BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

IN THE MATTER OF THE APPLICATION BY TRANSCANADA KEYSTONE PIPELINE, LP FOR A PERMIT UNDER THE SOUTH DAKOTA ENERGY CONVERSION AND TRANSMISSION FACILITIES ACT TO CONSTRUCT THE KEYSTONE PIPELINE PROJECT	)	HP 07-001 **DIRECT TESTIMONY OF SCOTT ELLIS**

1. Please state your name and address for the record.

Answer: Scott L. Ellis, home address 2055 Bonner Spring Ranch Road, Laporte, Colorado.

2. What is your role with the TransCanada Keystone Pipeline project?

Answer: I am an employee of ENSR, the lead environmental contractor for the Keystone Pipeline Project.

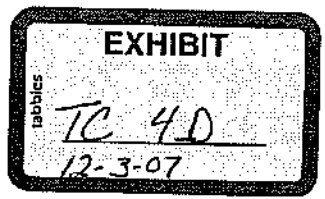
3. Please state your professional qualifications.

Answer: I have been employed at ENSR, an environmental and engineering consulting company, for the past 32 years. My primary experience has been the preparation of Environmental Impact Statements for pipeline construction projects and other large industrial developments throughout the United States; and the supervision of data collection programs necessary to prepare applications for federal and state permits. My technical background is in the area of plant ecology. I am a graduate of Cornell University.

4. Have you provided your resume?

Answer: Yes, a copy of my resume is attached to my testimony as Exhibit A.

5. What are your responsibilities on the Keystone Project?



Answer: As part of a team, I am responsible for overseeing the collection of information needed to prepare federal and state applications for permits needed to construct and operate the Keystone pipeline system.

6. Are you responsible for portions of the application that Keystone has filed with the South Dakota Public Utilities Commission seeking a siting permit for the Keystone Pipeline?

Answer: Yes.

7. For which portions of Keystone's application are you responsible?

Answer: I assisted with and am responsible for the following sections:

- 5.1 Environmental Information Filed with the Department of State
- 5.2 Summary of Environmental Impacts
- 5.3 Physical Environment
- 5.5 Terrestrial Ecosystems
- 5.6 Aquatic Ecosystems
- 5.7 Land Use and Local Land Controls (with the exception of 5.7.4 Local Land Use Controls)
- 5.9 Air Quality
- 6.2.6 Cultural and Historical Resources
- 6.4.3 Noise Impacts
- 6.4.4 Visual Impacts

8. Describe the environmental information compiled by Keystone and filed with the U.S. State Department described in Section 5.1 of the Application.

Answer: Keystone is required to obtain a Presidential Permit from the Department of State in order to construct pipeline facilities across the international border. As required by the National Environmental Policy Act (NEPA) the Department of State is preparing an Environmental Impact Statement (EIS) with respect to the project. On August 10, 2007, the Department of State issued a Draft EIS, which tentatively concluded that the Keystone project would result in limited adverse environmental impacts both during construction and operation, and would be an environmentally acceptable action. The comment period on the Draft EIS closes on September 24, 2007 and a Final EIS is expected in November or December 2007. The environmental submittals that Keystone has provided to the Department of State and which support the South Dakota siting permit application are described in Section 5.1. of Keystone's application in this proceeding, and are included in Exhibit C to the application.

9. Describe consultations with federal and state agencies that were used to develop this application.

Answer: Consultations were conducted with the U.S. Army Corps of Engineers (USACE), and the U.S. Fish and Wildlife Service (USFWS) in connection with seeking permits and approvals from those federal agencies. Consultations and meetings were also completed during 2006 and 2007 with staff from the following South Dakota state agencies: South Dakota State Historical Society (State Historic Preservation Officer), Public Utilities Commission, Department of Environment and Natural Resources (Surface Water Quality Program, Fish and Game Department, Air Quality Program), Department of Transportation, and State Land.

10. Describe the information contained in Section 5.2 Summary of Environmental Impacts of the South Dakota application.

Answer: Table 3 in this section provides a summary of the impacts on: (a) air quality, (b) geology, minerals and paleontology, (c) soils and agriculture production, (d) water resources, (e) vegetation, (f) wildlife, (g) aquatic resources, (h) sensitive species, (i) land use and (j) cultural resources. Other issues summarized in this table include: Native American Consultation, Socioeconomic conditions; and Public Health and Safety.

11. What does Section 5.3 of the application comprise?

Answer: The various subsections in Section 5.3 describe the physical environment through which the Keystone project will pass and delineate the effects of the proposed facility on the physical environment.

12. Describe the information and impact evaluation contained in Section 5.3.1 -- Land Forms and Topography.

Answer: The pipeline will cross terrain of low relief and elevation changes of 150 feet or less. The primary land forms crossed by the pipeline route are the Dakota-Minnesota Drift and Lake-bed Flats, extending from the state boundary with North Dakota to the James River watershed.. The James River and the Missouri River constitute the only major river valleys to be crossed. These land forms consist almost entirely of geologically recent glacial deposits. Aerial photograph maps that indicate topography of the Keystone pipeline route in South Dakota are provided in Exhibit A to Keystone's application.

13. Describe the information and impact evaluation contained in Section 5.3.2 -- Geology and Paleontology.

Answer: The pipeline route crosses glacial till deposits across the nearly entire length of the South Dakota project segment. There are very limited bedrock exposures at the surface, consisting of shale, sandstone, and limestone. Limestone formations are deeply buried and pose

little risk of subsidence from fissures and sinkholes (karst). Keystone will investigate subsidence risk from potential karst hazards prior to construction and design the pipeline to account for such hazards. Glacial deposits may occasionally contain large vertebrate mammalian fossils. Keystone does not propose to recover or study mammalian fossils that are inadvertently discovered during construction. No unique geologic features protected by state or federal agencies would be crossed by the pipeline route.

14. Describe the information and impact evaluation contained in Section 5.3.3 Economic Mineral Deposits.

Answer: The pipeline will not cross currently active mineral extraction operations. The pipeline route does not cross known underlying oil, gas, coal, or metallic ore deposits. Day and Clark Counties are important producers of sand and gravel and Hanson County is a major producer of crushed stone. However, glacial sand and gravel deposits do occur over a large area within South Dakota and any limited loss of access due to the installation of the Keystone pipeline will be very small relative to the available supply.

15. Describe the information and impact evaluation contained in Section 5.3.4 – Soils.

Answer: As detailed in Section 5.3.4 of the application, soil maps were provided for the South Dakota route in Exhibit A. The Keystone pipeline route crosses soils formed in glacial deposits consisting of clay, sand, gravel, and cobbles. From Miner County to the Nebraska state line, soils have formed in glacial deposits as well as wind-deposited loess. The majority of the soils crossed by the project are deep, with a well-developed topsoil horizon. These soils are used for row crop agriculture and pastureland. Poorly drained soils formed in glacial till with a high clay content support pothole wetlands and wet meadows. Wetlands also occupy sandy and

gravelly soils where the water table is at or near the soil surface. The predominant occurrences of soils dominated by wetlands are in Marshall and Day Counties. During construction, potential impacts to soils will be minimized by segregating topsoil from subsoils during trench excavation, by relieving compaction by ripping in heavy equipment travel areas, and by stabilizing disturbed soils using standard erosion control measures outlined in the Keystone project Construction Mitigation and Reclamation Plan (CMR Plan), submitted as Exhibit B to Keystone's application.

16. Describe the information and impact evaluation contained in Section 5.3.5 -- Erosion and Sedimentation.

Answer: Approximately five percent of the overall project surface disturbance will affect highly erodible soils. Potential impacts to soils will be minimized or mitigated through the use of the measures identified in CMR Plan.

17. Describe the information and impact evaluation contained in Section 5.3.6 -- Seismic, Subsidence and Slope Stability risks.

Answer: The Keystone Project will be located mostly in relatively level terrain in South Dakota. Where the pipeline route crosses moderately steep slopes, some grading will be required. Steep slopes need to be graded to gentler slopes for operation of construction equipment and to accommodate pipe bending limitations. Slopes will be reconstructed to their original contours during restoration. South Dakota lies within an area considered to be at the lowest possible risk for earthquakes in the U.S. There have been no earthquakes of a magnitude capable of damaging welded steel pipelines within South Dakota during historical times. The risk of significant seismic risk in South Dakota is extremely low. The risk of subsidence was previously discussed under geology and paleontology.

18. Describe the information and impact evaluation on vegetation communities and wildlife habitat contained in Section 5.5 – Terrestrial Ecosystems.

Answer: Construction of the pipeline will disturb approximately 97 acres (three percent of the proposed corridor in South Dakota) of wetland/riparian areas. These wetlands are almost entirely palustrine emergent wetlands (wet meadows) – only 0.2 acre of forested wetlands will be affected. To mitigate the potential for impacts, Keystone will implement specific procedures as outlined in the CMR Plan. Pipeline construction through wetlands must comply, at a minimum, with USACE Section 404 permit conditions. Section 404(b)(1) guidelines restrict the discharge of dredged or fill material into wetland areas where a less environmentally damaging practicable alternative exists.

Construction of the pipeline will disturb approximately two acres (0.1 percent of the proposed corridor) of forested areas in South Dakota. Construction of the pipeline will necessitate clearing of the ROW and permanent conversion of the affected wooded areas for the permanent ROW.

Over the operational life of the pipeline, woody vegetation in forested wetlands and areas will be removed periodically above the pipeline (approximately 15 feet on each side of the centerline) to maintain visibility of the area above the pipeline for aerial pipeline observation and to permit access to all areas along the pipeline in the event of an emergency.

Of the 2,928 acres of construction ROW, approximately 752 acres represent potential wildlife habitat. The majority of this habitat consists of grasslands and pasturelands. The effects of long-term habitat loss on native wildlife populations will be relatively small since the majority of habitat disturbance will be located in agricultural habitats. Since the project involves very minimal tree clearing, the potential for disturbance of raptors is minor. Impacts resulting from

increased noise and human presence are also expected to be temporary and minor. Important wildlife habitats that will be crossed by the project route include approximately 0.5 mile of a SDGFD designated Game Production Area and the Missouri River.

Normal pipeline operations will have negligible effects on terrestrial wildlife resources. In order to reduce potential impacts to important wildlife resources as a result of maintenance activities, Keystone will consult with the appropriate state wildlife agencies prior to the initiation of maintenance activities beyond standard inspection measures.

19. With respect to Section 5.5.3 – Threatened and Endangered Species – how were agency consultations conducted for terrestrial threatened and endangered species and other biological resources, and what surveys were completed for the Keystone Project in South Dakota?

Answer: Keystone developed general wildlife habitat and occurrence information from published sources, data bases, and interviews with state and federal agency staff. This information is included in the environmental reports in Exhibit D of the application. Keystone coordinated with the USFWS, the South Dakota Game, Fish & Parks Department, and the South Dakota Natural Heritage programs in order to initiate biological surveys in the summer of 2006 and the winter of 2006-2007. Based on consultations with the SDGFP Department and the USFWS, survey plans were developed and provided to the USFWS and SDGFP Department for review and approval. Field surveys were completed in 2006 and 2007 for the following habitats and species:

- General raptor nest surveys. A winter raptor nest survey was conducted by helicopter along the proposed pipeline route in South Dakota in January 2007. Observed nest structures in trees were located with Global Position System (GPS) instruments, and

mapped. The report on this survey was submitted to the Department of State in March 2007, and was provided to the SDPUC in response to a data request.

- Bald eagle winter roost surveys. A bald eagle winter roost survey was completed in January 2007. No roosts were observed in South Dakota within one mile of the pipeline route. The report on this survey was submitted to the Department of State in March 2007, and was provided to the SDPUC in response to a data request.
- Least tern and piping plover surveys. A nesting season survey was conducted in May 2007 at the proposed Missouri River crossing at Yankton. One pair of piping plovers was observed foraging within 0.25 mile of the pipeline centerline, but no nests or nesting behavior were observed. No least terns were observed at this crossing location. The report for this survey will be filed with the Department of State in late September 2007.
- Dakota skipper butterfly. Surveys for suitable native grassland habitat for this species were conducted in September 2006 and again in May 2007 to address pipeline routing changes. As the result of the two habitat surveys, two tracts (one in Day County, one in Yankton County) appeared to be highly suitable for Dakota Skipper occurrence. These two tracts were examined by Mr. Dennis Skadsden, a South Dakota skipper expert in late June 2007. Dakota skippers were found to be present on one tract crossed by the pipeline route in Day County. The report for the 2006 habitat survey was filed with the Department of State in November 2006; the 2007 habitat and adult skipper butterfly skipper surveys will be filed with the Department of State in September 2007.
- Western prairie fringed orchid. Surveys for suitable native grassland habitat for this species were conducted in September 2006 and again in May 2007 to address pipeline routing changes. As the result of the two habitat surveys, seven habitat sites were

examined in late June 2007 by Dr. Don Hazlett, a botanist specializing in prairie flora. No populations of the western prairie fringed orchid were found on any of these sites. The report for the 2006 habitat survey was filed with the Department of State in November 2006; the 2007 habitat and orchid surveys will be filed with the Department of State in September 2007.

20. Did Keystone consult with the U.S. Fish & Wildlife Service regarding the wetland and grassland easements that would be crossed by the pipeline?

Answer: On June 8, 2006 the U.S. Fish & Wildlife Service provided a letter regarding segments of the proposed route that would cross Fish & Wildlife Service grassland and wetland easements in South Dakota. The letter included potential re-route recommendations which would reduce the extent of wetland and grassland impacts. A re-route proposal was developed in response and presented to the Fish & Wildlife Service Refuge staff in a meeting in Fargo on July 18, 2006. As a result of the meeting, Keystone agreed to: (i) refine its route to move the route away from Day County grasslands and Raymond prairie chicken leks; and (ii) make a minor re-route to avoid the Miner County grassland easement. On September 11, 2006, Keystone provided revised route maps for the entire segment in South Dakota to the USFWS for its review and comment. Additional minor route adjustments were made to avoid wetlands within wetland easements as the result of additional USFWS comments, and supplemental wetland surveys completed in May 2007.

21. Describe the information and impact evaluation on aquatic communities contained in Section 5.6 -- Aquatic Ecosystems.

Answer: Wetlands and riverine habitats occupy approximately four percent of the proposed pipeline route. Approximately 95 percent of the wetlands crossed are characterized as

palustrine, which includes classifications such as marshes, bogs, and prairie potholes. The remaining five percent are riverine or areas that are contained within a channel. To mitigate the potential for impacts, Keystone will implement procedures as outlined in the CMR Plan.

Five perennial streams are crossed by the proposed pipeline route in South Dakota, including the Missouri River. Keystone will directionally drill the Missouri River crossing. Open-cut trenching will be used at the other perennial streams and can cause the following impacts: loss of in-stream habitat through direct disturbance, loss of bank cover, disruption of fish movement, direct disturbance to spawning, water quality effects and sedimentation effects. Impacts will be mitigated through implementation of procedures outlined in the CMR Plan.

Hydrostatic testing of the pipeline will also have minor effects on five perennial streams in South Dakota. Relatively small one-time withdrawals will occur in accordance with withdrawal permits. The discharge of hydrostatic test water will follow state permit requirements, which will reduce potential effects on water quality or aquatic organisms.

22. How were agency consultations conducted for aquatic threatened and endangered species and other biological resources, and what surveys were completed for the Keystone Project?

Answer: Seven water bodies crossed by the proposed route in South Dakota contain known or potential habitat for federally and state-listed species fish and mussel species. These include Foster Creek (Topeka shiner), South Fork Pearl Creek (Topeka shiner), Redstone Creek (Topeka shiner), Rock Creek (Topeka shiner), Wolf Creek (Topeka shiner), James River (pallid sturgeon and winged mapleleaf mussel), and the Missouri River (pallid sturgeon and scaleshell and Higgins' eye mussels).

Field surveys were completed in 2006 and 2007 for the following habitats and species:

- Topeka shiner. A Topeka Shiner habitat survey was completed in the fall of 2006 at 21 stream crossings. It was concluded that seven streams should be surveyed in 2007 to verify presence or absence of this species. Field surveys were conducted during June 2007 at seven stream crossings. A population of the Topeka shiner was verified as present in one stream in Miner County. The report on the 2006 habitat surveys was filed with the Department of State in November 2006, and attached to the SDPUC April 2007 application. The results of 2007 presence/absence surveys will be filed with the Department of State in late September 2007.
- Mussels. A field survey was conducted for the federally endangered Winged Mapleleaf and Scaleshell Mussels at the James River crossing in September 2006. Neither of these species were present, but eight species of native mussels were found. The report for this survey was filed with the Department of State in November 2006, and was attached to the SDPUC April 2007.

23. Has a Biological Assessment been submitted to the U.S. Fish and Wildlife Service for this project?

Answer: A draft Biological Assessment was submitted to Mr. John Cochnar, the USFWS lead for the Keystone project in early September 2007. Mr. Cochnar and his staff are currently reviewing this document, and feedback to the Department of State and Keystone is expected by mid-October 2007.

24. Describe the information and impact evaluation on Land Use contained in Sections 5.7.1 -- Existing Land Use, Section 5.7.2 -- Displacement, and Section 5.7.3 -- Compatibility with Existing Land Use and Measures to Ameliorate Adverse Impacts.

Answer: Section 5.7.1 of the application describes existing land uses affected by the pipeline corridor. Table 7 on page 49 summarizes this information. Of the 219.9 mile route in South Dakota, all but 0.5 mile is privately owned. The 0.5-mile segment is state-owned and managed. No Tribal or federal lands are crossed by the proposed route. No homes or residents will be displaced by the construction or operation of the Keystone Pipeline. Eighteen residences are within 500 feet of the proposed pipeline centerline.

To account for short pipeline reroutes, the lengths of land uses crossed summarized Keystone's April 2007 application were re-interpreted and recalculated for inclusion in the data request response submitted to the SDPUC on August 17, 2007 (Data Response 2-5).. The pipeline length as the result of this reinterpretation is nearly identical to that provided in the April 2007 application, and the relative lengths of land uses crossed are nearly the same.

25. Will any homes or residents in South Dakota be displaced by the construction or operation of the Keystone Pipeline?

Answer: No homes or residents will be displaced as stated in Section 5.7.2 of the application.

26. Is the Keystone Pipeline compatible with the predominant land use along the chosen route?

Answer: The Keystone Pipeline will be compatible with the predominant land use, which is rural agriculture, because the pipeline will be buried to a depth of four feet in agricultural areas, and will not interfere with normal agricultural operations. Approximately 2,251 acres or 77 percent of land disturbance will affect land in current or previous agricultural use. In most locations, the pipeline will be placed below agricultural drain tiles and drain tiles that are damaged will be repaired. The only above-ground facilities will be pump stations and block

valves located at intervals along the pipeline. The pipeline will be located away from existing rural residences and farmsteads reducing the likelihood of interference with construction of future structures and the future installation of buried utilities.

27. Describe the information and impact evaluation on air quality contained in Section 5.9 -- Air Quality.

Answer: No hydrocarbon combustion sources will operate at pump stations because the pumps will be powered by electricity provided by an electrical utility. Mobile sources include the vehicles and equipment used during construction. Fugitive sources include road dust and dust generated by construction activities along the right of way. Keystone will limit dust impacts in residential and commercial areas adjacent to pipeline construction by utilizing the dust minimization techniques in accordance with the CMR Plan, Exhibit B.

28. Describe the information and impact evaluation contained in Section 6.2.6 -- Cultural and Historical Resources.

Answer: Based on research designs approved by the South Dakota State Historic Preservation Office (SHPO), an intensive pedestrian field survey of selected segments of the proposed route was conducted in areas with high potential to contain archaeological resources in 2006. Approximately 38 miles of the proposed 219.9-mile route in South Dakota were selected for an intensive pedestrian field survey of a 300 foot construction corridor. Through 2006, 17 cultural resources and two isolated finds were located during the field surveys. Site records for five previously recorded historic railroads located within the project area were updated. The 12 cultural resources included prehistoric lithic scatters, two rock cairns, historic foundations, a house, shed, and farmstead. Of these, the two rock cairns and one archaeological artifact scatter

were recommended as potentially eligible for the NRHP. Both of the rock cairns and the artifact scatter were avoided by rerouting the proposed pipeline centerline.

If previously undocumented sites are discovered within the construction corridor during construction activities, all work that might adversely affect the discovery will cease until Keystone, in consultation with the appropriate agencies such as SHPO, can evaluate the site's eligibility and the probable effects. If a previously unidentified site is recommended as eligible to the NRHP, impacts will be mitigated pursuant to the Unanticipated Discovery Plan submitted to the SHPO. Treatment of any discovered human remains, funerary objects, or items of cultural patrimony found on federal land will be handled in accordance with NAGPRA. Construction will not resume in the area of the discovery until the authorized agency has issued a notice to proceed. If human remains and associated funerary objects are discovered on state or private land during construction activities, construction will cease within the vicinity of the discovery and the county coroner or sheriff will be notified of the find. Treatment of any discovered human remains and associated funerary objects found on state or private land will be handled in accordance with the provisions of applicable state laws.

Reports on field surveys have been filed with the South Dakota SHPO as they have been generated. 2007 field survey reports will be filed with the Department of State in September 2007, and will also be furnished to the South Dakota SHPO. The survey reports contain preliminary site eligibility determinations. Concurrence for these determinations are pending from the Department of State and further consultations between the SHPO and Keystone are planned. All Native American consultation is being conducted by the Department of State.

29. Describe the information and the evaluation of noise impacts on sensitive land uses contained in Section 6.4.3.

Answer: Noise impacts from peak construction will be short-term (estimated to be a week to 30 days), and will occur in rural areas. There are estimated to be 18 residences within 500 feet of the pipeline route. Pump station electrical pumps will be long-term noise sources. Keystone will attenuate noise levels at any nearby residences to insure that noise from these facilities will comply with applicable federal, state, and local regulations.

30. Describe the information and the evaluation of impacts on visual resources contained in Section 6.4.4.

Answer: An analysis of recreational data bases did not identify any designated public scenic outlooks or viewing areas crossed by the pipeline route. Visual resource impacts from construction activities will be of short duration due to implementation of soil stabilization and revegetation measures contained in the CMR Plan. Pump stations will be the only aboveground components. They will represent small industrial facilities within a site of no more than five acres within a rural landscape.

31. Do you adopt those sections of the application referenced above and all of the information and analysis contained therein, as well as the data responses discussed above, as your testimony in this proceeding?

Answer: Yes.

32. Do the portions of the application for which you are responsible support the granting of a permit by the Commission for the Keystone Pipeline Project?

Answer: Yes they do.

33. Does this conclude your testimony?

Answer: Yes it does.

Dated this 21st day of September, 2007.

SCOTT ELLIS

Scott L. Ellis

Years Experience: 31

Technical Specialties

- Management of Environmental Studies Required for State and Federal Permits
- Design and Execution of Baseline and Impact Assessment Studies
- Biological Assessment for Threatened and Endangered Species

Professional History

- ENSR

Education

- BA (Biology and English) Cornell University

Representative Project Experience

A. Pipelines

Trow Engineering/TransCanada Keystone Pipeline. Current regulatory project manager for the acquisition of environmental permits for a crude oil pipeline from Alberta, Canada to refinery and pipeline interconnections destinations near Saint Louis, Illinois, and Cushing, Oklahoma. The proposed pipeline would cross the states of North and South Dakota, Nebraska, Kansas, Oklahoma, Missouri, and Illinois. Responsible for supervising environmental data collection programs (i.e. cultural resources, wetlands, and biological resources); coordination with state and federal permitting agencies concerning permit requirements; and oversight of environmental permit application preparation. Participation on a team to identify the initial project pipeline routes and land use constraints. Routing studies included reviews of state data bases, aerial photography, and aerial flyovers. Internal team responsibilities include representation of the environmental programs in team progress meetings, supervision of field office coordination teams, and overall financial responsibility for work performed by ENSR staff and 7 subcontractor companies.

BLM, Shell New Mexico Products Pipeline. Project manager for the preparation of a a third party impact statement in 2003 for a the conversion of an existing 16-inch crude oil pipeline to petroleum products service. This pipeline extends from Odessa, Texas to Bloomfield, New Mexico. The BLM was the lead federal agency, and the Bureau of Indian Affairs was a cooperating agency. The Office of Pipeline Safety provided technical review of safety aspects of the conversion process. Major issues included the operational safety of a 1950's era pipeline, and potential spill effects on aquifers and surface water supply sources.

EXHIBIT A

BLM, U.S. Forest Service, and Federal Energy Regulatory Commission; Questar, Williams, and Kern River (QWK) Pipeline Projects Environmental Impact Statement. Project manager for an environmental impact statement project for three pipeline projects (75- and an 82-mile natural gas pipelines; 460-mile petroleum products pipeline) in the states of New Mexico, Colorado, and Utah. Major issues include the risk of petroleum product spills and natural gas releases, geologic hazards, Forest Service roadless areas, and cumulative impacts. Mr. Ellis was responsible for supervising internal staff and four specialty subcontractors.

BLM Farmington District/Mid-America Pipeline Company, Four Corners Natural Gas Liquids Loop Project Environmental Assessment and Environmental Permits. Project manager for the preparation of a BLM Environmental Assessment for a 400-mile, 12-inch natural gas liquids pipeline extending from northwest to southeast New Mexico. Primary issues for the project included a large number of sensitive species potentially affected by the project (approximately 100), extensive cultural resources, and construction methods for stream and river crossings. Responsibilities included scoping meeting organization and participation, directing staff preparing the Environmental Assessment and Biological Assessment, and coordinating with the BLM and the Bureau of Indian Affairs, which represented the Navajo Nation and Santa Ana and Zia Pueblos. The Environmental Assessment was completed on an expedited schedule of 7 months.

Mr. Ellis also supervised construction monitoring and inspection for sensitive plant and animal species, and sensitive stream crossings and wetland areas. The inspection and monitoring team included up to 5 staff stationed at various locations.

BLM Utah State Office/Williams Pipeline Company, Rocky Mountain System Natural Gas Liquids Loop Project Environmental Assessment and Environmental Permits. Project manager for the preparation of an Environmental Assessment for a 412-mile natural gas liquids 11-to 16-inch natural gas liquids loop pipeline between Bloomfield, New Mexico, and Browns Park, Utah. Responsibilities included supervision of the preparation of the environmental assessment, the biological assessment, sections of the project Plan of Development, 404 Permit Applications, and Storm Water and Hydrostatic Test Discharge Permit Applications. ENSR also provided biological resource and water quality protection measure compliance surveys and inspection during construction. Mr. Ellis supervised internal staff and two specialty biological subcontractor firms.

FERC, BLM , Entrega Natural Gas Pipeline EIS. Project manager for the preparation of a third-party impact statement in 2005 for a 328-mile 36 to 42-inch diameter pipeline from the Piceance Basin of Colorado to the vicinity of Cheyenne, Wyoming. FERC was the lead federal agency, and the BLM a cooperating agency. Major issues included river

crossings, and cumulative impacts with other existing and proposed pipeline projects sharing the same pipeline corridor.

FERC, BLM, WIC Piceance Basin Expansion Natural Gas Pipeline EIS. Project manager for the preparation of a third party impact statement in 2005 for a 142-mile 24-inch diameter pipeline from the Piceance Basin of Colorado to the vicinity of Wamsutter, Wyoming. FERC was the lead federal agency, and the BLM a cooperataing agency. Major issues included river crossings, and cumulative impacts with other existing and proposed pipeline projects sharing the same pipeline corridor.

BLM, U.S. Forest Service, Federal Energy Regulatory Commission/ KN Energy, Questar, TransColorado Pipeline Environmental Impact Statement and Environmental Permits. Project manager for the preparation of a third-party environmental impact statement in 1992 for a 300-mile natural gas pipeline from northwestern Colorado to northwestern New Mexico. Lead agencies were the Federal Energy Regulatory Commission, BLM, and the U.S. Forest Service. Major issues included pipeline routing alternatives in relation to land use and natuaral resources, expansion of existing utility corridors, threatened and endangered species, air quality in Class I areas, and visual effects. Technical field studies included effects on municipal water supply areas, effects of saline soils, and potential effects on threatened and endangered species, including the Mexican spotted owl, black-footed ferret, and bald eagle. Mr. Ellis was responsible for all aspects of environmental impact statement preparation including facilitation of scoping meetings, hearings, and interagency review meetings. In 1998, Mr. Ellis supervised the preparation of a Supplement to the final environmental impact statement that addressed new issues that emerged since 1992.

Mr. Ellis directed field studies required for U.S. Fish and Wildlife Service Section 7 consultation, COE 404 permit applications, and was responsible for oversight of a major cultural resource program that included mitigation of numerous large archaeological sites in southwestern Colorado and northwestern New Mexico.

Mr. Ellis also directed biological compliance inspections and surveys during pipeline construction, and participated in the processing of construction variance requests. Mr. Ellis was the primary contact with TransColorado and the agencies during the permitting period and construction. The permitting portion of the project was completed in 9 months under an expedited schedule so that construction could begin during the summer of 1998; construction was completed in 6 months.

BLM/Burlington Resources/Enron Capital and Trading, Lost Creek Gathering System Environmental Assessment, Wyoming. Project manager for a 150-mile natural gas gathering pipeline system. Supervised the preparation of a BLM environmental assessment, Biological Assessment for threatened and endangered species, 404 application, water quality applications and plans, and air quality permit applications.

Other studies included cultural resource surveys, aerial and ground surveys for endangered species, and wetland delineations. Special considerations included pipeline route selection that involved evaluation of the risk of encountering contaminated groundwater at trench depth near at a uranium mill site being closed under Nuclear Regulatory Commission oversight, and mitigation for multiple crossings of the Oregon Trail and other historic trails near Jeffrey City.

Mr. Ellis supervised pre-construction and construction monitoring surveys for raptors, sage grouse, and other sensitive species during the construction and reclamation period.

BLM/Amoco Production Company, Cave Creek Sour Gas System Environmental Assessment. Manager for the Cave Creek Sour Gas Project, a 40-mile sour gas gathering system. Key issues on this environmental assessment were risks from sour gas (hydrogen sulfide) releases and pipeline routing options that would minimize the risk of sour gas exposure to humans, wildlife, and fish.

Federal Energy Regulatory Commission and California State Lands, Questar Southern Trails Environmental Impact Statement/Environmental Impact Report. Project manager for a 675-mile crude oil to natural gas pipeline conversion project from northwestern New Mexico, across Arizona to Long Beach, California. ENSR was the environmental impact statement/environmental impact report contractor under the direction of Federal Energy Regulatory Commission and California State Lands. Major issues included urban construction effects, construction across Navajo Nation and Hopi lands, seismic hazards, and threatened and endangered species. Mr. Ellis was responsible for supervision of internal staff, and four specialty subcontractor firms.

Federal Energy Regulatory Commission and California State Lands, Tuscarora Natural Gas Pipeline Environmental Impact Statement/Environmental Impact Report. As a subcontractor to Resource Management, Inc, assistant project manager responsible for physical resource discipline sections for a joint federal and state Environmental Impact Statement/Environmental Impact Report for an approximately 300-mile, 20-inch natural gas pipeline form southeastern Oregon to Reno, Nevada. ENSR staff conducted field reviews, prepared Environmental Impact Statement/Environmental Impact Report sections, and participated in agency review meetings during the document preparation process.

Federal Energy Regulatory Commission and BLM/Tuscarora Pipeline Company, Hungry Valley Natural Gas Lateral Federal Energy Regulatory Commission Resource Reports and Environmental Assessment. Project manager for preparation of land use and soils sections of Federal Energy Regulatory Commission resource reports for a 15-mile natural gas pipeline lateral located on the north side of Reno, Nevada. Major issues included pipeline construction effects within residential areas, and cumulative effects among various development projects.

Washington Energy Facility Siting Council, TransMountain Pipeline Preliminary Study. Participant in a scoping study to determine environmental impact statement issues for a controversial crude oil pipeline project that would cross Puget Sound along both underwater and overland segments. The major project issue was the relative oil spill risks of pipeline operation versus the existing tanker traffic across the Sound. Responsible for participating in public meetings and providing a framework for evaluating oil spill risk issues in the environmental impact statement.

El Paso Natural Gas Co., All-American Pipeline Conversion Project. Principal-in-charge for conversion of an existing crude oil pipeline to natural gas service for the California segment of the pipeline. Oversight of Federal Energy Regulatory Commission resource report preparation, field surveys, and coordination with state and federal agencies.

Fluor Engineering, Champlain Pipeline Project. Environmental studies manager for a Federal Energy Regulatory Commission open-season application for a 300-mile natural gas pipeline project that crosses Vermont, New Hampshire, and Massachusetts. Managed technical staff, report production, and state and federal agency interactions.

K N Energy, Pony Express Pipeline Project Federal Energy Regulatory Commission Resource Reports, Applicant-Prepared Environmental Assessment, and Environmental Permits. Project manager for the preparation of Federal Energy Regulatory Commission resource reports and applicant-prepared Environmental Assessment for an 800-mile crude oil to natural gas conversion project in Wyoming, Nebraska, Colorado, Kansas, and Missouri. Major issues included cultural resources and threatened and endangered species. ENSR prepared all required storm water, COE 404 permit applications, coordinated with the State Historic Preservation Officers in the respective states, and obtained concurrence letters from the U.S. Fish and Wildlife Service. ENSR provided biological compliance survey support during construction. Mr. Ellis was responsible for managing five cultural resources contractors for various work locations along the pipeline, and for supervising the preparation of project construction compliance documents and environmental inspector training. Mr. Ellis provided primary coordination with Federal Energy Regulatory Commission staff during resource report and Environmental Assessment preparation, and supported K N Energy during negotiations with the Federal Energy Regulatory Commission concerning Certificate environmental conditions.

Northern Tier Pipeline Co., Northern Tier Crude Oil Pipeline Project. Vegetation task manager for a multi-state crude oil pipeline originating in Washington. Responsible for vegetation mapping, evaluating impacts, preparing revegetation guides, and conducting threatened and endangered plant surveys.

Williams Brothers Engineering, ARCO Ferndale Pipeline. Assistant project manager for a 34-mile, 16-inch natural gas pipeline from Sumas to Cherry Point, Washington. Prepared Federal Energy Regulatory Commission environmental report in 2 months. Issues included shoreline permits, wetlands, fisheries, endangered species, and cultural resources

B. Oil and Gas Field Development

BLM, Forest Service/Exxon et al; Riley Ridge Natural Gas Environmental Impact Statement. Vegetation task manager for a third-party Environmental Impact Statement for a gas field development in western Wyoming. Coordinated soil/vegetation correlation and impact assessment activities.

ICATEC S.A./PEMEX, Chicontepec Paleocanal Development Project. Land use task manager for a comprehensive oil field/infrastructure impact analysis for a large oil field in the state of Veracruz, Mexico. Responsible for defining land use patterns and identifying land use constraints in locating drilling sites and pipelines.

BLM/Wildrose Resources, Wildrose Pariette Unit Waterflood Project Environmental Assessment. Project manager for evaluating the effects of using surface water for an oil field waterflooding project in the Uinta Basin of Utah. Issues included effects on wildlife habitats in an adjacent Area of Critical Environmental Concern, and additional surface disturbance associated with construction of injection wells.

BLM/Chevron, Brennan Bottom Waterflood Project Environmental Assessment. Project manager for evaluating the effects of using surface water obtained from the Green River for an oil field waterflooding project in the Uinta Basin of Utah. Environmental Assessment issues included potential water withdrawal effects on threatened and endangered species inhabiting the Green River, and surface disturbance from construction of 14 new producing wells and 11 injection wells within the 1,200-acre Brennan Bottom Unit.

BLM/Coastal Oil and Gas Corporation, Natural Buttes Unit Environmental Assessment. Project manager for an infill expansion of an existing natural gas field in the Uinta Basin of Utah. This expansion consisted of the addition of up to 875 wells within the 78,000-acre Natural Buttes Unit. Environmental Assessment issues included visual resource effects seen from the White River, which is frequented by recreational boaters, and potential effects on nesting raptors and on threatened and endangered species.

BLM/Enron Oil and Gas Company, Chapita Wells Unit Environmental Assessment. Principal-in-charge and senior reviewer for an infill-expansion of an existing natural gas well field in the Uinta Basin of Utah. The expansion consisted of drilling 99 additional wells within the 12,000 Chapita Wells Unit. Environmental Assessment issues included visual resource effects of drill sites seen from the White River, which is frequented by recreational boaters; drill sites potentially seen from Fantasy Canyon, a unique geologic area; and potential effects on nesting raptors and on threatened and endangered species.

BLM/Resource Development Group, Resource Development Group Natural Gas Field Development Environmental Assessment. Principal-in-charge and senior reviewer for a new and existing natural gas field development project in the southern Uinta Basin of Utah. The proposed project consisted of drilling 970 wells on an 80-acre spacing within an area of approximately 80,000 acres. Environmental Assessment issues included loss of mule deer winter range and winter range use and mitigation of these losses; effects on sage grouse; effects on threatened and endangered species; development effects on areas that may be proposed for wilderness in the future; and cumulative effects of oil and gas development across the Uinta Basin.

BLM/Wexpro Company, Island Unit Environmental Assessment. Principal-in-charge and senior reviewer for an expansion of an existing natural gas field development in the Uinta Basin of Utah. The proposed project consisted of drilling 97 wells on 40-acre spacing within a 6,900 unit. Environmental Assessment issues included concerns about threatened and endangered species, construction in floodplains, and cumulative effects on air and water resources.

BLM/BIA/Costilla Energy, Hill Creek Unit Environmental Assessment. Principal-in-charge and senior reviewer for an expansion of an existing natural gas field development in the Uinta Basin of Utah. The proposed project consisted of drilling 47 wells on 40-acre spacing within a 5,350 unit located on BLM and the Uintah/Ouray Indian Reservation. Environmental Assessment issues included and amendment to the BLM Book Cliffs Resource Management Plan; concerns about threatened and endangered species, construction in floodplains, and cumulative effects on air and water resources.

H. Water Resource Development and Management

Basin Electric Power Cooperative, Grayrocks Dam. Participated in public hearings on downstream effects of water withdrawals on the Platte River resulting from construction of the Grayrocks Dam on the Laramie River. Presented testimony on the environmental variables that affect vegetation encroachment into the Platte River channel.

Denver Water Department, Two Forks Dam Threatened and Endangered Species Studies. Technical specialist responsible for the preparation of biological assessments for federally listed and candidate species that would be potentially affected by the construction and operation of the Two Forks Dam west of Denver, Colorado.

Responsible for the design and execution of population field studies for the Pawnee Montane Skipper butterfly, and for providing witness testimony on Platte River use by threatened and endangered species during agency hearings on the project.

Wyoming Attorney General, Technical and Litigation Support for Threatened and Endangered Species Issues, Platte River. Project manager responsible for providing technical support and expert testimony on endangered species potentially affected by water management changes in the North Platte and Platte River systems. Provided expert witness testimony on Platte River use by threatened and endangered species during instream flow hearings conducted by Nebraska water agencies.

Platte River Whooping Crane Habitat Maintenance Trust, Monitoring Plan. Project manager for developing a habitat monitoring plan for the Big Bend region of Nebraska. The plan included procedures for developing an automated land cover mapping system and employing habitat suitability models to measure the importance of habitat changes.

Bureau of Reclamation, Niobrara River Whooping Crane Habitat Study. Project manager for evaluating the effects of constructing the Norden Dam on the Niobrara River in Nebraska on whooping crane nesting and feeding habitat. The purpose of the project was to define operational criteria that could be used to maintain crane habitat after dam construction between the Bureau of Reclamation and U.S. Fish and Wildlife Service.