January 29, 2009

Mr. John Cochnar
U. S. Fish and Wildlife Service
Ecological Services - Nebraska Field Office
203 West Second Street
Grand Island, NE 68801

SUBJECT: REQUEST FOR LIST OF PROTECTED SPECIES WITHIN THE AREA UNDER EVALUATION FOR THE COOPER NUCLEAR STATION, UNIT 1 LICENSE RENEWAL APPLICATION REVIEW

Dear Mr. Cochnar:

The U.S. Nuclear Regulatory Commission (NRC or the staff) is reviewing an application submitted by the Nebraska Public Power District (NPPD) for the renewal of the operating license for Cooper Nuclear Station (CNS) Unit 1. CNS is located in Nemaha County, Nebraska (NE), on the west bank of the Missouri River at river mile (RM) 532.5. The Village of Brownville, NE is located approximately 2.25 miles northwest of the site and Lincoln, NE, is located approximately 60 miles west northwest of the site. As part of the review of the license renewal application (LRA), the NRC is preparing a Supplemental Environmental Impact Statement (SEIS) under the provisions of Title 10 of the *Code of Federal Regulations* Part 51 (10 CFR Part 51), the NRC's regulation that implements the National Environmental Policy Act (NEPA) of 1969. The SEIS includes an analysis of pertinent environmental issues, including endangered or threatened species and impacts to fish and wildlife. This letter is being submitted under the provisions of the Endangered Species Act of 1973, as amended, and the Fish and Wildlife Coordination Act of 1934, as amended.

The proposed action would include the use and continued maintenance of existing plant facilities and transmission lines. The site surroundings are predominantly agricultural with zero population within a one-half mile radius of the plant. Brownville, NE, is the nearest developed community, at a distance of approximately 2.25 miles from the site, with a 2005 population of approximately 137. The largest town with industry within 10 miles is Auburn, Nebraska, located to the west, with a 2005 population of approximately 3,076. Maryville, Missouri, located approximately 40 miles east of the plant, is the largest community within 50 miles and had a 2005 population of approximately 10,567.

Over 99 percent of the acreage in Nemaha County is used for agriculture and farming. Farming is also the major activity for the rest of the area within a 50-mile radius as well. The site is located on a constructional plain bordering the west bank of the Missouri River. It is situated on the first bottomland of the broad, nearly level, flood plain, which is approximately six miles wide at the site. The U.S. Army Corp of Engineer (USACE) has stabilized the channel by use of pile dikes and bank protection. Earthen levees run parallel with the Missouri River, on both sides of the river.

The station site grade level of 903 feet above mean sea level (AMSL) has been raised 13 feet above the natural grade level of 890 feet AMSL, in order to bring final grade one foot above the existing 902 feet AMSL levee constructed by the USACE. The site slopes generally east, with surface drainage toward the Missouri River.

The CNS property includes 239 acres on the east side of the Missouri River in Atchison County, Missouri, the most northwestern county in Missouri, bounded on the west by the Missouri River. The eastern bank of the Missouri River is chiefly a densely forested land similar to the un-farmable bluffs that run parallel to the Missouri River. To the west there are bluffs that peak at 1,100 feet, but average 1,000 feet along the stretch of river from Brownville to Nemaha. Beyond the bluffs, the land is a gently rolling flood plain.

There are several Native American lands within a 50-mile radius of CNS. These include the Sac and Fox Reservation, Iowa Reservation, and Kickapoo Reservation. There are also several local and county parks, golf courses, forest lands, wildlife areas, and other public recreation lands within a 50-mile radius of CNS.

Flow of the Missouri River at CNS is largely controlled by the Gavins Point Dam located about 200 miles upstream in Yankton, South Dakota. The flow is highly channelized with swift flows and heavy sediment transport. Wing dams are located on the Missouri side of the river near CNS to force the flow into a central channel.

The USACE constructed and operates six of the seven mainstem dams on the Missouri River; the U.S. Bureau of Reclamation operates the seventh, Canyon Ferry Dam, east of Helena, Montana. When the USACE constructed five of the Missouri River mainstem dams in the 1950s and 1960s after passage of the Pick-Sloan Plan, goals for dam and reservoir operations were to reduce flood damages, enhance navigation, generate hydroelectric power, and store water for irrigation.

Missouri River reservoirs and river segments presently contain populations of exotic fishes, including cisco, several salmon and trout species, and several Asian carp species. Some of these species have contributed to the development of economically important recreational fisheries.

CNS cooling is classified as a circulating water system that uses water taken from the Missouri River. Water passes through trash racks and then through traveling screens. A major portion of the flow is directed to the circulating water pumps, which deliver water to the main condenser. A smaller portion of the Missouri River water is used by the service water pumps. The discharge from the condenser and from the service water system is returned via the discharge channel to the river. The circulating water intake structure (CWIS) is located on the west shoreline. In front of the CWIS is a guide wall and submerged weir constructed of steel sheet

piling that runs parallel to and at distance of 14.25 feet (ft) from the face of the intake. The purpose of the guide wall and weir is to reduce the sediment input to the CWIS. It accomplishes this by forcing bed load and other material contained in the river to flow around and past the CWIS.

Four circulating water pumps provide the circulating water for the facility. Each pump can draw 159,000 gpm. The pump design water level is at El. 875.0 ft, with a minimum submergence level at El. 865.0 ft. There are four service water pumps providing a combined flow of 32,000 gpm. Velocities in the intake structure are 1.1 ft/sec under the curtain wall, 0.7 ft/sec at the trash racks, and approximately 2.0 ft/sec at the traveling water screens. These velocities were calculated at low water levels (El. 874.5 ft) and maximum circulating water pump flow (159,000 gpm per pump). The flow is highly channelized with swift flows and heavy sediment transport. Turning vanes and a low sheetpile wall are located in front of the intake bays. Wing dams are located on the Missouri side of the river to force the flow into a central channel. During the winter, ice is very common on the river. To prevent ice damage, ice deflector barges are installed during the winter months. To prevent the formation of frazzle ice, some of the main condenser discharge water (25–30 percent) is re-circulated through the ice control tunnel and released in front of the trash rack within the CWIS while the remaining water is discharged about 1,300 ft downstream of the intake via a discharge canal.

The chlorination system connection is located on the common inlet to Screen Wash Pump A and B from the service water system. Bacteria that occur naturally in the Missouri River may contribute to the growth of biological film fouling of the main condenser tubes. The station is proceeding with a study to determine if routine chemical injection (chlorine, bromine, etc.) will be effective in eliminating the microbiological film on the interior walls of the condenser tubes.

Water leaves the pump house and circulates through the condenser, where it is collected from the condenser section through a large manifold. It then travels through concrete tunnels to the seal well structure and the discharge canal. At the rated circulating water flow of 631,000 gpm through the condenser and at design power on the turbine generator, the temperature rise through the condenser is approximately 17.8°F. From the seal well and gate control structure, the water is directed into a discharge canal that is approximately 1,000 ft long; it then enters the river at a slight angle. The velocity of discharge is about 1 fps during average water levels of 879.4 ft AMSL and 35,000 cfs flow, and increases to about 2.5 fps as the water surface elevation is reduced to 874.5 ft AMSL and flows near 11,000 cfs.

The transmission lines which were constructed to connect CNS to the grid for purposes of power distribution includes (1) NPPD line TL3501 (345 kV energized in August 1969) 63.6 miles in length from CNS to the Mark T. Moore substation near Hallam, Nebraska, (2) NPPD line TL3502 (345 kV energized in July 1970) 82.6 miles in length from the Mark T. Moore substation to the Grand Island substation, and (3) Omaha Public Power District (OPPD) Line "60," which was already planned when CNS was constructed, (4) NPPD line TL3504 was energized as a 345 kV line in July 1970 and is 0.64 miles in length from CNS to the center of the Missouri River.

The transmission line "K-Towers" are supported by two wooden poles that are 26 feet apart. Therefore, the farming activity adjacent to and under the towers and lines continues essentially unimpeded with the only land removed from service being that upon which transmission poles physically rest. No cultivated land along the transmission route has been removed from service as a result of rights-of-way, and access for repairs and maintenance is requested on an individual basis from each property owner. For the remainder of the transmission line route, which passes over non-cultivated land, the right-of-way (ROW) is cleared only of woody plants that have a growth pattern that would cause them to grow into or fall onto the line conductors. Thereafter, control of these species is maintained; however, all of the natural grasses and low growing bushy, woody plants are allowed to grow.

There are no densely forested areas on the transmission route, and the land beneath the transmission lines is allowed to return to its natural state. Steel towers are used for the lines crossing the Missouri River and in the immediate vicinity of the station. Based on NPPD clearance practices, the required minimum ground clearance is 29.3 feet.

Provided for your information is the CNS Site Layout (Enclosure 1) and Transmission Line Map (Enclosure 2). To support the SEIS preparation process and to ensure compliance with Section 7 of the Endangered Species Act, the NRC requests information on Federally-listed, proposed, and candidate species and critical habitat that may be in the vicinity of CNS and its associated transmission line rights-of-way. In addition, please provide any information you consider appropriate under the provisions of the Fish and Wildlife Coordination Act.

The NRC staff plans to hold two public license renewal and environmental scoping meetings on February 25, 2009. There will be two sessions, an afternoon and evening session, to accommodate interested parties. The first session will be held at the Brownville Concert Hall at 126 Atlantic St., Brownville, NE 68321, telephone (402) 825-3331, and will convene at 1:30 p.m. and will continue until 4:30 p.m., as necessary. The second session will be held at the Auburn Senior Center at 1101 J St., Auburn, NE 68305, telephone (402) 274-3420, and will convene at 7:00 p.m., with a repeat of the overview portions of the meeting and will continue until 10:00 p.m., as necessary. In addition, during the week of March 30, the NRC plans to conduct a site audit. You and your staff are invited to attend both the public meetings and the site audit. Your office will receive a copy of the draft SEIS along with a request for comments. The anticipated publication date for the draft SEIS is December 2009.

If you have any questions concerning the NRC staff's review of this license renewal application, please contact NRC's Project Managers, Tam Tran, by telephone,1-800-368-5642, extension 3617, or by email to the NRC at tam.tran@nrc.gov, or Emmanuel Sayoc, by telephone,1-800-368-5642, extension 1924, or by email to the NRC at emmanuel.sayoc@nrc.gov.

Sincerely,

/RA/

David L. Pelton, Branch Chief
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:
1. Site Layout
2. Transmission Line Map

cc w/encls.: See next page

If you have any questions concerning the NRC staff's review of this license renewal application, please contact NRC's Project Managers, Tam Tran, by telephone,1-800-368-5642, extension 3617, or by email to the NRC at tam.tran@nrc.gov, or Emmanuel Sayoc, by telephone,1-800-368-5642, extension 1924, or by email to the NRC at emmanuel.sayoc@nrc.gov.

Sincerely,

/RA/

David L. Pelton, Branch Chief
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures:
1. Site Layout
2. Transmission Line Map

cc w/encls.: See next page

DISTRIBUTION: See next page

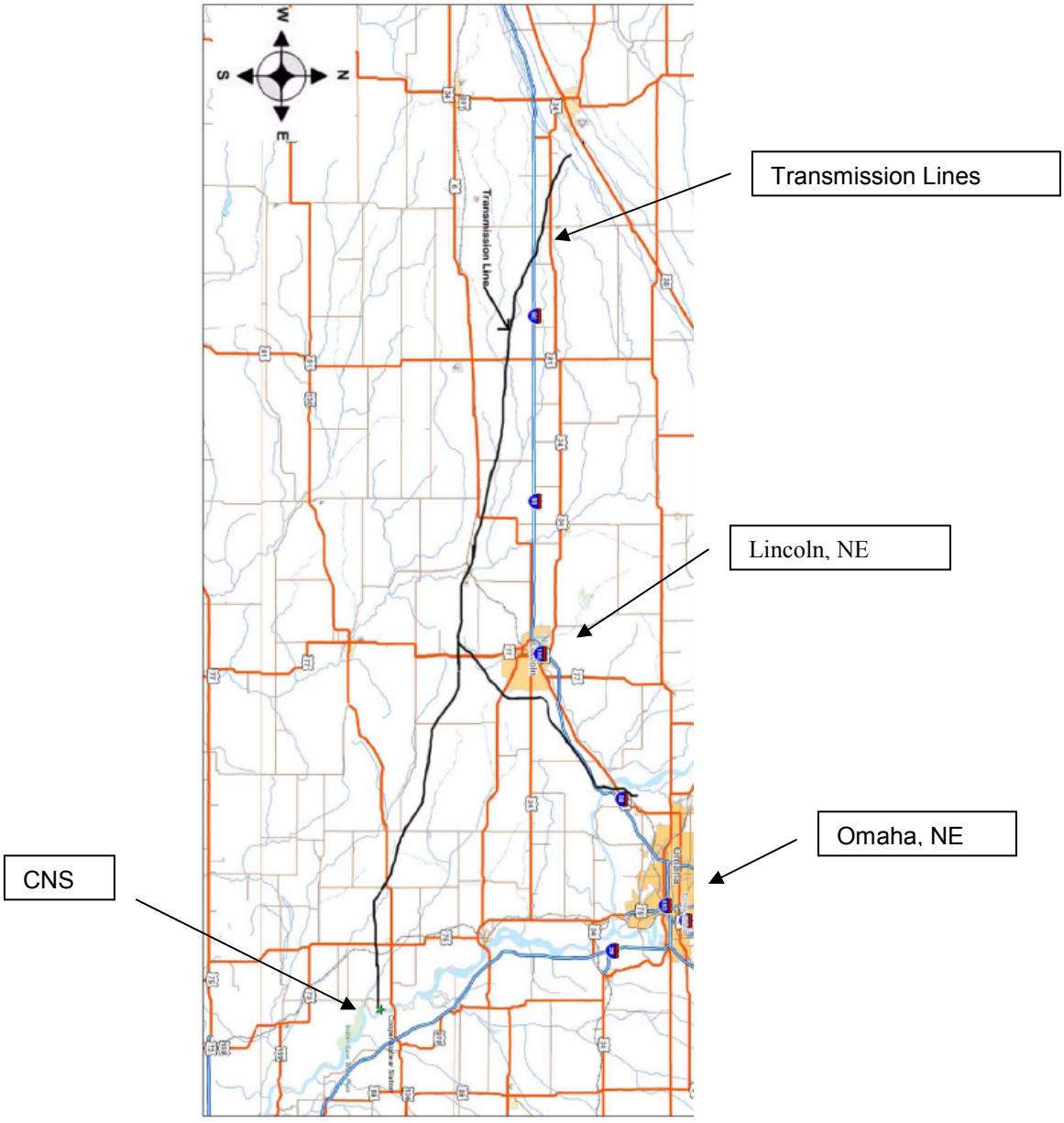
ADAMS Accession No. **ML090070507**

OFFICE	LA:DLR	PM:DLR:RPB2	PM:DLR:RPB1	BC:DLR:RPB1
NAME	SFigueroa	ESayoc	TTran	DPelton
DATE	01/21/09	01/12/09	01/29/09	01/29/09

OFFICIAL RECORD COPY

Cooper Nuclear Station Site Map – 6 Mile Radius

ENCLOSURE 1



Cooper Nuclear Station Transmission Lines

ENCLOSURE 2

Letter to J. Cochnar from D. Pelton dated January 29, 2009.

DISTRIBUTION:

SUBJECT:

HARD COPY:
DLR RF

E-MAIL:
PUBLIC [or NON-PUBLIC, if appropriate]
RidsNrrDlrResource
RidsNrrDlrRpb1 Resource
RidsNrrDlrRpb2 Resource
RidsNrrDlrRer1 Resource
RidsNrrDlrRer2 Resource
RidsNrrDlrRerb Resource
RidsNrrDlrRpob Resource
RidsNrrDciCvib Resource
RidsNrrDciCpnb Resource
RidsNrrDciCsgb Resource
RidsNrrDraAfpb Resource
RidsNrrDraApla Resource
RidsNrrDeEmcb Resource
RidsNrrDeEeeb Resource
RidsNrrDssSrxb Resource
RidsNrrDssSbpb Resource
RidsNrrDssScvb Resource
RidsOgcMailCenter Resource

T. Tran
E. Sayoc
F. Lyon
D. Roth (OGC)
A. Jones (OGC)
N. Taylor (RIV)
E. Collins (RIV)
C. Casto (RIV)
B. Maier (RIV)
V. Dricks (RIV)
D. Chamberlain (RIV)
A. Vegel (RIV)
W. Walker (RIV)
G. Miller (RIV)

Cooper Nuclear Station

cc:

Mr. Ronald D. Asche
President and Chief Executive Officer
Nebraska Public Power District
1414 15th Street
Columbus, NE 68601

Mr. Gene Mace
Nuclear Asset Manager
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Mr. John C. McClure
Vice President and General Counsel
Nebraska Public Power District
P.O. Box 499
Columbus, NE 68602-0499

Mr. David Van Der Kamp
Licensing Manager
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Mr. Michael J. Linder, Director
Nebraska Department of Environmental Quality
P.O. Box 98922
Lincoln, NE 68509-8922

Chairman
Nemaha County Board of Commissioners
Nemaha County Courthouse
1824 N Street
Auburn, NE 68305

Ms. Julia Schmitt, Manager
Radiation Control Program
Nebraska Health & Human Services R & L
Public Health Assurance
301 Centennial Mall, South
P.O. Box 95007
Lincoln, NE 68509-5007

Mr. H. Floyd Gilzow
Deputy Director for Policy
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102-0176

Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 218
Brownville, NE 68321

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
612 E. Lamar Blvd., Suite 400
Arlington, TX 76011-4125

Director, Missouri State Emergency Management Agency
P.O. Box 116
Jefferson City, MO 65102-0116

Chief, Radiation and Asbestos Control Section
Kansas Department of Health and Environment
Bureau of Air and Radiation
1000 SW Jackson
Suite 310
Topeka, KS 66612-1366

Ms. Melanie Rasmussen
Radiation Control Program Director
Bureau of Radiological Health
Iowa Department of Public Health
Lucas State Office Building, 5th Floor
321 East 12th Street
Des Moines, IA 50319

Mr. Keith G. Henke, Planner
Division of Community and Public Health
Office of Emergency Coordination
930 Wildwood P.O. Box 570
Jefferson City, MO 65102

cc:

Mr. Art Zaremba, Director of Nuclear
Safety Assurance
Nebraska Public Power District
P.O. Box 98
Brownville, NE 68321

Mr. John F. McCann, Director
Licensing, Entergy Nuclear Northeast
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601-1813

Steward Minahan
Vice President
Nuclear and Chief Nuclear Officer
Cooper Nuclear Station
72676 – 648A Avenue
Brownville, NE 68321

Mike Boyce
Cooper Strategic Initiatives Manager
Cooper Nuclear Station
72676 – 648A Avenue
Brownville, NE 68321

Dave Bremer
License Renewal Project Manager
Cooper Nuclear Station
72676 – 648A Avenue
Brownville, NE 68321

Bill Victor
License Renewal Project Licensing Lead
Cooper Nuclear Station
72676 – 648A Avenue
Brownville, NE 68321

Jim Loynes
License Renewal Project Engineer
Cooper Nuclear Station
72676 – 648A Avenue
Brownville, NE 68321

Garry Young
License Renewal Manager
Entergy Nuclear
1448 S.R. 333, N-GSB-45
Russellville, AK 72802

Alan Cox
License Renewal Technical Manager
Entergy Nuclear
1448 S.R. 333, N-GSB-45
Russellville, AK 72802

Dave Lach
LRP Entergy Project Manager
Entergy Nuclear
1448 S.R. 333, N-GSB-45
Russellville, AK 72802

Jerry Perry
500 S. Main Street
Rock Port, MO 64482

Yolanda Peck
1008 Central Ave.
Auburn, NE 68305

Kendall Neiman
830 Central Ave.
Auburn, NE 68305

Annie Thomas
1522 I Street
Auburn, NE 68305

John Chaney
1101 17th Street
Auburn, NE 68305

Darrell Kruse
2415 McConnell Ave.
Auburn, NE 68305

Daryl J. Obermeyer
64381 727A Road
Brownville, NE 68321

cc:

Sherry Black, Director
Auburn Memorial Library
1810 Courthouse Ave.
Auburn, NE 68305

Board of Brownville, NE
Attn: Chairman Marty Hayes
P.O. Box 67
223 Main Street
Brownville, NE 68321

Bob Engles
Mayor of Auburn, NE
1101 J Street
Auburn, NE 68305

Jo Stevens
Mayor of Rock Port, MO
500 S. Main Street
Rock Port, MO 64482

John Cochnar
U.S. Fish and Wildlife Service
Ecological Services
Nebraska Field Office
203 West Second Street
Grand Island, NE 68801

John Askew
Regional Administrator
U.S. EPA Region 7
901 N. 5th Street
Kansas City, KS 66101

Joann Scheafer, Director
Nebraska Department of Health & Human Services
301 Centennial Mall South
Lincoln, NE 68509

Doyle Childers, Director
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Mark Miles
State Historic Preservation Officer
Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102

Michael J. Smith
State Historic Preservation Officer
Nebraska State Historical Society
P.O. Box 82554
Lincoln, NE 68501

Robert Puschendorf
Nebraska State Historical Society
1500 R Street,
P.O. Box 82554,
Lincoln, NE 68501-2554

Steve Anschutz
Field Supervisor
Nebraska Field Office
203 West Second Street
Federal Building, Second Floor
Grand Island, NE 68801

June DeWeese, Project Leader
Nebraska Field Office
203 West Second Street
Federal Building, Second Floor
Grand Island, NE 68801