish egret	*Egretta rufescens*	-	T	Calhoun, Jackson, Victoria, Matagorda
Peregrine falcon	*Falco peregrinus anatum*	DL	T	All
Arctic peregrine falcon	*Falco peregrinus tundrius*	DL	T	All
Whooping crane	*Grus Americana*	LE	E	All
Bald eagle	*Haliaeetus leucocephalus*	DL	T	All
Wood stork	*Mycteria americana*	-	T	All
Eskimo curlew	*Numenius borealis*	LE	E	Calhoun, Matagorda
Brown pelican	*Pelecanus occidentalis*	LE	E	Jackson, Victoria, Matagorda
White-faced ibis	*Plegadis chihi*	-	T	All
Interior least tern	*Sterna antillarum athalassos*	LE	E	Goliad, Jackson, Victoria, Wharton
Sooty tern	*Sterna fuscata*	-	T	Calhoun, Jackson, Matagorda
Attwater's prairie chicken	*Tympanuchus cupido attwateri*	LE	E	Victoria, Wharton
	Mammals			
Red wolf	*Canis rufus*	LE	L	All
Jaguarundi	*Herpailurus yaguarondi*	LE	E	Calhoun
Ocelot	*Leopardus pardalis*	LE	E	Calhoun, Goliad, Matagorda
White-nosed coati	*Nasua narica*	-	T	Victoria
West Indian manatee	*Trichechus manatus*	LE	E	Calhoun, Matagorda
Black bear	*Ursus americana*	T/SA	T	Calhoun

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Mammals *(Continued)*			
Louisiana black bear	*Ursus americana luteolus*	LT	T	Jackson, Victoria, Wharton, Matagorda
	Reptiles			
Loggerhead sea turtle	*Caretta caretta*	LT	T	Calhoun, Jackson
Texas scarlet snake	*Cemophora coccinea lineri*	-	T	Calhoun, Jackson
Green sea turtle	*Chelonia mydas*	LT	T	Calhoun
Timber/canebrake rattlesnake	*Crotalus horridus*	-	T	All
Leatherback sea turtle	*Dermochelys coriacea*	LE	E	Calhoun
Indigo snake	*Drymarchon corais*	-	T	Goliad
Atlantic hawksbill sea turtle	*Eretmochelys imbricata*	LE	E	Calhoun
Kemp's ridley sea turtle	*Lepidochelys kempii*	LE	E	Calhoun
Texas tortoise	*Gopherus berlandieri*	-	T	Calhoun, Jackson, Goliad, Victoria
Cagle's map turtle	*Graptemys caglei*	-	T	Victoria
Texas horned lizard	*Phrynosoma cornutum*	-	T	Calhoun, Goliad, Jackson

[1] LE/E = Endangered; T = Threatened; C = Candidate; **-** = Not listed; DL = delisted taxon, recovered, monitored for first five years post delisting; SA = listed due to similarity of appearance with a threatened species.

Sources:

TPWD (Texas Parks and Wildlife Department) 2007**.** Rare, Threatened and Endangered Species of Texas. Available at http://gis.tpwd.state.tx.us/ TpwEndangeredSpecies/ Desktop Default. aspx.

USFWS (U.S. Fish and Wildlife Service) 2007. County Lists, Lists of Endangered, Threatened, Proposed and Candidate Species for Texas, as of 2007. Available at

http://www.fws.gov/ Southwest/es/EndangeredSpecies/lists/ListSpecies.cfm

We would appreciate your providing a letter within 60 days of receiving this correspondence that details any concerns you may have about listed species or critical habitat in the areas potentially affected by construction and operation of the proposed generating facilities and associated infrastructure. Exelon will include a copy of this letter and your response in the Environmental Report that will be submitted to the NRC as part of the COL application.

Please contact Joshua Trembley at 610-765-5345 should you have any questions regarding the project.

Respectfully,

FOR KAA

Kenneth A. Ainger
Director, New Plant Licensing

Attachments: Figure 1.0 50-Mile Region
Figure 2.0 Habitat Types on the Victoria County Site
Figure 3.0 Victoria County Site and Proposed Plant Footprint

Figure 1.0 50-Mile Region

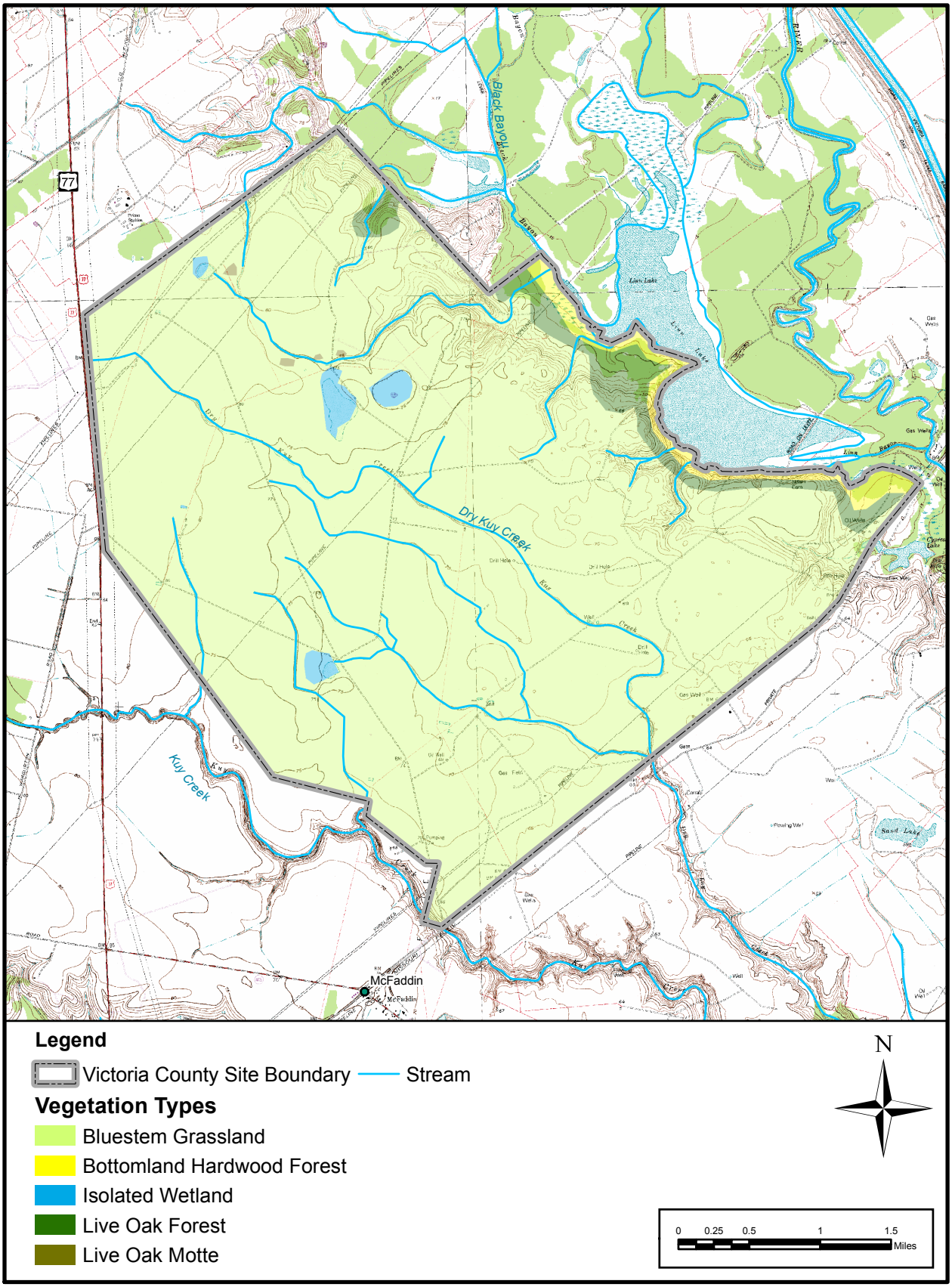

Figure 2.0 Habitat Types on the Victoria County Site

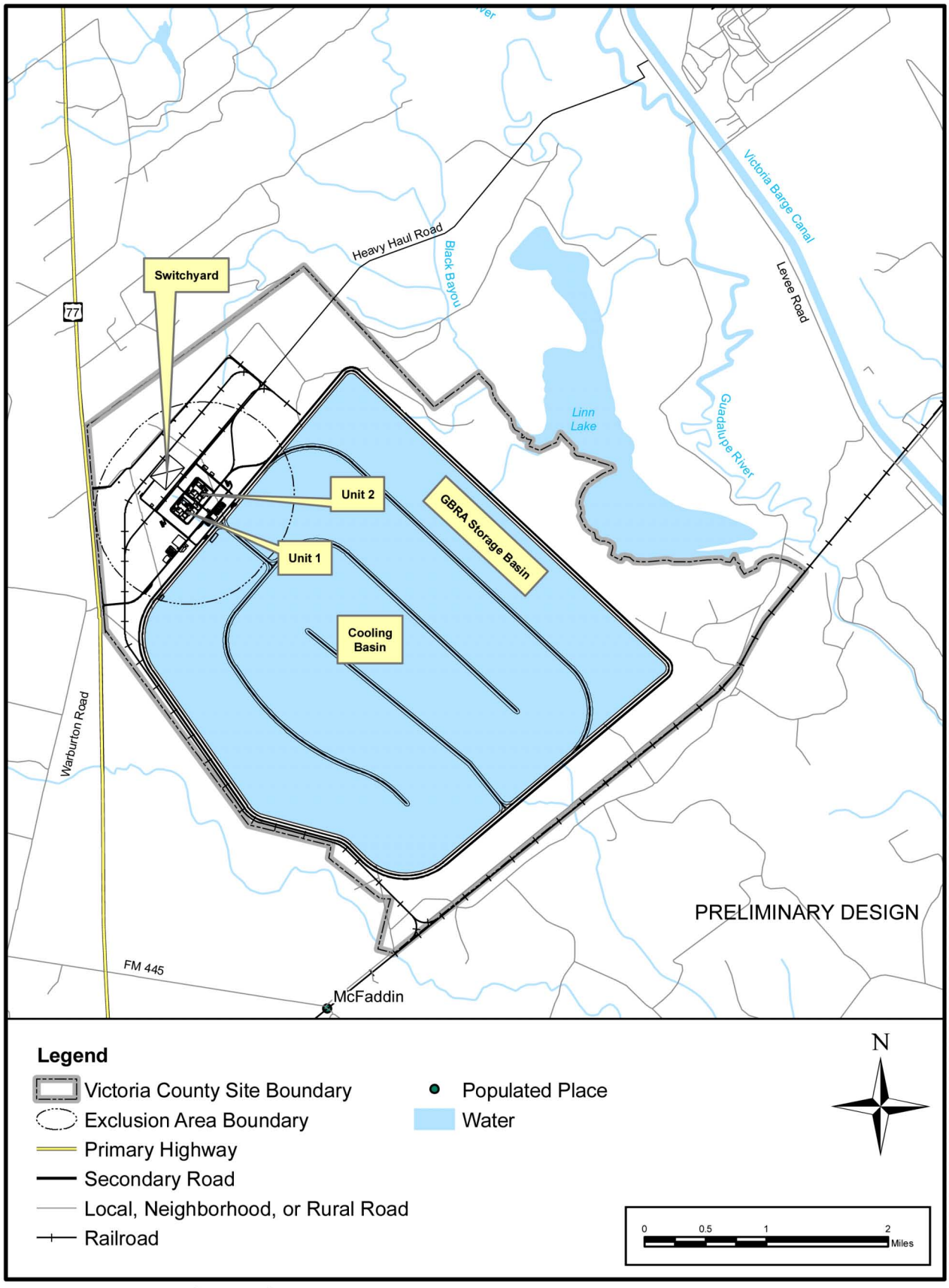

Figure 3.0 Victoria County Site and Proposed Plant Footprint

TEXAS PARKS & WILDLIFE

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July 8, 2008

Mr. Kenneth Ainger
Exelon Generation
200 Exelon Way
Kennett Square, PA 19348

RE: Proposed application for combined licenses for the proposed Victoria County Nuclear Facility, Victoria County.

Dear Mr. Ainger:

The Texas Parks and Wildlife Department (TPWD) has received your request for information regarding potential impacts to threatened and endangered species and for information on other issues of concern relating to the project referenced above. Under §12.0011 of the Texas Parks and Wildlife Code, TPWD is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

Exelon proposes to build and operate two nuclear generating units, each rated at approximately 1,600 megawatts-electrical (gross). Much of the infrastructure, including the generating units and supporting facilities, would be concentrated in an approximately 300-acre area in the northwest part of the approximately 11,000-acre site located in Victoria County. The proposed project also includes offsite infrastructure to facilitate construction and operation.

Offsite infrastructure would be constructed in support of the proposed nuclear generating units, including a heavy-haul road that would be constructed from the plant to a barge slip constructed on the Victoria Barge Canal. The barge slip would accommodate delivery of large components for the construction of the proposed nuclear units. The road would traverse undeveloped land, Black Bayou, and will include a new bridge across the Guadalupe River. A pipeline for discharging plant effluent to the Guadalupe River would parallel the heavy-haul road for most of its route, and then turn south along the river.

Current plans call for the construction of a 4,800-acre cooling reservoir on the site to serve as the source for condenser cooling water. Makeup water for the cooling reservoir would be purchased from the Guadalupe-Blanco River Authority (GBRA). The GBRA operates a system of canals that supply water to industrial, agricultural, and municipal users. The Exelon Victoria County site would obtain

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www.tpwd.state.tx.us

its water from the Calhoun Canal, southeast of Green Lake, via a newly constructed pipeline. The ultimate source of the water would be the Guadalupe River, just downstream of its confluence with the San Antonio River. Preliminary plans include the construction of an approximately 1,300-acre water storage basin east of and adjacent to the proposed 4,800-acre cooling reservoir. The storage basin and associated pipeline would be operated by the GBRA.

Plans for improvement of transmission system infrastructure are less well defined than facility development plans. Based on preliminary analysis, it appears that it may be necessary to build at least two new transmission lines, including a west-running line that would extend to the Coleto Creek Reservoir area of Goliad County and a northeast-running line that would pass through Calhoun, Jackson, Wharton, and Matagorda counties.

Project Information

Detailed information regarding impacts of the proposed project on fish and wildlife resources were not provided. Therefore, it is not possible to adequately assess the potential impacts of this project upon fish and wildlife resources. TPWD requests that Exelon provide detailed information regarding the proposed project impacts on fish and wildlife resources and address the following concerns and questions.

Water Resources

- *Regional water availability.* Demonstrate sufficient surface/groundwater supplies are available for the proposed project and documented in regional and state water plans.
- *Quantity, timing, and location of water discharges.* Address the discharges related to plant operation and any hydrostatic testing; these discharges may alter flow regimes within the lower Guadalupe River and its nearby estuary, San Antonio Bay. San Antonio Bay supports a diverse and healthy community including oysters, crabs, shrimp, and fish for recreation and commercial harvesting, which should be considered in water resource impact assessments.
- *Quantity, timing and location of water diversions and intakes.* Address the impacts related to the supply and diversion of makeup water on

ecosystem health of affected rivers and bays, including long-term impacts to eggs, larvae, and nekton.

- *Water quality.* Address the changes in existing water quality parameters (temperature, dissolved oxygen, turbidity, chemical constituents) in the receiving water, especially during low flow and drought conditions when there is less water in the receiving stream for dilution, which may be caused by discharges. Discharges of hydrostatic testing waters (if necessary for this project) may contain toxic water additives that would affect fish through acute or chronic toxicity; and may affect reproduction, growth, and recruitment. Address the potential impacts to filter feeding species such as mussels, clams, and oysters, which are particularly vulnerable to the introduction of pollutants or disturbance of sediments affecting water quality, instream and estuarine habitat.

- *Aquatic riparian terrestrial habitat; particularly rare, threatened, and endangered species habitats.* Address the impacts from removal of riparian vegetation and compensation plans for revegetation or compensation. Overhanging vegetation in riparian and wetland areas, undercut banks, logs and other streamside features provide cover for aquatic species. These types of cover and instream habitats could be disturbed by clearing and trenching during construction resulting in decreased shading, increased water temperature, and displacement of wildlife from disturbed areas.

- *Efficient use of surface/groundwater.* It is unclear if there is still the option for the design to change to use cooling towers versus a cooling reservoir. TPWD would have increased concerns should the proposed project include cooling towers, due to the increased amount of water loss from cooling towers.

- *The proposed sampling plan for aquatic resources.* The proposed sampling plan is inadequate. Texas is subject to extreme inter-annual variation in rainfall and hence in stream flows; therefore the Texas Commission on Environmental Quality (TCEQ) has established sampling protocols that require, at a minimum, two years of sampling to characterize a waterbody. Sampling includes fish, benthics, habitat, flow, 24-hour diel parameters and water chemistry characterization. The fact sheets are on the TCEQ Web site for Use Attainability Analyses or Aquatic Life

Assessment at http://www.tceq.state.tx.us/assets/public/compliance/monops/water/wqm/biofact_sheets_may06.pdf. These should be used in any proposed sampling plan for Texas.

- *Implementation of the Cooling Water Intake Structure.* As the agency with the responsibility and authority to manage fish populations in the state, TPWD should be included in any discussion regarding implementation of the Cooling Water Intake Structure rules. The cooling impoundment will have a substantial fish population; it should not be assumed that construction and use of a cooling impoundment will qualify as closed cycle cooling by the TCEQ. Most power plants in Texas that use cooling impoundments are subject to Phase II requirements.

- *Discharge permit.* Since the cooling impoundment will have a substantial fish population, the discharge permit should have effluent limitations for temperature.

- *Water Needs Plan.* TPWD requests that a Water Needs Plan be eveloped, detailing the expected amount of water needed to be withdrawn from the Calhoun Canal in order to supply the Main Cooling Reservoir (MCR) with the required makeup water and potential impacts and cumulative impacts to San Antonio Bay from reduced freshwater inflows into the bay.

Riparian Impacts

According to the environmental document, the Guadalupe River floodplain, Black Bayou and tributaries, Dry Kuy Creek and tributaries, Kuy Creek and tributaries would be impacted by the proposed project.

The area between the proposed site and the Victoria Barge Canal floods frequently and stays flooded for long periods of time. When these flood events occur, wildlife disperses out of the floodplain and utilizes the adjacent upland as refuge during these events. The proposed site occupies a very important dispersal area for wildlife during these flood events, and the facility design does not appear to allow for any utilization during these periods. Highway mortalities are higher during these flood events in the area surrounding the floodplain and will surely increase when this immediate adjacent habitat is removed.

The haul road will likely create blocks and/or change normal water flow within the floodplain. This will not only impact the duration of floods but it will most

likely adversely impact the plant communities and the wildlife dependent on them, including the upstream flooding possibilities. This floodplain is approximately 3.5 miles across and floods the entire basin for months at a time during some events, and log jams occur, which prolong flood events. Any infrastructure, including a haul road, built over this floodplain must be constructed so as to have a minimal impact during these (mostly annual) events. Upstream flooding could occur if the hydrology is altered.

Recommendations: If the haul road is temporary, it should be built at grade, to avoid altering the current hydrology as little as possible, and not present an impoundment that will increase the number of log jams during flood events. The road should be graded and restored to native vegetation after construction is complete.

If the haul road is permanent, it should be constructed with as much free span as is possible, to avoid permanently altering the normal river and flood flows.

Woody riparian vegetation usually reflects high value wildlife habitat by providing sources of food, cover, nesting and roosting. Ecologically, it stabilizes stream banks, provides shaded microenvironments, and improves water quality by slowing flood waters, filtering pollutants and retaining sediment. The degree of adverse impacts to wildlife habitat resulting from direct loss of riparian vegetation relates directly to the quantity of vegetation lost, the quality of the vegetation assemblage in fulfilling the life requisites of the organisms using it, and the proposed mitigative measures to compensate for those impacts.

Riparian corridors improve water quality and quantity and provide important nutrients to the streams and rivers. Riparian vegetation also holds water by slowing the rate at which water moves from the land into streams, and shaded waterways lose much less water to evaporation. These areas also intercept surface runoff, wastewater, subsurface flow and deeper groundwater flows from upland sources and remove or buffer the effects of associated nutrients, sediment, organic matter, pesticides or other pollutants prior to entry into surface waters and groundwater recharge areas. Riparian areas are extremely complex ecosystems that help provide optimum food and habitat for stream communities as well as being useful in mitigating or controlling nonpoint source pollution and can offer recreational opportunities.

Recommendation: Because the root systems of riparian vegetation help stabilize soils and minimize erosion, TPWD recommends that if riparian vegetation, including mature trees and shrubs, must be removed, the root systems should be left to stabilize the sediment thus reducing erosion potential. TPWD **strongly** recommends that all impacts to forested/ riparian areas be mitigated.

Recommendation: TPWD requests that Exelon evaluate the potential impacts and cumulative impacts to resident wildlife given their reduced ability to move to other habitat due to the current management practices, such as the presence of a perimeter fence at the site and evaluate the potential impacts and secondary impacts to all habitats as a result of the proposed project and potential future expansion.

Wetland Impacts

According to the environmental document, the proposed project will impact ephemeral depressional wetlands, wetlands associated with the Guadalupe River, Black Bayou and tributaries, Linn Lake, Dry Kuy Creek and tributaries, Kuy Creek and tributaries.

The Clean Water Act (CWA) sets the basic regulatory framework for regulating discharges of pollutants to U.S. waters. Section 404 of the CWA establishes a federal program to regulate the discharge of dredged and fill material into waters of the U.S., including wetlands. The U.S. Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) are responsible for making jurisdictional determinations and regulating wetlands under Section 404 of the CWA. The USACE also makes jurisdictional determinations under Section 10 of the Rivers and Harbors Act of 1899.

Recommendation: Green and Mission lakes, and Hynes and Guadalupe bays are important aquatic resource sites. During construction, sediment-laden stormwater should not be allowed to flow into these lakes and bays. Measures must be in place to assure that necessary flows are maintained and that stormwater from the site is retained and treated before release. During operation, contaminants released into the Guadalupe River would very quickly spread throughout the coastal lakes and bay system, potentially having a significant impact upon many commercially and recreationally important species, including threatened and endangered species such as whooping cranes and sea turtles.

Isolated wetlands, as well as jurisdictional wetlands, provide valuable habitat for aquatic and terrestrial wildlife. Isolated wetlands within the project area produce and support plant and invertebrate populations that provide food for a wide variety of waterfowl, wading, and other birds. In addition, these wetlands protect water quality by filtering and retaining freshwater runoff and associated pollutants from adjacent roads and developed properties.

Recommendation: TPWD recommends identifying all wetland areas within the project area and minimizing any adverse impacts to isolated wetlands to the same extent as jurisdictional wetlands. Coordination of all impacts to the aquatic resources should be coordinated with Kendal Keyes with the Coastal Fisheries Division; she can be reached at 361-825-3243.

Recommendation: It is unclear whether this project will impact a state-owned streambed. Chapter 86 of the Texas Parks and Wildlife Code places the management, control, and protection of stream bed materials under the authority of the Texas Parks and Wildlife Commission in order to ensure that disturbance of those habitats does not pose a significant threat to aquatic life. Disturbing or taking of materials from a state-owned stream bed without a permit is prohibited, and any material removed incurs a charge per cubic yard payable to TPWD. Dredging for the intake may require a Sand, Shell, Gravel and Marl Permit from TPWD; please contact Rollin MacRae at (512) 389-4639 for additional information.

Terrestrial Resources

There was limited information on the amount and types of vegetation located at the site. The site is mostly upland, with some ephemeral depressional wetlands and stock ponds, augmented by windmill driven wells. The information provided indicates there is significant vegetation, particularly around the wet areas. The upland portion is divided into grazing units, which are burned regularly to encourage native grassland and discourage thickets of shrubs and low-growing trees. Any environmental documentation prepared should include a quantification of types of vegetation present at the site, and the acres of each vegetation type that will be impacted by the project.

From the information provided, it appears the project as proposed will impact 4,800-acres for the cooling reservoir, 1,300-acres for the water storage basin, and 300-acres for the plant site, a total of approximately 6,400-acres. This is a considerable impact on terrestrial and aquatic resources, and without a proposed

mitigation plan for replacement of those acres, TPWD could not support a Finding of No Significant Impact for this project.

Transmission Line Corridor

According to the environmental documentation the proposed project may require at least two new transmission lines, including a west-running line that would extend to the Coleto Creek Reservoir area of Goliad County and a northeast-running line that would pass through Calhoun, Jackson, Wharton, and Matagorda counties.

> **Recommendations**: TPWD recommends use of existing right-of-way (ROW), such as highway ROWs or transmission or pipeline corridors to reduce the impacts on fish and wildlife resources. Use of existing ROWs should be included in the selection of alternatives for this project.

In addition, TPWD recommends that Exelon evaluate the potential for bird strikes into the proposed aerial electrical lines and units, and the short and long term impacts to wildlife species due to the construction of the two transmission lines (i.e., removal or conversion of habitat). Attached are the TPWD *Recommendations for Electrical Transmission/Distribution Line Design and Construction.*

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) provides for a year-round closed season for nongame birds and prohibits the taking of migratory bird nests and eggs, except as permitted by the U.S. Fish and Wildlife Service (USFWS).

> **Recommendations:** Construction activities such as, but not limited to, tree felling as well as vegetation clearing, trampling, or maintenance should occur outside the April 1–July 15 migratory bird nesting season of each year the project is authorized and last for the life of the project. To comply with the MTBA, the proposed site should be surveyed for migratory bird nest sites prior to construction or future maintenance activities. Since raptors nest in late winter and early spring, all construction activities as identified above should be excluded from a minimum zone of 100 meters around any raptor nest during the period of February 1–July 15.

Please contact the USFWS Southwest Regional Office (Region 2) at (505) 248-6879 for further information.

Rare and Protected Resources

The primary threats this project poses to rare, threatened, and endangered species would be from:

- direct impacts to individuals and to populations;
- indirect impacts through removal and disruption of habitats and travel corridors;
- indirect impacts from disruption of the ecosystem.

The environmental documentation should include a discussion of the anticipated impacts, and "may effect but unlikely to effect" type impacts, and a discussion of mitigation measures (avoidance, minimization, and compensation).

Texas' ecosystems have evolved numerous flora and fauna that are endemic to the state. Endemic species frequently occur in small numbers, so loss of the immediate and surrounding flora and fauna could result in extirpation from the state and possible extinctions for species or subspecies with small range distributions.

Recommendations: Those species already under the protection of either the federal or state endangered species laws for their imperiled status and that reside or travel through the area would likely be significantly affected by any major facility failure. *Consequently, TPWD recommends an environmental impact statement (EIS) be prepared for this facility. Mitigation measures to counter the increased stresses from the facility upon the species should be included in the EIS.*

TPWD reviewed the table provided with the request. Based on records and expected distributions for rare resources that may occur in the area, TPWD recommends the following species be included in the EIS.

Federal and State Listed Endangered
Attwater's Prairie-Chicken (*Tympanuchus cupido attwateri*)
Brown Pelican (*Pelecanus occidentalis*) (Federally Proposed for Delisting)
Interior Least Tern (*Sterna antillarum athalassos*)

Whooping Crane (*Grus americana*)
West Indian Manatee (*Trichechus manatus*)
Atlantic hawksbill sea turtle (*Eretmochelys imbricata*)
Kemp's Ridley sea turtle (*Lepidochelys kempii*)
Leatherback sea turtle (*Dermochelys coriacea*)

Federal and State Listed Threatened
Piping Plover (*Charadrius melodus*)
Green sea turtle (*Chelonia mydas*)
Loggerhead sea turtle (*Carretta caretta*)

State Listed Endangered
American Peregrine Falcon (*Falco peregrinus anatum*)

State Listed Threatened
Black spotted newt (*Notophthalmus meridionalis*)
Bald Eagle (*Haliaeetus leucocephalus*)
Arctic Peregrine Falcon (*Falco peregrinus tundrius*)
Reddish Egret (*Egretta rufescens*)
White-faced Ibis (*Pledgadis chihi*)
White-tailed Hawk (*Buteo alicaudatus*)
Wood Stork (*Mycteria americana*)
Texas scarlet snake (*Cemophora coccinea lineri*)
Timber/Canebrake rattlesnake (*Crotalus horridus*)
Indigo snake (*Drymarchon corais*)
Texas tortoise (*Gopherus berlandieri*)

Species of Concern
American eel (*Anguilla rostrata*)
Texas diamondback terrapin (*Malaclemys terrapin littoralis*)
Welder machaeranthera (*Psilactis heterocarpa*)

Special Features
Colonial Waterbird Rookeries
Migratory Songbird Stopover and Fallout Sites
Guadalupe River Ecologically Significant Stream Segment

Sensitive Managed Areas
Aransas National Wildlife Refuge
Designated Critical Habitat for the Whooping Crane

Designated Critical Habitat for the Piping Plover
Guadalupe Delta Wildlife Management Area

The areas of concern and the species not included in the table are discussed in Attachment 1.

Texas Natural Diversity Database (TXNDD) printouts for recorded locations of rare species within 1.5 miles of the facility location are attached for your planning reference. These include one rookery and one eagle nesting territory that are crossed by the facility; and one additional eagle nesting territory and one location for the Welder machaeranthera that fall within 1.5 miles. Additional recorded locations would likely be crossed by the pipelines, transmission lines, roads, and dredging. When these proposed infrastructure locations become available, additional TXNDD information should be requested. A map showing the relative locations for the printouts and additional rare species, special features, and managed natural areas is attached for your planning reference.

Although it is based on the best data available to TPWD regarding rare species, the TXNDD does not provide a definitive statement as to the presence, absence or condition of special species, natural communities, or other significant features within your project area. The TXNDD is intended to assist users in avoiding harm to rare species or significant ecological features. Given the small proportion of public versus private land in Texas, the TXNDD does not include a representative inventory of rare resources in the state. Absence of information in an area, or for any given species, does not imply that rare species are absent from that area. These data are not inclusive and cannot be used as presence/absence data. They represent species that could potentially be in your project area. This information cannot be substituted for on-the-ground surveys by your qualified biologists.

Determining the actual presence of a species in a given area depends on many variables including daily and seasonal activity cycles, environmental activity cues, preferred habitat, transiency and population density (both wildlife and human). The absence of a species can be demonstrated only with great difficulty and then only with repeated negative observations, taking into account all the variable factors contributing to the lack of detectable presence.

The USFWS should always be contacted for additional species occurrence data for federally listed species. For USFWS county lists of rare species, access http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm. Also,

TPWD county level lists of rare species are available online at http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species.phtml. Lastly, the TXNDD site-specific data are updated continuously, based on new, updated, and previously non-digitized information. For site-specific information on future projects, please e-mail txndd@tpwd.state.tx.us or contact Dorinda Scott at (512) 389-8723 for the most current TXNDD information. TPWD recommends that rare resources data from the TXNDD and the online county lists be checked for updated information at least every three years for a long-term project such as this one.

The comments and recommendations reflected in this letter are for existing conditions; considering the build-out time of this project, it is likely the resource issues will become more controversial due to changes in natural resources within the project site and surrounding areas. As well, local land use conditions may change during that time frame and additional concerns may arise. The NRC should ensure the EIS is updated within appropriate time frames.

The EIS should incorporate a plan for compensation for those resource impacts that cannot be avoided or minimized. With the project potentially impacting 11,000 acres, TPWD would strongly recommend an integrated compensation plan for the footprint of the project, incorporating all mitigated functions at a single site, including those terrestrial and aquatic habitats not regulated by state or federal law. To mitigate at a larger scale will provide contiguous tracts to assist in compensating for the impacts of the project at an ecosystem level. TPWD also notes that the aggregation of impacts to justify larger, more meaningful compensatory mitigation projects, mitigation for significant fish and wildlife resources not otherwise regulated by federal law, and the use of mitigation banks, including "multi-function" banks, is advocated by the direction provided by the latest EPA/USACE guidance for mitigation banking (2008).

Please provide a copy of the EIS or other documentation prepared for this project to TPWD for review and comment.

TPWD appreciates the opportunity to coordinate with the Nuclear Regulatory Commission to ensure these projects are developed with the least amount of

impact to the natural resources of the state. If you have any questions regarding our comments, contact Amy Hanna of my staff at (361) 576-0022. Thank you.

Sincerely,

Carter Smith
Executive Director

CS:KB:AH:gg

Attachments

cc: Ms. Harriett Nash, Nuclear Regulatory Commission

Attachment 1

Federal and State Listed Endangered

Attwater's Prairie-Chicken (*Tympanuchus cupido attwateri*)
This species population numbers are severely reduced and the species is no longer present in Victoria County. An on going reintroduction of Attwater's Prairie-Chicken in neighboring Goliad County is underway. Also, a very large area extending across Refugio County (south of Victoria County) formerly supported the largest population of this species. This subspecies is endemic to Texas, therefore the loss of 11,000-acres, particularly of the native coastal prairie habitat present on site, will further reduce the ability for recovery/re-introduction of this species by reducing available managed prairie habitat and fragmentation of the historic range. The draft 2007 updated recovery plan for this species includes the proposed project site in the areas targeted for priority management zones and the coastal prairie conservation initiative. TPWD recommends Exelon enter into formal consultation with the U.S. Fish and Wildlife Service (USFWS) for this species.

Brown Pelican (*Pelecanus occidentalis*) (Federally Proposed for Delisting)
This species would possibly feed in the reservoir. Although coastal, it is known to travel and feed at near coastal inland reservoirs and up the major rivers. This species was proposed for delisting at the federal level in February of this year. Effects of pesticide contamination were primarily responsible for the declines and subsequent listing of this species, which has substantially recovered in Texas. The Brown Pelican should be included in the EIS; although effects from the proposed project could be both positive and negative.

Eskimo curlew (*Numenius borealis*)
This species is known only from historic records as an extremely rare wintering species, thought to have not recovered from uncontrolled hunting losses. It has not been recorded in Texas in approximately 20 years, and does not need to be addressed in the EIS.

Interior Least Tern (*Sterna antillarum athalassos*)
The Least Tern is a listed species when it nests greater than 50 miles inland. Numerous Least Terns nest and winter along the coast, and the Interior Least Tern winters on the coast. This species should be considered in the EIS for impacts during migration and wintering habitat/nutrition.

Whooping Crane (*Grus americana*)
Whooping Cranes winter at the Aransas Wildlife Refuge (ANWR), located less than 15 miles south of the proposed site. An estimated migratory corridor centerline falls within approximately 2.25 miles of the proposed facility. The majority of recorded variations in flight path for Victoria County appear to be

generally less than the width of the county. The variation narrows as the path closes in on the ANWR. Any loss of individuals of this species to man-made causes would be an unacceptable loss, and advances this species progression toward extinction. All powerlines associated with the facility and any subsequent growth in the county should require avian powerline protection remedies recommended in the most current guidance from the Avian Powerline Interaction Committee at http://www.aplic.org/. Designated Critical Habitat for this species includes the ANWR and extends up and down the coast.

It is possible this species utilizes the project area. TPWD recommends surveys for this species be conducted during its annual migration to and from the refuge, as well as during its winter season at the refuge. Refuge personnel may have information on use of the various locations on and off the refuge where the birds have been observed or would likely visit. Whooping Cranes are very sensitive to changes in their environment, and their response to the facility should be monitored. This species should also be assessed with regard to impacts during migration and wintering habitat/nutrition. TPWD recommends Exelon enter into formal consultation with the USFWS for this and any other federally listed species that may be adversely impacted by the project. TPWD strongly encourages Exelon to develop a mitigation plan to avoid, minimize, and compensate for impacts to this species and its habitat.

Red Wolf (*Canis rufus*)
This species is extirpated from the State of Texas and does not need to be included in the EIS.

Jaguarundi (*Herpailurus yaguarondi*) and Ocelot (*Leopardus pardalis*)
Population numbers for these two species are extremely low. Presence of the Jaguarundi in Texas is currently under question, since the species has not been clearly photo-documented or cat-in-hand verified in Texas in over 20 years.

Ocelot numbers continue to decline. This species is currently found only in the southern most counties in the state in very small numbers. Habitat loss is the primary threat that impedes this species recovery. Victoria and the surrounding counties towards the south and coast would likely be out of range of any recovered population distribution for these two species. However, habitat loss and fragmentation would contribute to limit their recovery. These species would not need to be included in the EIS for this project.

West Indian Manatee (*Trichechus manatus*)
Texas has consistently received verified reports of manatees in the Port Aransas ship channel and in Copano Bay in recent years. Their habitat includes freshwater, brackish, and saltwater habitats; with a preference towards slow-moving rivers, river mouths, and coastal bays. Changes in the hydrologic regime and the draw pressure at the inflow valve on the Calhoun Canal could generate

adverse effects. It is not known if manatees use San Antonio Bay or if they travel up into the Guadalupe River. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Atlantic hawksbill sea turtle (*Eretmochelys imbricata*)
This species utilizes the bays and estuarine waters. Juvenile turtles are known to frequent the jetties for prey (mollusks, crustasceans, etc.). The project should be assessed for its potential to impact this species through indirect effects on the water and prey.

Kemp's Ridley sea turtle (*Lepidochelys kempii*)
This species utilizes the bays and estuarine waters; the hatchery reared Kemp's Ridley sea turtles were first recaptured near Port O'Connor, about 35 miles east of the project property. The project should be assessed for its potential to impact these species through indirect effects on the water, prey, and aquatic vegetation. The assessment should include evaluation of the sediments for buried contaminants that could be disturbed during dredging.

Leatherback sea turtle (*Dermochelys coriacea*)
This species occasionally utilizes the bays and estuarine waters. The turtles prey on jellyfish, squid, and other deep water species, following deep water upwellings that bring prey towards the surface waters. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Federal and State Listed Threatened

Piping Plover (*Charadrius melodus*)
This is a wintering species along the coast and at a few inland lakes/reservoirs. Designated Critical habitat tracts are within 30 miles of the project property tract. It is possible this species would utilize sandy or muddy shoreline present along the Guadalupe River and the other creeks and sloughs in the project area. Dredging and increases in wakes along the shorelines would add to erosion and subsequently prey habitat loss, adversely impacting this species. Although this species does not breed along the Texas coast, the species can spend up to 10 months on Texas coastal wintering grounds. Degraded winter habitat or food source and man-made threats and stresses within its wintering habitat can have significant adverse impacts on the species ultimate nesting success. The project should be assessed for its potential to impact this species through indirect effects and included in the EIS.

Black bear (*Ursus americana*) and Louisiana Black Bear (*Ursus Americana luteolus*)
Although formerly ranging into Victoria County, currently the ranges of these two species do not include Victoria County. This species would not need to be included in the EIS for this project.

Green sea turtle (*Chelonia mydas*)
This species occasionally utilizes the bays and estuarine waters. The adult turtles are mostly herbivorous and feed on sea grasses and algae. This species has recently begun to nest on Texas beaches. As the species recovers, higher use of Texas bays and estuaries is expected. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Loggerhead sea turtle (*Carretta caretta*)
Juveniles of this species occasionally utilize the bays and estuarine waters. In Texas coastal waters the turtles prey primarily on sea pen (a coral) and benthic crabs. The current draft recovery plan identifies this species as nesting on Texas beaches. As the species recovers, higher use of Texas bays and estuaries by more juveniles is expected. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

State Listed Threatened

Black spotted newt (*Notophthalmus meridionalis*)
Effects of land clearing and pesticide use are primarily responsible for the loss and subsequent listing of this species. This species of newt continues to hold onto a tenuous existence. Thus, loss of additional habitat, especially coastal prairie habitat with freshwater wetlands will further reduce this species chances for recovery. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Sheep frog (*Hypopachus variolosus*)
Effects of land clearing and pesticide use are primarily responsible for the loss and subsequent listing of this species. The Sheep frog also continues to have a tenuous existence. Thus, loss of additional habitat, especially coastal prairie habitat with freshwater wetlands, will further reduce this species chances for recovery. However, this species is not known to occur as far north as Victoria County. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Bald Eagle (*Haliaeetus leucocephalus*)
Numerous nesting eagle pairs occur along this reach of the Guadalupe River, Coleto Creek, and the San Antonio River. One nesting territory is partially crossed by the project facility. It is very likely that additional territories would be impacted by the transmission lines, pipelines, and the haul road, depending on the proposed locations of those project elements. The project should assessed for its potential to impact this species and the assessment should be included in the EIS.

Peregrine Falcon (*Falco peregrinus*)
Both subspecies, the American Peregrine Falcon (*Falco peregrinus anatum*) (state listed endangered) and the Arctic Peregrine Falcon (*Falco peregrinus tundrius)*

are found migrating/wintering along the coast. Although Texas has a small population of non-migratory, resident American peregrine falcons in West Texas, American peregrine falcons from more northern climes do migrate along the Texas Gulf Coast during the non-breeding season. Loss of habitat supporting its prey base, with subsequent loss or degradation of winter prey base could adversely impact this species. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Reddish Egret (*Egretta rufescens*)
This species is very closely associated with barrier islands along the coast, although dispersing juveniles have been identified at mixed species inland rookeries and may travel along major rivers. Reddish Egrets feed in salt and brackish water wetlands; withdrawing and impeding freshwater flow into the wetlands could decrease the overall acreage of wetlands downstream. Withdrawal could also increase the acreage and salinity concentration of brackish wetland relative to the acreage of freshwater wetlands. A corresponding change resulting in loss of prey base, and adverse impacts to this species food supply could then occur. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Sooty Tern (*Sterna fuscata*)
This is a seabird that nests on islands. TPWD would not anticipate impacts to this species from project activities. This species does not need to be included in the EIS.

White-faced Ibis (*Plegadis chihi*)
Effects of pesticide contamination were primarily responsible for the decline and subsequent listing of this species of ibis. White-faced Ibis are thought to have made a substantial recovery in Texas from the impacts of pesticide biomagnification. However, loss of wetland and riparian habitat adversely impact this species by reducing available natural habitat and fragmenting habitat. The numbers of nesting pairs counted in Texas through the Waterbird Society annual surveys is substantially reduced when comparing the last 10 years to the previous 10 year period. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

White-tailed Hawk (*Buteo albicaudatus*)
Effects of pesticide contamination were primarily responsible for the decline and subsequent listing of the White-tailed Hawk. This species is also believed to have made a substantial recovery in Texas from the impacts of pesticide biomagnification. Juveniles of this species are frequently associated with seasonal South Texas agriculture burn-harvested fields which generate an abundance of easily targeted prey. It is likely that this species forages in the prairie habitat and loss of 11,000-acres of native prairie habitat could impact this species by reducing available foraging and breeding habitat, and by fragmenting existing habitat. The

project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Wood Stork (*Mycteria americana*)
Post-breeding dispersing juveniles of Wood Stork are regularly recorded in Texas. Twice in the 1990s the species has been observed during the Spring breeding season in Texas rookeries, although nesting has not yet been confirmed. Wood Storks roost with mixed groups of colonial waterbirds and migrates through the eastern portion of the state in large numbers during the fall. This stork species current breeding range is expanding and USFWS recovery criteria for population and productivity numbers have been met for down listing the status of this species to threatened. Also, loss of foraging habitat supporting its prey base, with subsequent loss of prey could adversely impact this species. There are recorded losses of this species from transmission lines, therefore, the project and associated transmission lines should be assessed for its potential to impact this species and the assessment included in the EIS.

White-nosed coati (*Nasua narica*)
Current status of this species in the state is not well understood. The project area would represent the most northern extent that this species is estimated to have ever traveled in Texas. This species would not need to be included in the EIS for this project.

Cagle's map turtle (*Graptemys caglei*)
This species is endemic to the Guadalupe River. Current records include the Cagle's map turtle downstream as far as DeWitt County. It may extend into Victoria County, although it is a freshwater species, has not been found south of Victoria and is not expected to enter the tidally influenced segment which can extend upstream of the project site. This species would not need to be included in the EIS for this project.

Texas horned lizard (*Phrynosoma cornutum*)
This species is no longer found in the eastern third of the state, north of the South Texas shrublands, although recent data for Gonzales, DeWitt, Victoria, and Jackson counties is entirely lacking. This species would not need to be included in the EIS for this project.

Texas scarlet snake (*Cemophora coccinea lineri*)
This subspecies is endemic to a few coastal counties in South Texas. The loss of 11,000-acres, could reduce this species chances for recovery by reducing available habitat and fragmenting habitat within its small range distribution. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Timber/Canebrake rattlesnake (*Crotalus horridus*), Indigo snake (*Drymarchon corais*) and Texas tortoise (*Gopherus berlandieri*)

The loss of 11,000-acres, could reduce these species chance for recovery by reducing available habitat. The project should be assessed for its potential to impact these species and the assessments should be included in the EIS.

Species of Concern

American eel (*Anguilla rostrata*)

Females of this species utilize all the coastal aquatic habitats, (freshwater, brackish, and saltwater), at some stage in its lifecycle. Thus, loss of the range of coastal wetland habitat would impacts to this species. The eel could also be susceptible to losses through water intake structures. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Texas diamondback terrapin (*Malaclemys terrapin littoralis*)

This species is known to inhabit the San Antonio Bay and its associated estuaries. Texas diamondback terrapin distribution extends up into Hynes and Guadalupe Bay and Mission Lake. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Welder machaeranthera (*Psilactis heterocarpa*)

This species is endemic to only five counties in Texas. Soils mapped for the site and habitat appears to be favorable for this species. The project should be assessed for its potential to impact this species and the assessment should be included in the EIS.

Special Features

Colonial Waterbird Rookeries

The areas along the waterways, and perennial wetlands support numerous rookeries. The project should be reviewed with regards to the historical locations and current locations of the rookeries. Exelon should ensure buffer areas are established between the construction sites and rookeries. Tolerance levels for disturbance varies between species; the buffer areas should be large enough to address specific needs of all the species occurring in the rookery.

Colonial Waterbird Rookeries can support large numbers of birds. High numbers of birds breeding in a colony or concentrated area will temporarily degrade the vegetation in their roosting habitat due to the increase in nitrogen and phosphorus from the breakdown of their waste. Buffers should be large enough to not only ensure the rookery is protected from disturbance, but also ensure the rookery is not crowded by maintaining adequate acreage within the nesting territory for the

birds to move over time between several rookery locations for the long term health of the rookery.

Migratory Songbird Stopover and Fallout Sites

Coastal riparian areas are strong attractants for migratory birds as stopover and fallout sites. Stopover sites are essential resting areas and high quality foraging areas for many migratory bird species heading south for the winter. Fallout sites are resting, foraging, and shelter areas for migratory birds returning in the spring which are forced down by inclement weather, or are the targeted first land stops for migratory birds coming across the open Gulf of Mexico waters.

Guadalupe River Tidal Ecologically Significant Stream Segment

The Guadalupe River segment occurring from northwest Victoria County down to confluence with Guadalupe Bay has been identified by TPWD as an ecologically significant stream segment (ESSS). The ESSSs are identified through extensive review by TPWD staff and are determined to be ecologically important due to one or more of the following criteria: biological function; hydrologic function; riparian conservation areas; high water quality/exceptional aquatic life/high aesthetic value; or threatened or endangered species/unique communities. The qualifying criteria for this segment of the Guadalupe River include:

Biological Function: extensive freshwater and wetland habitat

Hydrologic Function: Victoria Memorial Park; Guadalupe Delta Wildlife Management Area (one of the largest wetland reserve projects in the U.S.)

Riparian Conservation Area: overall use

Threatened or Endangered Species/Unique Communities: Whooping Crane; unique and extensive marsh

TPWD has identified ecologically significant stream segments throughout the state to assist regional water planning groups in identifying ecologically unique stream segments under Texas Administrative Code Title 31 357.8. Until approved by the legislature, this is not a legal designation. Additional information on ecologically significant stream segments can be found online at http://www.tpwd.state.tx.us/landwater/water/environconcerns/water_quality/sigsegs/. Additional information on the Guadalupe River estuaries can be found online at http://www.tpwd.state.tx.us/landwater/water/conservation/freshwater_inflow/guadalupe/index.phtml.

Sensitive Managed Areas

Aransas National Wildlife Refuge
Designated Critical Habitat for the Whooping Crane

Designated Critical Habitat for the Piping Plover
Guadalupe Delta Wildlife Management Area

These managed lands are the nearest known sensitive managed areas. TPWD recommends Exelon conducted further research to identify other properties under conservation management in the area.

TPWD Recommendations for Electrical Transmission/Distribution Line Design and Construction

Construction of the line should be performed to avoid adverse environmental impact and to restore or enhance environmental quality to the greatest extent practical. In order to minimize the possible project effects upon wildlife, the following measures are recommended:

1. For distribution lines, use wood or non-conducting cross arms to minimize the possibility of electrical contact with perching birds. When possible, install electrical equipment on the bottom cross arm to allow top cross arm for perching. All pole design should be single phase (without arms), where possible, to preserve the aesthetics of the area.

2. To protect raptors, procedures should be followed as outlined in:

   "Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006" by Avian Power Line Interaction Committee, Edison Electric Institute and California Energy Commission.

3. Construction should avoid identified wetland areas. Coordination with appropriate agencies should be accomplished to ensure regulatory compliance.

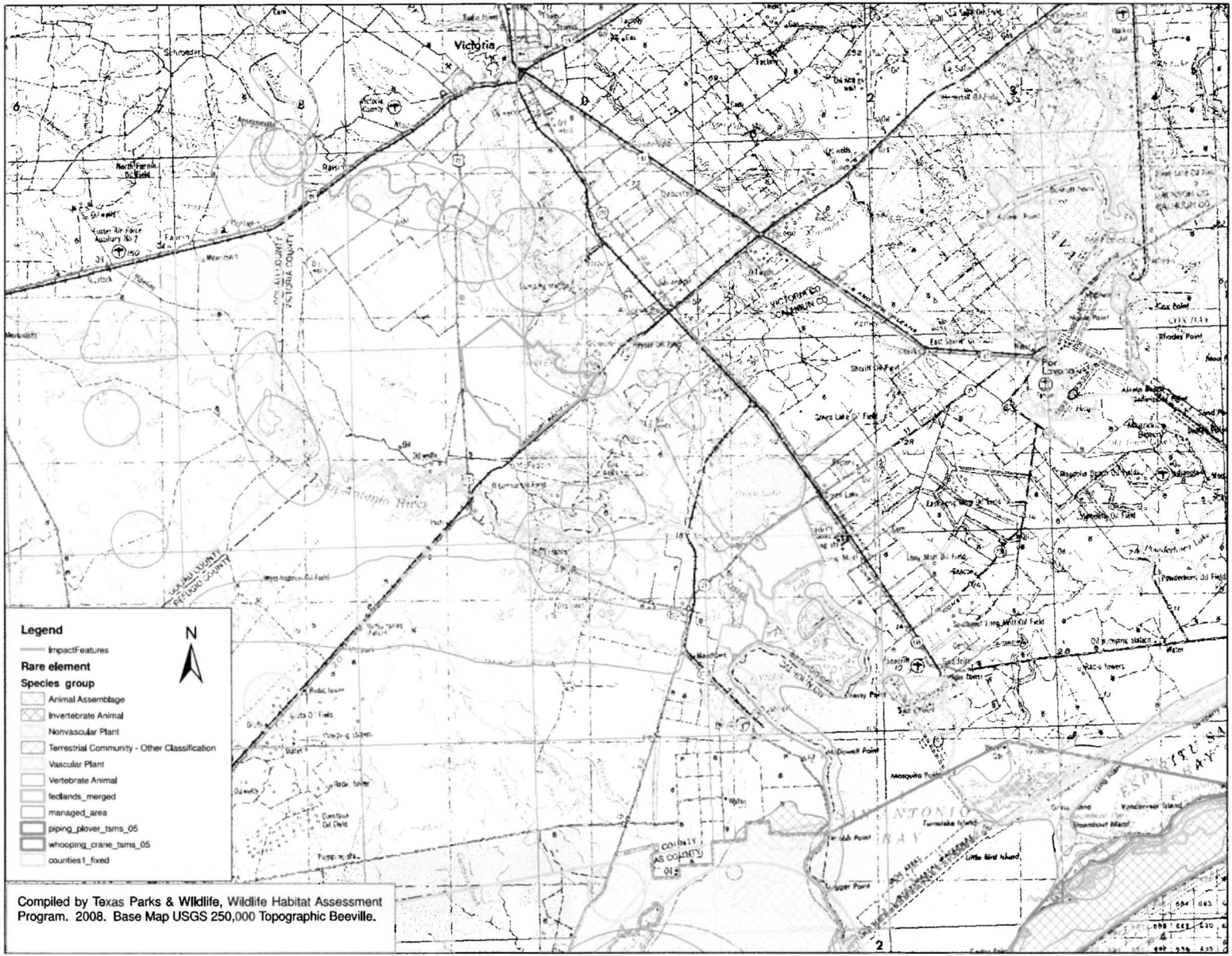
4. Construction should attempt to minimize the amount of flora and fauna disturbed. Reclamation of construction sites should emphasize replanting with native grasses and leguminous forbs.

5. Existing rights-of-way should be used to upgrade facilities, where possible, in order to avoid additional clearing and prevent adverse impacts associated with habitat loss and fragmentation of existing blocks of wooded habitat. Implementation of wildlife management plans along rights-of-way should be considered whenever feasible.

6. Because forest and woody areas provide food and cover for wildlife, these cover types should be preserved. Mature trees, particularly those which produce nuts or acorns, should be retained; shrubs and trees should be trimmed rather than cleared.

7. Birds typically establish flight corridors along and within river and creek drainages. Transmission lines that cross or are located very near these drainages should have line markers installed at the crossings or closest points to the drainages to reduce the potential of collisions by birds flying along or near the drainage corridors. Transmission lines should be designed to cross streams at right angles, at points of narrowest width, and/or at the lowest banks whenever feasible to provide the least disturbance to stream corridor habitat.

8. Lines should be buried, when practical. Line alterations to prevent bird electrocutions should not necessarily be implemented after such events occur, as all electrocutions may not be known or documented. Incorporation of preventative measures along portions of the routes that are most attractive to birds (as indicated by frequent sightings) prior to any electrocutions is much preferred.


Victoria
Schroeder
North Farmin Oil Field
Victoria County
Victoria Co
Calhoun Co
Shell Oil Field
Shell Lake Field
Rhodes Point
Cox Point
Magnolia Beach Oil Field
Powderhorn Oil Field
Mosquito Point
Turnabout Island
Little Bird Island
Legend
N
ImpactFeatures
Rare element
Species group
Animal Assemblage
Invertebrate Animal
Nonvascular Plant
Terrestrial Community - Other Classification
Vascular Plant
Vertebrate Animal
fedlands_merged
managed_area
piping_plover_tsms_05
whooping_crane_tsms_05
counties1_fixed
Compiled by Texas Parks & Wildlife, Wildlife Habitat Assessment Program. 2008. Base Map USGS 250,000 Topographic Beeville.
2

Element Occurrence Record

Scientific Name: *Haliaeetus leucocephalus* **Occurrence #:** 115 **Eo Id:** 7854

Common Name: Bald Eagle **TX Protection Status:** T

Global Rank: G4 **State Rank:** S3B,S3N

Location Information:

Watershed Code:	Watershed Description:
12100204	Lower Guadalupe
12100403	East San Antonio Bay

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXVICT	Victoria	28096-F8	Bloomington	TX
		28096-E8	Bloomington SW	TX

Directions:

TERRITORY WEST OF BLOOMINGTON, INCLUDING LINN LAKE, GUADALUPE RIVER, AND VICTORIA BARGE CANAL

Survey Information:

First Observation: 2000 **Survey Date:** **Last Observation:** 2001

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description:

Comments: TPWD NEST #235-7A

Protection Comments:

Management Comments:

Data:

EO Data: NEST #235-7A: 2000-2001 ACTIVE NEST PRODUCED 2 YOUNG

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Element Occurrence Record

Full Citation:

ORTEGO, BRENT. 2001. PERFORMANCE REPORT. PROJECT NO. 10: BALD EAGLE NEST SURVEY AND MANAGEMENT. FEDERAL AID GRANT NO. W-125-R-12. SEPTEMBER 30, 2001.

ORTEGO, BRENT. 2002. MAPS CLARIFYING QUESTIONS ABOUT BALD EAGLE TERRITORY LOCATIONS FROM THE 2001 SURVEY. RECEIVED JUNE 13, 2002.

POLASEK, LEN G. 2000. PERFORMANCE REPORT. PROJECT NO. 10: BALD EAGLE NEST SURVEY AND MANAGEMENT. FEDERAL AID GRANT NO. W-125-R-11. AUGUST 31, 2000.

Specimen:

Associated Species:

Species Name	Type	Comments

Element Occurrence Record

Scientific Name: *Rookery* **Occurrence #:** 93 **Eo Id:** 7170

Common Name: **TX Protection Status:**

Global Rank: GNR **State Rank:** SNR

Location Information:

Watershed Code:	Watershed Description:
12100204	Lower Guadalupe

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXVICT	Victoria	28096-E8	Bloomington SW	TX

Directions:

7 TO 8 MILES NORTHWEST OF VICTORIA, RUFUGIO, AND CALHOUN COUNTY INTERSECTION

Survey Information:

First Observation: 1975 **Survey Date:** **Last Observation:** 1992

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: CYPRESS SWAMP

Comments: COLONY NUMBER 609-180

Protection Comments:

Management Comments:

Data:

EO Data: NESTING COLONY OF THE OLIVACEOUS CORMORANT, CATTLE EGRET

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Element Occurrence Record

Full Citation:

TEXAS COLONIAL WATERBIRD SOCIETY AND TEXAS PARKS & WILDLIFE DEPARTMENT. 1991-1992. TEXAS COLONIAL WATERBIRD CENSUS SUMMARIES. SPECIAL ADMINISTRATIVE REPORTS.

TEXAS COLONIAL WATERBIRD SOCIETY AND TEXAS PARKS & WILDLIFE DEPARTMENT. 1986-1989. TEXAS COLONIAL WATERBIRD CENSUS SUMMARY. SPECIAL ADMINISTRATIVE REPORTS.

MULLINS, L.M. ET.AL. 1982. ET.SEQ. ATLAS & CENSUS OF TEXAS WATERBIRD COLONIES, 1973-1980. TX COLONIAL WATERBIRD SOCIETY.

WAHL, C. R. ET AL. 1986. SURVEY OF COASTAL WATERBIRD COLONIES ON NATURAL AND MAN-MADE ISLANDS IN THE S. LAGUNA MADRE, TEXAS. 2-6 JUNE 1986.

Specimen:

Associated Species:

Species Name	Type	Comments

Element Occurrence Record

Scientific Name:	*Haliaeetus leucocephalus*		**Occurrence #:** 6	**Eo Id:**	4960
Common Name:	Bald Eagle		**TX Protection Status:** T		
Global Rank:	G4	**State Rank:** S3B,S3N			

Location Information:

Watershed Code:	Watershed Description:
12100204	Lower Guadalupe
12100403	East San Antonio Bay

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXVICT	Victoria	28096-F8	Bloomington	TX
		28097-F1	Raisin	TX

Directions:

TERRITORY ON GUADALUPE RIVER/VICTORIA BARGE CANAL; INCLUDES DUPONT PLANT; SOUTHWEST OF CRESCENT VALLEY

Survey Information:

First Observation:	1981	**Survey Date:**		**Last Observation:**	2001
Eo Type:		**EO Rank:**		**EO Rank Date:**	
Observed Area (acres):		**Estimated Representation Accuracy:**			

Comments:

General Description:

Comments: TPWD NEST #235-2A/B/C/D/E/F

Protection Comments:

Management Comments:

Data:

EO Data: ACTIVE NEST SITE; NEST 235-2A: 1982, ACTIVE NEST PRODUCED 2 YOUNG; 1983-1984, ACTIVE NEST PRODUCED 1 YOUNG; 1985, ACTIVE NEST PRODUCED 0 YOUNG; 1986, NEST FELL; NEST 235-2B: 1985, ACTIVE NEST PRODUCED 0 YOUNG; 1986, ACTIVE NEST PRODUCED 3 YOUNG; 1987, ACTIVE NEST PRODUCED 2 YOUNG; 1988, ACTIVE NEST PRODUCED 0 YOUNG; 1989, INACTIVE; 1990, NEST FELL; NEST 235-2C: 1989, ACTIVE NEST PRODUCED 1 YOUNG; 1990-1991, ACTIVE NEST PRODUCED 2 YOUNG; 1992, ACTIVE NEST PRODUCED 3 YOUNG; 1993, ACTIVE NEST PRODUCED 2 YOUNG; 1994, INACTIVE; NEST 235-2D: 1989, INACTIVE; 1990, NEST FELL; NEST 235-2E: 1994-1995, ACTIVE NEST PRODUCED 2 YOUNG; 1996, ACTIVE NEST PRODUCED 1 YOUNG; 1997, ACTIVE NEST PRODUCED 0 YOUNG; 1998-1999, ACTIVE NEST PRODUCED 1 YOUNG; 2000, NEST FELL; NEST 235-2F: 2000, UNKNOWN PRODUCTION; 2001, ACTIVE NEST PRODUCED 2 YOUNG

Element Occurrence Record

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Full Citation:

ORTEGO, BRENT. 2001. PERFORMANCE REPORT. PROJECT NO. 10: BALD EAGLE NEST SURVEY AND MANAGEMENT. FEDERAL AID GRANT NO. W-125-R-12. SEPTEMBER 30, 2001.

MITCHELL, MARK. 1999. PROJECT NO. 30: BALD EAGLE NEST SURVEY AND MANAGEMENT. PERFORMANCE REPORT. AUGUST 31, 1999.

MITCHELL, MARK. 1997. MEMO TO SHANNON BRESLIN OF 30 JULY 1997 PROVIDING BALD EAGLE NESTING DATA, INCLUDING COUNTY MAPS WITH ESTIMATED TERRITORIES.

MABIE, DAVID J. NO DATE. TPWD, 715 SOUTH BRONTE, ROCKPORT, TEXAS 78382. 512-729-2315.

POLASEK, LEN. 1999. CHRONOLOGICAL OUTCOME OF BALD EAGLE NEST SURVEYS IN TEXAS. 1982-1999.

POLASEK, LEN G. 2000. PERFORMANCE REPORT. PROJECT NO. 10: BALD EAGLE NEST SURVEY AND MANAGEMENT. FEDERAL AID GRANT NO. W-125-R-11. AUGUST 31, 2000.

ORTEGO, BRENT. 2002. MAPS CLARIFYING QUESTIONS ABOUT BALD EAGLE TERRITORY LOCATIONS FROM THE 2001 SURVEY. RECEIVED JUNE 13, 2002.

Specimen:

Associated Species:

Species Name	Type	Comments

Element Occurrence Record

Scientific Name: *Psilactis heterocarpa* **Occurrence #:** 15 **Eo Id:** 2278

Common Name: Welder machaeranthera **TX Protection Status:**

Global Rank: G2 **State Rank:** S2S3

Location Information:

Watershed Code:	Watershed Description:
12100204	Lower Guadalupe
12100303	Lower San Antonio

County Code:	County Name:	Mapsheet Code:	Mapsheet Name:	State:
TXVICT	Victoria	28097-E1	McFaddin	TX

Directions:

EAST SIDE OF U.S. ROUTE 77, 0.4 ROAD MILE NORTH OF JUNCTION WITH FM 445

Survey Information:

First Observation: 1992-10-20 **Survey Date:** 1992-10-20 **Last Observation:** 1992-10-20

Eo Type: **EO Rank:** **EO Rank Date:**

Observed Area (acres): **Estimated Representation Accuracy:**

Comments:

General Description: ROADSIDE AND GRAZED PASTURE, LEVEL TOPOGRAPHY, GRAY CLAY OR SILTY CLAY OVER LISSIE FORMATION; WEEDY FORBS ABUNDANT

Comments: VOUCHER: W.R. CARR #12467 (TEX-LL)

Protection Comments:

Management Comments:

Data:

EO Data: PLANTS WITH FLOWERS AND ACHENES ON 20 OCTOBER 1992; PLANTS RARE IN BORROW (BARRE) DITCH; NOT SEEN ACROSS FENCE

Managed Area:

Managed Area Name: **Managed Area Type:**

Reference:

Element Occurrence Record

Full Citation:

CARR, W.R. AND D.H. HERNANDEZ. 1992. FIELD SURVEY OF REFUGIO, SAN PATRICIO, AND ADJACENT COUNTIES, 20-21 OCTOBER 1992.

Specimen:

University of Texas at Austin Herbarium. 1992. W.R. Carr #12467 and D.H. Hernandez, Specimen # ? TEX. 20 October 1992.

Associated Species:

Species Name	Type	Comments

Managed Area Report

Managed Area Code: M.USTXHP*230 **Acreage:** 7,100.00

Managed Area Name: GUADALUPE DELTA WILDLIFE MANAGEMENT AREA

Managed Area Description:

FRESH TO BRACKISH WETLANDS; COASTAL MARSH; ALLIGATOR SLIDE LAKE; DELTAIC ESTUARY OF THE GUADALUPE RIVER; HYNES BAY UNIT WITH SUBMERGENT MARSH; THIRD TRACT LIES WITHIN THE CONFLUENCE OF THE GUADALUPE AND SAN ANTONIO RIVERS AND ELM BAYOU AND CONSISTS OF WETLANDS AND BOTTOMLAND HARDWOODS; FROM VICTORIA TAKE STATE HIGHWAY 185 SOUTHEAST 22 MILES TO STATE HIGHWAY 35, TAKE SH 35 SOUTH ONE MILE

Managed Area Comments:

ACCESS RESTRICTED TO PERMITTED HUNTERS; PRIMARY PUBLIC USE IS FOR WATERFOWL AND ALLIGATOR HUNTING AND BIRDING TOURS DURING THE PEAK MIGRATIONS; FOUR UNITS

Protection:

Protection Comments:

Land Tenure Comments:

Public Access: Restricted

Public Access Comments:

Manager: TODD MERENDINO **Institution:** AREA MANAGER

Street Address: GUADALUPE DELTA WMA
COUNTY COURTHOUSE, ROOM 101 **Phone:** 409 244-7697

City: BAY CITY **Zip Code:** 77414

Cooperating Institution:

Cooperating Institution Comments:

Management Plan Comments:

Management Comments:

Exelon Generation

NP-08-0003

April 30, 2008

Ms. Mary Orms
U.S. Fish and Wildlife Service
c/o TAMU - Corpus Christi
6300 Ocean Drive
Corpus Christi, TX 78412

Subject: Proposed Nuclear Plant in Victoria County, Texas
Request for Information on Threatened or Endangered Species

Dear Ms. Orms:

Exelon Generation Company, LLC (Exelon) is preparing an application to the U.S. Nuclear Regulatory Commission (NRC) for a Combined Construction and Operating License (COL) that would allow the company to build and operate a new nuclear plant at a site in Victoria County, Texas. Exelon expects to submit the COL application to the U.S. Nuclear Regulatory Commission (NRC) in September 2008.

As part of the licensing process, the NRC requires applicants to "assess the impact of the proposed action on threatened or endangered species in accordance with the Endangered Species Act" (10 CFR 51.53). The NRC will formally consult with your office at a later date under Section 7 of the Endangered Species Act. By contacting you in advance via this letter, our goal is to identify any issues that need to be addressed or any information your office may need to support the NRC consultation.

In the following sections of the letter, we briefly describe the site, the proposed action, and the potentially affected species.

The Site

The Victoria County site is an approximately 11,000 acre tract about 13 miles south of the city of Victoria (see attached Figure 1.0). Botanists, wildlife biologists, and wetlands scientists under contract to Exelon began conducting surveys of the site's wetlands, plant communities, and wildlife in the fall of 2007. This work is on-going and will continue through December 2008. In addition,

fishery biologists will be conducting seasonal surveys of fish in the site's streams and wetlands in 2008. The surveys are intended to gather baseline information on the site's ecological resources to support the impact assessment and to determine if any sensitive species are present. The surveys are also intended to evaluate the natural communities of the site as potential habitat for sensitive species.

The approximately 11,000-acre site is located on a "bench" or terrace west of the Guadalupe River in southern Victoria County, Texas (Figure 2.0). The terrain is relatively flat in the western portion of the site, sloping gently down toward the eastern side of the site. The topography in the area of northeastern site boundary slopes sharply downward to the Guadalupe River floodplain, more specifically Black Bayou (shown on some maps as *McDonald* Bayou) and Linn Lake, an oxbow lake into which Black Bayou flows.

The site is drained by three streams: Black Bayou and tributaries drain the northern and eastern portion of the site; Dry Kuy Creek and tributaries drain the central and southeastern portions of the site; Kuy Creek and tributaries drain the southwestern portion of the site. Black Bayou and Kuy Creek appear to be perennial streams, based on an October 2007 reconnaissance, while Dry Kuy Creek appears to be an intermittent stream. Dry Kuy Creek and several other small tributary streams held standing water in only their lower-lying sections in October 2007, and are presumed to be mostly dry during extended periods of low rainfall.

In addition to these drainages, the site contains ephemeral depressional wetlands of varying hydroperiod and a number of stock ponds. Some of the wetland depressions appear to have been created when site roads were constructed many years ago and natural drainages were blocked or dammed. The centers of some of the depressional wetlands have been deepened, apparently to provide additional water storage for livestock, creating open water habitats (ponds). Several additional livestock ponds have been created on site, with most augmented by windmill-driven wells.

Most of the wet areas are populated by senna bean (*Sesbania drummondii*), as well as the herbaceous plants delta arrowhead (*Sagittaria platyphylla*), squarestem spikerush (*Eleocharis quadrangulata*), smartweed (*Polygonum* spp.), and assorted sedges and grasses. One of the more persistent depression wetlands also contained cow lilies (*Nuphar advena*). Willows (*Salix nigra*) are the dominant trees along the shores of Linn Lake and Black Bayou, with occasional bald cypress (*Taxodium distichum*).

Although there are gas wells scattered across the property, the approximately 11,000-acre site is used primarily for raising livestock (mostly cattle, with a few horses). Fencing divides the upland portions of the site into separate grazing

units. These grazing units are subjected to prescribed burns on a four-year cycle. The burns are intended to encourage the growth of native grassland vegetation and discourage the formation of thickets of shrubs and low-growing trees such as senna bean, huisache, McCartney rose, and mesquite.

The Proposed Action

Exelon proposes to build and operate two new nuclear generating units, each rated at approximately 1,600 megawatts-electrical (gross). Much of the infrastructure, including the generating units and supporting facilities, would be concentrated in an approximately 300 acre area in the northwest part of the approximately 11,000-acre site, as shown in Figure 3.0.

Site construction activities are expected to be performed in the following sequence:

- Preconstruction planning and exploration activities, including a new meteorology tower built at the northwest corner of the plant property, and such site activities as soil boring/sampling and monitoring wells or additional geophysical borings as allowed by 10 CFR 50.10(a)(2).

  This work was completed in early 2008.

- Site preparation activities, to include installation of temporary facilities, construction support facilities, service facilities, utilities, docking and unloading facilities, excavations and backfill for facility structures and foundations, and construction of structures, systems and components (SSCs) that do not constitute “construction” activities as defined by 10 CFR 50.10(a)(1).

- Construction activities will include the major power plant construction activities under the COL.

Exelon has developed a construction schedule based on providing additional electric generation to the regional grid in December 2016 (Unit 1) and June 2018 (Unit 2). Based on preliminary planning, the duration of sequential construction of Units 1 and 2 is estimated to be approximately eight and a half years (from the commencement of site preparation activities to commercial operation of Unit 2).

Offsite infrastructure would be constructed in support of the proposed nuclear generating units, including a heavy-haul road that would be constructed from the plant to a barge slip constructed on the Victoria Barge Canal. The barge slip would accommodate delivery of large components for the construction of the proposed nuclear units. The road would traverse undeveloped land, Black Bayou, and the Guadalupe River (via a newly constructed bridge). A pipeline for

discharging plant effluent to the Guadalupe River would parallel the heavy-haul road for most of its route, then turn south along the river.

Current plans call for the construction of a 4,800-acre cooling reservoir on the site to serve as the source for condenser cooling water (see Figure 3.0). Makeup water for the cooling reservoir would be purchased from the Guadalupe-Blanco River Authority (GBRA). The GBRA operates a system of canals that supply water to industrial, agricultural, and municipal users. The Exelon Victoria County site would obtain its water from the Calhoun Canal, southeast of Green Lake, via a newly constructed pipeline. The ultimate source of the water would be the Guadalupe River, just downstream of its confluence with the San Antonio River. Preliminary plans include the construction of an approximately 1,300-acre water storage basin east of and adjacent to the proposed 4,800-acre cooling reservoir. The storage basin and an associated pipeline would be operated by the GBRA.

Plans for improvement of transmission system infrastructure are less well defined than facility development plans. Based on preliminary analysis, it appears that it may be necessary to build at least two new transmission lines, including a west-running line that would extend to the Coleto Creek Reservoir area of Goliad County and a northeast-running line that would pass through Calhoun, Jackson, Wharton, and Matagorda Counties.

Potentially Affected Species

Based on a review of historical documents and information on the Texas Parks and Wildlife Department website ("Annotated County lists of Rare Species"), Exelon has developed a preliminary list (Table 1) of state and federally listed species in the six counties that could be affected by the proposed project (including offsite infrastructure). Only two of the protected species listed in Table 1, the white-tailed hawk and the bald eagle, have been observed in the project area by Exelon's consulting biologists. Neither species has been observed nesting in the project area in surveys conducted to date.

Table 1. Protected Species In Counties Associated With the Exelon - Victoria County Site in Texas.

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Amphibians			
Sheep Frog	*Hypopachus variolosus*	-	T	Calhoun, Goliad
Black-spotted newt	*Notopthalmus meridionalis*	-	T	Calhoun, Goliad,Victoria

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Birds			
White-tailed hawk	*Buteo albicaudatus*	-	T	All
Piping plover	*Charadrius melodus*	LT	T	Calhoun, Matagorda
Reddish egret	*Egretta rufescens*	-	T	Calhoun, Jackson, Victoria, Matagorda
Peregrine falcon	*Falco peregrinus anatum*	DL	T	All
Arctic peregrine falcon	*Falco peregrinus tundrius*	DL	T	All
Whooping crane	*Grus Americana*	LE	E	All
Bald eagle	*Haliaeetus leucocephalus*	DL	T	All
Wood stork	*Mycteria americana*	-	T	All
Eskimo curlew	*Numenius borealis*	LE	E	Calhoun, Matagorda
Brown pelican	*Pelecanus occidentalis*	LE	E	Jackson, Victoria, Matagorda
White-faced ibis	*Plegadis chihi*	-	T	All
Interior least tern	*Sterna antillarum athalassos*	LE	E	Goliad, Jackson, Victoria, Wharton
Sooty tern	*Sterna fuscata*	-	T	Calhoun, Jackson, Matagorda
Attwater's prairie chicken	*Tympanuchus cupido attwateri*	LE	E	Victoria, Wharton
	Mammals			
Red wolf	*Canis rufus*	LE	L	All
Jaguarundi	*Herpailurus yaguarondi*	LE	E	Calhoun
Ocelot	*Leopardus pardalis*	LE	E	Calhoun, Goliad, Matagorda
White-nosed coati	*Nasua narica*	-	T	Victoria
West Indian manatee	*Trichechus manatus*	LE	E	Calhoun, Matagorda
Black bear	*Ursus americana*	T/SA	T	Calhoun

Common Name	Scientific Name	Federal Status[1]	State Status[1]	Counties
	Mammals *(Continued)*			
Louisiana black bear	*Ursus americana luteolus*	LT	T	Jackson, Victoria, Wharton, Matagorda
	Reptiles			
Loggerhead sea turtle	*Caretta caretta*	LT	T	Calhoun, Jackson
Texas scarlet snake	*Cemophora coccinea lineri*	-	T	Calhoun, Jackson
Green sea turtle	*Chelonia mydas*	LT	T	Calhoun
Timber/canebrake rattlesnake	*Crotalus horridus*	-	T	All
Leatherback sea turtle	*Dermochelys coriacea*	LE	E	Calhoun
Indigo snake	*Drymarchon corais*	-	T	Goliad
Atlantic hawksbill sea turtle	*Eretmochelys imbricata*	LE	E	Calhoun
Kemp's ridley sea turtle	*Lepidochelys kempii*	LE	E	Calhoun
Texas tortoise	*Gopherus berlandieri*	-	T	Calhoun, Jackson, Goliad, Victoria
Cagle's map turtle	*Graptemys caglei*	-	T	Victoria
Texas horned lizard	*Phrynosoma cornutum*	-	T	Calhoun, Goliad, Jackson

[1] LE/E = Endangered; T = Threatened; C = Candidate; **-** = Not listed; DL = delisted taxon, recovered, monitored for first five years post delisting; SA = listed due to similarity of appearance with a threatened species.

Sources:

TPWD (Texas Parks and Wildlife Department) 2007**.** Rare, Threatened and Endangered Species of Texas. Available at http://gis.tpwd.state.tx.us/ TpwEndangeredSpecies/ Desktop Default. aspx.

USFWS (U.S. Fish and Wildlife Service) 2007. County Lists, Lists of Endangered, Threatened, Proposed and Candidate Species for Texas, as of 2007. Available at

http://www.fws.gov/ Southwest/es/EndangeredSpecies/lists/ListSpecies.cfm

We would appreciate your providing a letter within 60 days of receiving this correspondence that details any concerns you may have about listed species or critical habitat in the areas potentially affected by construction and operation of the proposed generating facilities and associated infrastructure. Exelon will include a copy of this letter and your response in the Environmental Report that will be submitted to the NRC as part of the COL application.

Please contact Joshua Trembley at 610-765-5345 should you have any questions regarding the project.

Respectfully,

FOR KAA

Kenneth A. Ainger
Director, New Plant Licensing

Attachments: Figure 1.0 50-Mile Region
Figure 2.0 Habitat Types on the Victoria County Site
Figure 3.0 Victoria County Site and Proposed Plant Footprint

Figure 1.0 50-Mile Region

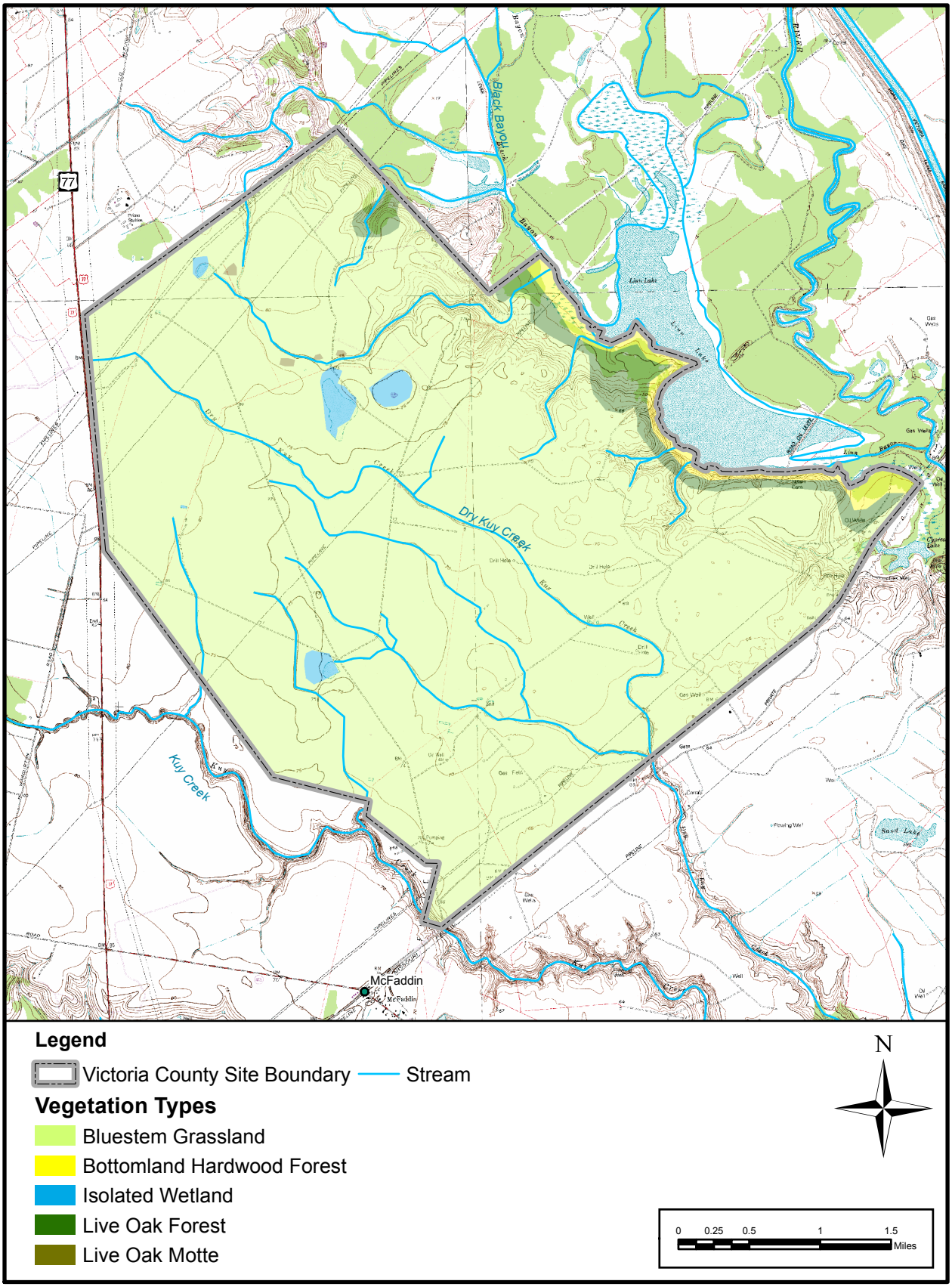


Figure 2.0 Habitat Types on the Victoria County Site

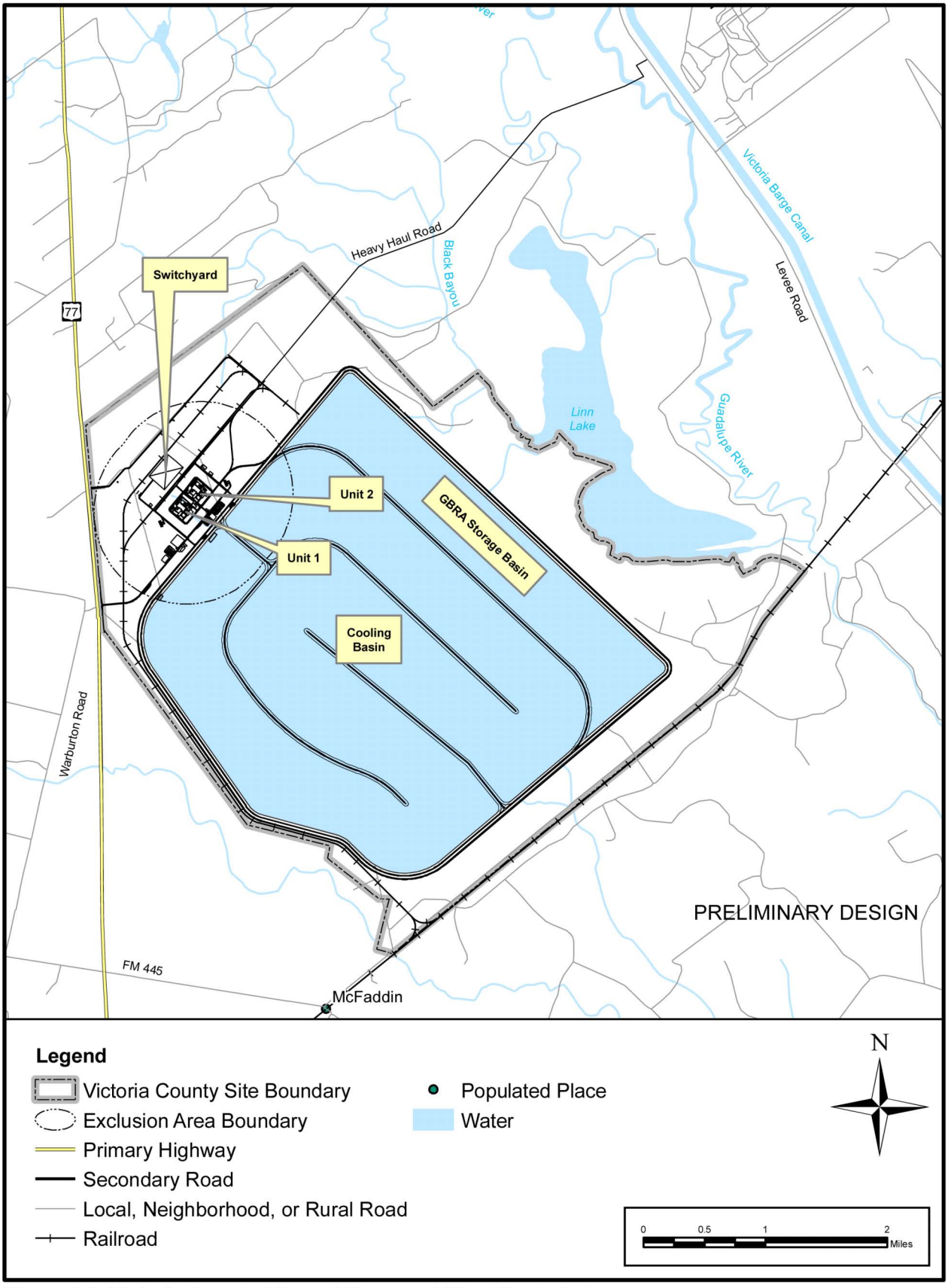


Figure 3.0 Victoria County Site and Proposed Plant Footprint

Exelon Generation

NP-08-0007

May 20, 2008

Mr. John Wong
US Army Corps of Engineers
Corpus Christi Field Office
5151 Flynn Parkway
Corpus Christi, Texas 78411

Subject: Request for Jurisdictional Determination at Exelon's Victoria County Site

Dear Mr. Wong:

Exelon Generation Company, LLC (Exelon) is preparing a combined construction and operating license (COL) application for submittal to the Nuclear Regulatory Commission (NRC) for a proposed nuclear power plant in Victoria County, Texas. Additionally, Exelon is seeking other federal, state, and local approvals that will be required to construct and operate the proposed plant and appurtenant facilities.

Attached Figure 1 shows the proposed location for the project in Victoria County. The proposed undertaking will occur approximately 13 miles south of Victoria and one mile north of McFaddin. To the west of the site is U.S. Highway 77, and to the east are Linn Lake and the Guadalupe River. The proposed project site can be found on the United States Geological Survey (USGS) 7.5 minute McFaddin, Raisin, Bloomington, and Bloomington SW, Texas (all 1995) topographic quadrangles.

The proposed undertaking will include construction and operation of a nuclear power generation plant with two reactors and associated plant facilities, all co-located in the northern portion of the approximately 11,000-acre project site. A large portion of the site will be used for an approximately 6,100-acre cooling basin and reservoir. The project will also include the construction of various offsite infrastructure to support construction and operation of the proposed nuclear plant.

Exelon met with representatives of the Galveston District of the US Army Corps of Engineers (USACE) in regard to the proposed project on October 9, 2007. At that time, Exelon's Matagorda County site was discussed as the subject site for the proposed project. Subsequently, Exelon chose the Victoria County site as the subject for its COL application and met with you in the USACE Corpus Christi Field Office, on December 4, 2007, to discuss the delineation of Clean Water Act (CWA) Section 404 / Rivers and Harbors Act of 1899 (RHA) Section 10 jurisdictional waters at the proposed Victoria County site.

The following key points were discussed during the December 4, 2007 meeting, and in follow-up correspondence between you and Mr. Peyton Doub of Tetra Tech NUS, Inc.:

- Given the project location in the coastal plain, the wetland delineation should follow the 1987 Corps of Engineers Wetland Delineation Manual (1987 Manual), but not any of the proposed Supplemental Manuals.

- Due to the size of the property and the presence of many miles of intermittent and ephemeral streams of uncertain regulatory status, it was agreed that Exelon will perform a wetland delineation using aerial photography and ground truthing, and complete field data sheets, but will not precisely survey the delineated boundaries using survey equipment. Upon completion of the USACE jurisdictional determination (JD), Exelon will precisely survey the delineated boundaries of each wetland or other surface water feature determined to be jurisdictional. The detailed follow-up survey will be performed prior to submitting the Department of Army (DA) Permit application.

- Exelon indicated that it will submit the JD request for the site proper in advance of the DA Permit Application and / or additional JD requests for offsite areas that could be affected by the proposed project.

The attached JD request is consistent with the above points. That is, the JD request is for the Victoria County Site (i.e., it does not include offsite areas), and the supporting Wetland Report and JD information forms (commonly referred to as "Rapanos Forms") were based on screening level surveys and prepared in accordance with the 1987 Manual.

Exelon requests a meeting with the USACE within approximately 30 days of receipt of the JD request to discuss the information presented in the JD request, site access issues, and project timing. Please note that, although Exelon is preparing a COL application for the Victoria County Site, no commitment has been made at this time to construct the proposed nuclear plant.

If you have any questions, please contact Mr. Joshua Trembley at 610-765-5345.

Respectfully,

Kenneth A. Ainger
Director, New Plant Licensing

Enclosures: Request For Jurisdictional Determination at Exelon's Victoria County Site
Figure 1 - Map of Proposed Victoria County Site

cc: Brian Bader, USACE Galveston District