ENVIRONMENTAL ASSESSMENT

Application for Non-Capacity License Amendment

Nebraska Public Power District

North Platte/Keystone Diversion Dam Hydroelectric Project

FERC Project No. 1835-290

Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
888 First Street, NE
Washington, D.C. 20426

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TABLE OF CONTENTS

Section Page No.

LIST OF FIGURES

Figure No. Page No.

ENVIRONMENTAL ASSESSMENT

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF ENERGY PROJECTS
DIVISION OF HYDROPOWER ADMINISTRATION AND COMPLIANCE

1.0 INTRODUCTION

Project Name: North Platte/Keystone Diversion Dam Hydroelectric Project

FERC Project No.: 1835-290

1.1 Application

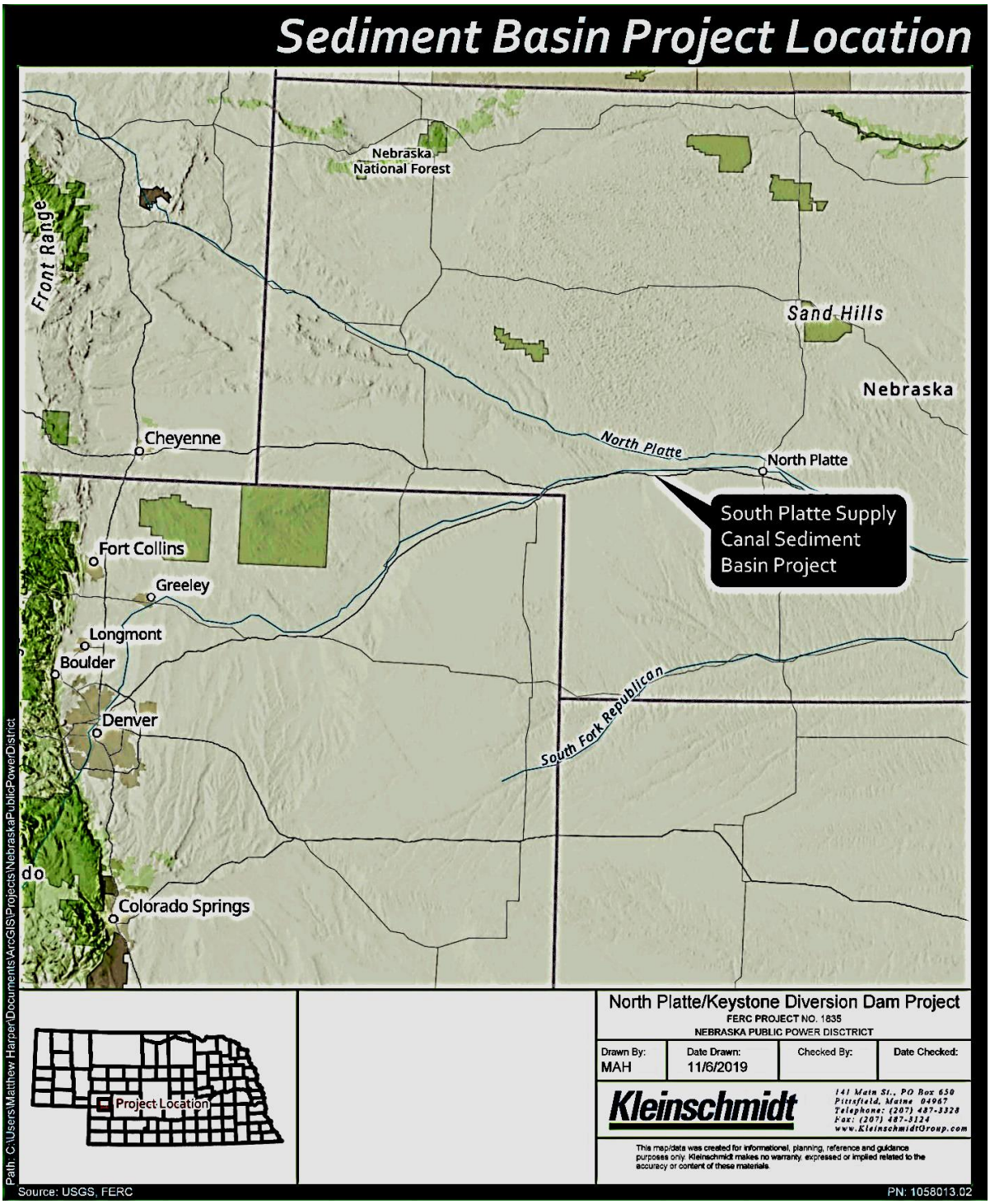
Application Type:	Non-Capacity License Amendment
Date filed:	November 13, 2019 and supplemented on December 12, 2019, January 29, 2020, and February 12, 2020
Licensee:	Nebraska Public Power District
Water Body:	North/South Platte Rivers
Counties & States:	Lincoln and Keith counties, Nebraska

1.2 Purpose and Need for Action

The Commission issued a license to Nebraska Public Power District (District or licensee) for the North Platte/Keystone Diversion Dam Project on July 29, 1998. The project is located on the North/South Platte Rivers in south-central Nebraska (Figure 1).

On November 13, 2019 and supplemented on December 12, 2019, January 29, 2020, and February 12, 2020, the District filed for Commission approval an amendment of license application to construct a sediment basin as part of the project's South Platte River Supply Canal (South Platte Canal) adjacent to the Korty Diversion Dam, and a new sediment disposal area to be used in conjunction with the new sediment basin. The existing canal has not been operational since 2015 due to the accumulation of sediment within the canal as a result of high flow events in 2013 and 2015. Since these high flow events, the District has been continuously removing sediment from the canal using traditional earth hauling equipment as part of its project maintenance practices. The construction and operation of the proposed facilities is needed to allow the District to provide a more efficient and safe means of maintaining operation of the canal.

Figure 1. Location of Proposed Action (Source: Nebraska Public Power District, 2019)

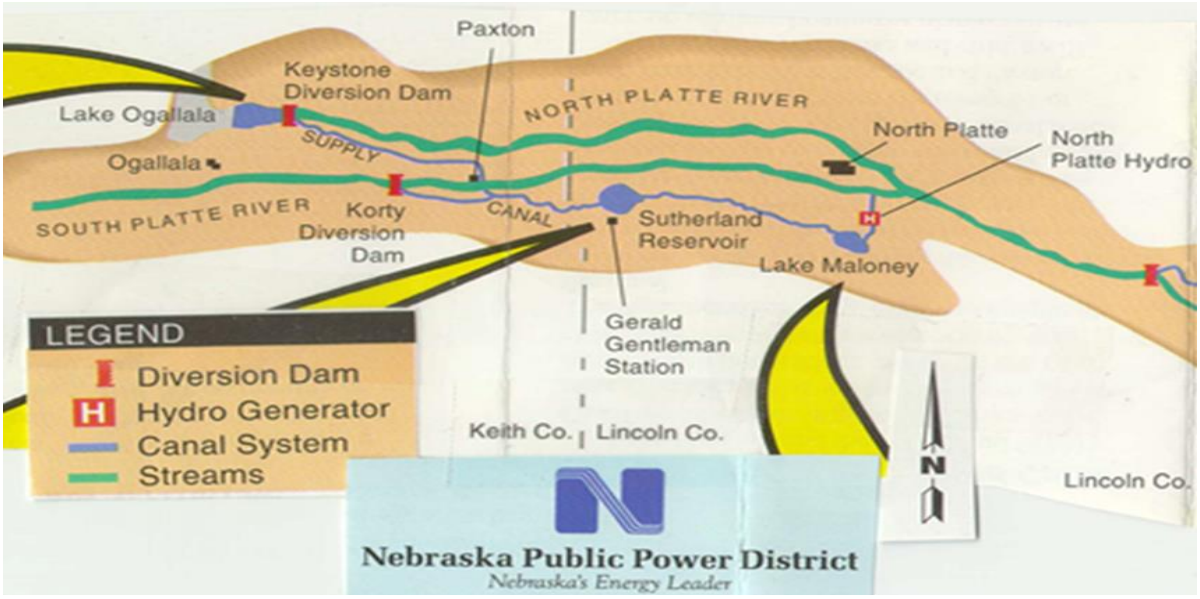


2.0 PROJECT DESCRIPTION AND OPERATION

2.1 North Platte/Keystone Diversion Dam Project Description

The following description of the North Platte/Keystone Diversion Dam Project is from the license and the Exhibit A. The project stores and utilizes water for the generation of hydroelectric power, condenser cooling for the Gerald Gentleman Steam Electric Station, the irrigation of land in central Nebraska, recreation, and other beneficial uses.[1] The project consists of diversion dams, impoundments, canals, and a powerplant (Figure 2). The 1,296-foot-long, 24.4-foot-high Keystone Diversion Dam, on the North Platte River, impounds a portion (220 acres) of Lake Ogallalla and diverts water into the 32.3-mile-long, 2,000 cubic feet per second (cfs) capacity Supply Canal. The 1,244-foot-long, 19-foot-high Korty Diversion Dam, on the South Platte River, diverts water into the 7.4-mile-long, 1,200 cfs capacity South Platte Canal. The South Platte Canal combines with the project's Supply Canal which eventually empties into Sutherland Reservoir, having a surface area of 3,050 acres and a storage capacity of 65,974 acre-feet. A 19.2-mile-long outlet canal, with three check structures, connects Sutherland Reservoir to Lake Maloney, which has a surface area of 1,670 acres and a storage capacity of 21,600 acre-feet. Lake Maloney supplies water through an 8,900-foot-long power Canal, to a powerhouse (North Platte Hydro), which contains two 13,500-kilowatt (kW) turbines and two 13,050-kW generators with a total installed capacity of 26,100 kW. Water leaves the powerhouse through a 2-mile-long tailrace canal.

Figure 2. Project Overview (Source: FERC Environmental Inspection Report, 2009)



[1] The 1,365 MW coal-fired Gerald Gentleman Station, owned and operated by the District, is Nebraska's largest electricity generating plant.

2.2 South Platte River Supply Canal Operations

The South Platte Canal operations are determined by water supply. When sufficient water is available in the South Platte River, this water is diverted to the South Platte Canal for hydropower production. In 2013 and 2015, high inflow events on the South Platte River resulted in sediment filling into the South Platte Canal. As a result, the canal has not been operational since the 2015 high inflow event. The licensee is currently in the process of removing the sediment from the South Platte Canal as part of an ongoing maintenance activity to restore the canal to its original design cross-sections using traditional earth hauling equipment. To date, the licensee has removed approximately 41,400 cubic yards of deposited sediment between the headgates of the canal and the parshall flume at milepost 0.88. The depth of the sediment deposited from the canal ranged from 8 feet at the headgates to 2 feet at the parshall flume. The licensee has removed 100,000 cubic yards of sediment between the parshall flume and milepost 7.31 feet. The depth of the sediment deposits ranged from 7 feet downstream of the parshall flume to 1 foot near milepost 7.31. The licensee will remove the remaining 35,000 cubic yards of deposited sediment from this section of the canal before the construction of the new sediment basin is complete.

3.0 PROPOSED ACTION AND ALTERNATIVES

3.1 Description of Licensee's Proposal

A. Proposed Action

The licensee proposes to construct a sediment basin as part of the project's existing South Platte Canal near the Korty Diversion Dam and a sediment disposal area adjacent to the canal for sediment management purposes (Figure 3). The proposed action would maintain function of the canal by managing sediment loads in water diverted from the South Platte River. The proposed facilities and features would occupy approximately 59.5-acres of licensee-owned land located outside the current project boundary. The licensee's application also includes a proposal to expand the project boundary to include the proposed facilities.

Specifically, the licensee proposes to use traditional earth hauling equipment to construct a sediment basin measuring approximately 280 feet wide and 1275 feet long at the bank. The basin would have 3:1 side slopes and a bottom that measures approximately 125 feet wide and 960 feet long. At the maximum operating water surface elevation (3,104.5 feet) the sediment basin would be approximately 20 feet deep and measure 1275 feet long and 245 feet wide. The average annual intake volume of the sediment basin would be approximately 65,000 cubic yards during normal canal

operation.[2] Approximately 4.3 acres of licensee-owned land would be added to the project boundary to incorporate the expanded footprint of the canal to include the proposed sediment basin. The licensee also proposes to construct a containment berm to create a sediment disposal area on 55.2 acres of licensee-owned lands adjacent to the Korty Diversion and canal. A 24-foot-wide berm would be constructed along the south end of the disposal area using either material removed from the sediment basin or material from within the adjacent uplands. A dredging discharge pipe and water return structure would be installed in the canal to deposit the dredged material into the disposal area and return the residual water back into the canal downstream of the sediment basin. The licensee proposes to construct a boat ramp of geocell grid and gravel at the northeast end of the sediment basin for use during dredging activities. The proposed boat ramp would not be open to the public. Access roads, fences, gates, and a parking area are also proposed in association with the sediment basin and berm.

During construction, the licensee would install sediment/erosion control devices[3] and traffic control measures, and would remove trees and stumps from the sediment basin excavation areas and access road areas. Following construction, disturbed areas would be regraded and restored, and traffic control and sediment/erosion control measures would be removed.

After the proposed facilities are completed and the canal is back in operation, the licensee would dredge sediment from the newly created sediment basin on a regular basis to manage sediment loads and ensure operational conditions. While such dredging activities would likely occur once a year between April and October, the frequency would vary depending upon flows within the South Platte River, quantity of sediment in the river, and quantity of canal diversion flows. The dredged sediment, consisting of a slurry of water and dredged material, would enter the disposal area through the dredging discharge pipe, and form an alluvial deposit as it flows into the area. The water would flow back to the canal through the water return structure.

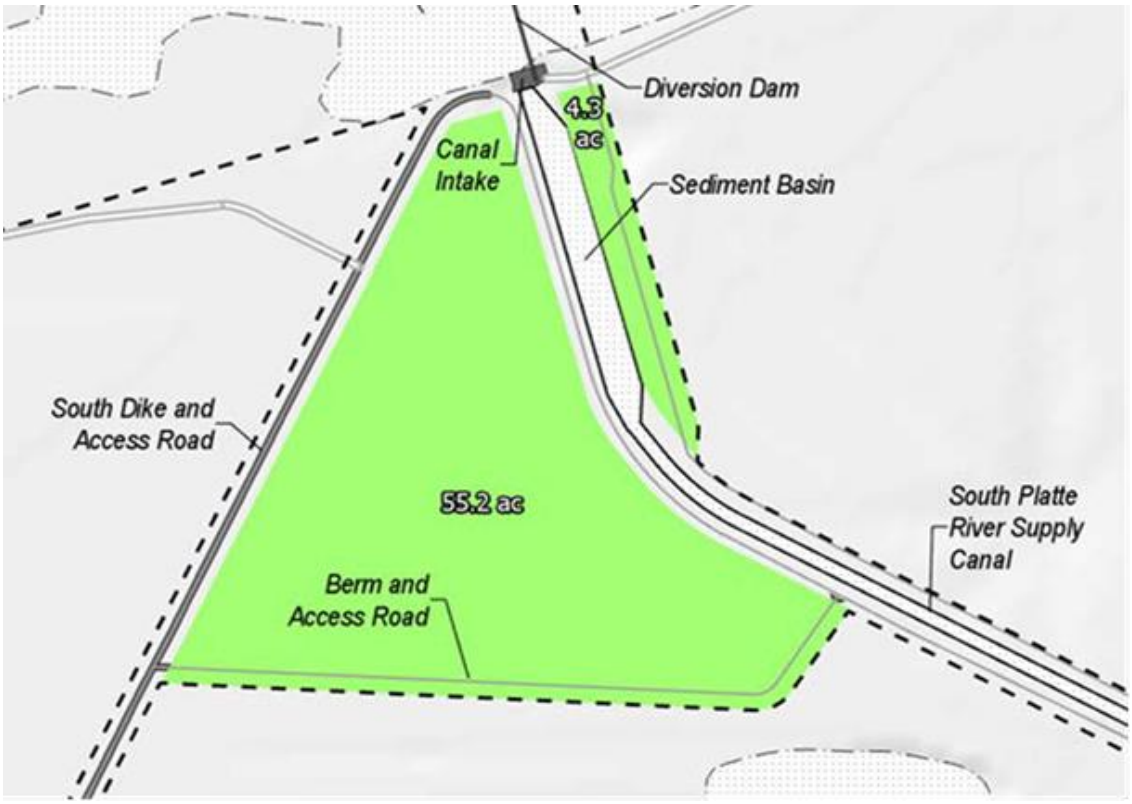
The proposed sediment disposal area is expected to have an initial lifespan of 10-15 years, after which the licensee would either clean the existing disposal area (remove sediment from the interior of the site and place it around the site's perimeter) or file

[2] The sediment basin has been designed with a capacity of approximately 86,500 cubic yards, which would allow the basin to be used for a full year, under average flow conditions, without dredging.

[3] Sediment and erosion control measures would be implemented in accordance with the licensee's NPDES Permit NER160000 from the Nebraska Department of Environment and Energy (NDEE) for Stormwater Discharges from Construction Sites and other applicable requirements of the NDEE.

application for Commission approval to construct a new disposal area. Any new disposal area would likely be placed on land adjacent to the project east of the canal.

Figure 3. Proposed Sediment Basin and Disposal Site at Korty Diversion Dam (Source: Nebraska Public Power District, 2019)



B. Proposed Environmental Protection Measures

The licensee proposes to implement numerous environmental protection and mitigation measures, including sediment and erosion control measures, before, during, and after construction of the facilities. These measures are intended to address potential impacts to the following: wetlands; terrestrial resources, including nesting eagles, migratory birds, federally-listed species; and cultural resources. In particular, the licensee proposes to implement the following measures:

- To address potential effects on the federally-listed least tern, piping plover, and whooping crane, avoid dredging during nesting seasons (to the extent possible) and if dredging needs to occur during such nesting seasons, conduct nest surveys using U.S. Fish and Wildlife Service (FWS) - recommended protocols.

- Prior to initiating construction activities, have a qualified biologist conduct a survey for nesting eagles within the affected area. If an eagle nest is

discovered consult with the FWS, prior to engaging in any activities that may impact nesting eagles, regarding how to mitigate any disturbance.

- To the extent possible, avoid dredging activities during the nesting seasons (April 1 to July 15) of migratory birds. If dredging needs to occur during nesting seasons, conduct FWS-recommended nest surveys. Based on certain site conditions, comply with specific recommendations within the FWS's November 26, 2019 letter prior to construction activities.

- Avoid vegetation removal during migratory bird nesting seasons (April 1 to July 15).

- Obtain a Clean Water Act (CWA) Section 404 permit from the U.S. Army Corps of Engineers (Corps) prior to engaging in any dredge or fill activities that would impact the 0.825 acres of jurisdictional wetlands at the site.

- Fully comply with the project's approved cultural resources management plan (CRMP)[4], including its provisions to address the unanticipated discovery of cultural artifacts during construction or operation of the proposed facilities. In particular, if such a discovery is made, the licensee would immediately cease such activities and contact the Nebraska State Historic Preservation Office (Nebraska SHPO) for further instructions. The provisions of the CRMP would also apply to the lands (i.e., disposal area) proposed for inclusion within a revised project boundary.

- Implement measures to prevent the spread of invasive plants and to restore and stabilize areas disturbed during construction using best management practices (BMPs) before and after excavation. Where possible, return areas affected by construction activities to pre-project conditions.

3.2 No-Action Alternative

Under the no-action alternative, the Commission would deny the licensee's non-capacity license amendment application. As a result, the licensee would not construct and operate the expanded sediment basin, sediment disposal area, and other associated facilities (i.e., boat ramp, parking area, access roads, etc.) needed to effectively manage sediment loads in the South Platte Canal and ensure that its operation is not significantly impacted by future high flow events. The licensee would continue its current maintenance practice of removing accumulated sediment in the South Platte Canal at times when such sediment loads negatively impact the operation of the canal.

[4] Order Modifying and Approving Cultural Resources Management Plan Under Article 406 (101 FERC ¶ 62,019) issued October 8, 2002.

3.3 Other Action Alternatives

The licensee's application indicates that no other feasible action exists. If the proposed sediment basin and disposal site is not approved, the licensee would continue its current maintenance practices of removing sediment from the canal, as needed, following high flow events.

4.0 AGENCY CONSULTATION, PUBLIC INVOLVEMENT, & STATUTORY AND REGULATORY REQUIREMENTS

4.1 Licensee's Consultation

The licensee's application discusses its pre-filing and post-filing consultation efforts regarding the proposed action. The licensee consulted with the FWS, Nebraska SHPO, Corps, Nebraska Department of Natural Resources, NDEE, and Nebraska Game and Parks Commission. Details regarding the licensee's consultation with the FWS, Corps, Nebraska SHPO, and NDEE are presented in more detail in Section 4.3, Statutory and Regulatory Requirements. By letter dated November 4, 2019, the Nebraska Game and Parks Commission provided comments on the proposed action recommending specific measures to avoid and/or minimize potential impacts on least terns, piping plovers, and whooping cranes. The recommended measures are consistent with similar measures recommended by the FWS. In its application, the licensee proposes to implement these recommended measures. The Nebraska Department of Natural Resources did not state any objection to the proposed amendment application.

4.2. Commission's Public Notice

On December 6, 2019, the Commission issued a 30-day public notice soliciting comments, motions to intervene, and protests of the licensee's application for a non-capacity license amendment with a comment deadline of January 6, 2020. By letter dated December 23, 2019, Central Nebraska Public Power and Irrigation District filed comments describing the significant interaction of the District's licensed project with its own licensed project (Kingsley Dam Hydroelectric Project No. 1417[5]) and identifies its full support of the District's amendment application. No other comments or submittals were received in response to the public notice.

4.3 Statutory and Regulatory Requirements

A. Endangered Species Act

[5] Order Issuing New License (84 FERC ¶ 61,079) issued July 29, 1998.

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of endangered or threatened species or result in any adverse modification of the critical habitat of such species. The following species are listed as either "threatened" or "endangered" under the ESA within Lincoln and Keith counties, including the proposed action area: least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), whooping crane (*Grus americana*), pallid sturgeon (*Scaphirhynchus albus*), and blowout penstemon (*Penstemon haydenii*).

The licensee's application includes a consultant-prepared environmental assessment (licensee EA) providing background information about applicable environmental resources and a discussion of the potential environmental effects of the proposed action. The licensee EA identifies the endangered least tern, threatened piping plover, endangered whooping crane, endangered pallid sturgeon, and endangered blowout penstemon as federally-listed species potentially affected by the proposed action.[6] The licensee EA concludes that it is unlikely that the site of the proposed action currently provides suitable habitat for the least tern, piping plover or pallid sturgeon, and states that the construction and operation of the proposed sediment basin could create potential habitat for least tern and piping plover within the project area. Further, the licensee EA notes that the proposed site does not contain suitable habitat for the blowout penstemon and that the only known location for whooping crane sightings in Keith County occurred in the Lake McConaughy area (i.e., outside the vicinity of the proposed site). Finally, while the licensee EA suggests that least tern, piping plover and whooping crane do not currently use the lands to be occupied by the proposed facilities, it identifies the licensee's plans to implement specific measures, as part of its proposal, to address potential effects on least tern, piping plover, and whooping crane should they use these lands in the future.

Commission staff has reviewed the information contained within the pending application and other applicable information and finds that the proposed action would have no effect on the blowout penstemon and pallid sturgeon, given the absence of suitable habitat, and may affect but is not likely to adversely affect the least tern, piping plover, and whooping crane, provided the above-noted protective measures are implemented. By letter issued December 9, 2019, Commission staff requested concurrence from the FWS, pursuant to Section 7 of the ESA, on the above findings. By letter dated January 6, 2020, the FWS concurs with Commission staff's determination under Section 7 of the ESA. Details regarding potential effects on federally-listed species are contained in Section 5.0, Environmental Analysis.

[6] On December 9, 2019, Commission staff viewed the FWS website (https://ecos.fws.gov/ipac/) to verify the accuracy of the licensee's list of federally listed species.

By letter dated November 26, 2019 (filed on December 12, 2019 as part of the licensee's supplemental filing), the FWS provides, among other things, comments on the proposed action with respect to the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act. In general, these mandates provide specific protections to bald and golden eagles and migratory birds. In response to the FWS's comments and recommendations, the licensee proposes to implement specific measures to ensure that the proposed action does not violate the provisions of these mandates. Further details regarding effects on eagles and migratory birds are contained in Section 5.0, Environmental Analysis.

B. National Historic Preservation Act

Under Section 106 of the National Historic Preservation Act,[7] and its implementing regulations,[8] federal agencies must take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places (defined as historic properties or National Register) and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

On May 20, 2019, the Nebraska SHPO concluded that there are no previously recorded cultural sites in the affected area based on several past surveys conducted in the area and no further investigations are recommended. By letter dated December 5, 2019, the Nebraska SHPO states that no historic properties would be affected by the proposed undertaking. Commission staff concur with the Nebraska SHPO's determination of no historic properties affected. Further details regarding effects on cultural resources are contained in Section 5.0, Environmental Analysis.

Pursuant to the Commission's Tribal Policy[9], Commission staff consulted with the federally-recognized tribes that have interests within the project's area of potential effect. On December 19, 2019, Commission staff sent a letter to specific tribes[10] requesting

[7] 16 U.S.C. §§ 306108 et seq. (2018). The National Historic Preservation Act was recodified in Title 54 in December 2014.

[8] 36 C.F.R. Part 800 (2019).

[9] https://www.ferc.gov/industries/hydropower/indus-act/order-2002/tribal - policy.pdf

[10] The consulted tribes include: the Apache Tribe of Oklahoma; Northern Arapaho Tribe of the Wind River Reservation, Wyoming; Cheyenne and Arapaho Tribes, Oklahoma; Cheyenne River Sioux Tribe of the Cheyenne River Reservation, South Dakota; Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota; Lower Brule Sioux Tribe of the Lower Brule Reservation, South Dakota; Northern Cheyenne

comments on the District's amendment application by January 19, 2020. By letter filed January 17, 2020, the Northern Cheyenne Tribal Historic Preservation Office (Northern Cheyenne THPO) requested formal consultation with the Commission. No other specific comments from the consulted tribes have been received. On March 2, 2020, Commission staff held a teleconference call with the Northern Cheyenne THPO in response to its request for formal consultation. In this regard, Commission staff has completed its consultation obligations pursuant to the Commission's Tribal Consultation Policy.

C. Clean Water Act

Under Section 401(a)(1) of the CWA, 33 U.S.C. § 1341(a)(1), a license applicant must obtain either a water quality certification (certification) from the appropriate state pollution control agency verifying that any discharge from a project would comply with applicable provisions of the CWA, or a waiver of such certification. A waiver occurs if the state agency does not act on a request for certification within a reasonable period-of-time, not to exceed one year after receipt of such request.

In its amendment application, the District provides documentation of its consultation with the NDEE, the agency responsible for water quality certifications.[11] By e-mail dated January 16, 2020, the NDEE states that it does not have any comments on the proposed amendment application. As such, a Section 401 water quality certification is not required for the proposed amendment.

Section 404 of the CWA requires authorization from the Secretary of the Army, acting through the Corps, for the discharge of dredged or fill material into all waters of the United States, including wetlands, both adjacent and isolated. In its application, the District states that the proposed sediment disposal area contains a total of 0.886 acres of wetlands and that it requested an Approved Jurisdictional Determination from the Corps by letter dated October 25, 2018. In its January 29, 2020 supplemental filing, the District provided a copy of the Corps' January 15, 2020 letter (with the jurisdictional determination) finding that the proposed disposal area contains 0.825 acres of jurisdictional wetlands. In response to the Corps' findings, the licensee states that it intends to obtain a Section 404 permit from the Corps prior to engaging in any dredge or fill activities that would impact the jurisdictional wetlands.[12]

Tribe; Oglala Sioux Tribe; Pawnee Nation of Oklahoma; Rosebud Sioux Tribe of the Rosebud Indian Reservation, South Dakota; Santee Sioux Nation, Nebraska; and Standing Rock Sioux Tribe of North and South Dakota.

[11] At the time of license issuance, the Nebraska Department of Environmental Quality (Nebraska DEQ) issued the water quality certification for the project. On July 1, 2019, the Nebraska DEQ and the Nebraska Energy Office merged into the NDEE.

[12] In its November 26, 2019 letter (included in the licensee's December 12, 2019

5.0 ENVIRONMENTAL ANALYSIS

This environmental assessment (EA) analyzes the environmental effects of the licensee's proposed action to construct and maintain a sediment basin, sediment disposal area, and other features related to the project's South Platte Canal, and it provides a basis for the Commission to make an informed decision on the licensee's non-capacity license amendment application. In this section, the affected environment in each relevant resource section is based on the licensee's non-capacity amendment application and/or the project license final environmental impact statement, unless otherwise noted.[13] This section also contains Commission staff's analysis of probable impacts.

5.1 General Area Description

The project area is located in south-central Nebraska within the Platte River Basin which is part of the sand-dominated Great Plains area. Over the millennia this area has received much of its eroded material from the Rocky Mountains, resulting in a network of braided rivers with large amounts of erodible sediment, high regional slopes, and highly variable discharges. Over the years, water development on the river, including the current operation of the project's dams and diversions, has altered the water and sediment discharge pattern of the Platte River system, contributing to channel narrowing and vegetation encroachment. Further, while reservoirs built on the river have significantly reduced the Platte River sediment load, it is still susceptible to a varying flow levels and varying channel widths, and easily erodible banks.

As previously stated, the project is located on the North/South Platte River and consists of diversion dams, impoundments, canals, and a powerhouse. The project is operated in coordination with the Kingsley Dam Hydroelectric Project No. 1417, located on the North Platte River, for irrigation and power production purposes. The North Platte/Keystone Diversion Dam is located between the upper and lower project works of the Kingsley Project, and combined, they cover a distance of 150 miles. The elevation within the Platte River Basin is 2,000 to 3,000 feet above sea level. Grasslands and farms dominate the project area with extensive cottonwood trees and wet meadows along the Platte River bottomlands. Water from the natural flow of the Platte River and from storage in Lake McConaughy, the primary project reservoir of the Kingsley Project located north of the Town of Ogallala, Nebraska, supplies most irrigated water for farms.

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filing), the FWS states that it would provide comments, pursuant to the Fish and Wildlife Coordination Act, on any Section 404 permit application that may be required by the Corps for jurisdictional wetlands.

[13] Final Environmental Impact Statement For Kingsley Dam (FERC Project No. 1417) and North Platte/Keystone Diversion Dam (FERC No. 1835) Projects. (FERC/FEIS No. 0063) filed August 1, 1998.

5.2 Resource Area Descriptions and Analysis

A. Terrestrial Resources

Affected Environment

In general, the area immediately adjacent to the South Platte Canal and Korty Diversion Dam planned for the proposed sediment basin and associated components has been significantly altered and disturbed by the construction, operation, and maintenance of the project, and currently lacks significant terrestrial resources. The surrounding area, including the lands for the proposed sediment disposal site, contain primarily grassland/prairie habitat with areas of riparian and upland deciduous trees and herbaceous emergent wetlands. The lands for the proposed disposal area site have been used to grow hay since 1965 and contain few trees, except for planted windbreaks. Wildlife that may be found in the area include a variety of migratory birds, resident birds, white-tail deer, mule deer, small mammals, amphibians, and reptiles. Wetlands and federally-listed endangered and threatened species are addressed below in Sections 5.2 B and 5.2 F, respectively.

Bald eagles utilize mature, forested riparian areas near rivers, streams, lakes, and wetlands, and all major river systems in Nebraska and golden eagles utilize arid, open country with grasslands and canyons in western Nebraska. These eagles are also common on the Platte River, including during the winter months. The licensee states that it is not aware of any eagle nests in the area around Korty Diversion Dam or the proposed sediment basin and disposal area. Further, the proposed disposal site does not contain any known bald or golden eagle perch or roosting sites.

Migratory birds and their habitats (grasslands, wetlands, shrublands, and woodlands, etc.) are common in Nebraska and most migratory bird nesting seasons for breeding birds in the state occur between April 1 and July 15. As such, it is possible that migratory birds and their nesting habitats may occur within the affected area, including the proposed disposal site.

Environmental Effects

During construction, ground-disturbing activities related to the proposed sediment basin and sediment disposal site have the potential to cause temporary and permanent vegetation loss, compaction of soils, and the spread of invasive species. The ground-disturbing work would also remove portions of planted windbreaks within the disposal area. Existing wildlife in the affected area may experience minor, short-term increases in human activity and noise due to construction and some terrestrial species may be temporarily or permanently displaced. To mitigate the potential impacts of the proposed ground-disturbing activities, the licensee proposes to implement measures to prevent the spread of invasive plants, and to restore and stabilize areas disturbed during construction

using BMPs before and after excavation. Where possible, areas affected by construction activities would be returned to pre-project conditions.

Construction activities (i.e., vegetation disturbance) associated with the proposed disposal area could disturb migratory birds and their habitats. To mitigate such potential impacts, the licensee proposes to comply with FWS's recommendations related to migratory birds, including avoiding removal or impacts to vegetation within the affected project area during the peak migratory bird nesting seasons and avoid dredging during the nesting season for migratory birds. In the unlikely event such construction work cannot be avoided during the peak migratory breeding season, the licensee would implement an avian pre-construction survey of the affected habitat area, as recommended by the FWS.

These proposed measures would ensure that any impacts on migratory birds associated with the proposed action would be avoided or minimized.

While bald and golden eagles may occasionally frequent the affected project area, the site does not contain any known eagle nests. To mitigate for potential impacts on eagles, the District proposes to have a qualified biologist conduct a survey for nesting eagles within 0.5 miles of the proposed site work prior to initiating construction activities. If an eagle nest is detected, the District would consult with the FWS, prior to engaging in any activities that could disturb the eagle nest, on how to mitigate any disturbance to nesting eagles.

Given the past agricultural use (hay production since 1965) of the proposed disposal site and limited terrestrial resource features of the site, and the specific mitigation measures the licensee proposes to implement to address impacts bald and golden eagles, and migratory birds, the construction and implementation of the proposed action is not expected to have any adverse effects on terrestrial resources.

B. Wetlands

Affected Environment

The general area surrounding the lands affected by the proposed action contain primarily grassland/prairie habitat with areas of riparian and upland deciduous trees and herbaceous emergent wetlands. The lands for the proposed disposal area site have been used to grow hay since 1965. According to an October 2017 delineation included in the licensee's application, 19 areas of palustrine emergent wetlands, totaling 0.886 acres, are located on these lands. As noted in Section 4.3 C., the Corps concludes that the proposed disposal area contains 0.825 acres of jurisdictional wetlands.

Environmental Effects

As dredge material from the sediment basin is removed it would be placed within the disposal area through the dredging discharge pipe and form an alluvial deposit as it flows into the area. Over time, the existing wetlands would likely be buried by the deposited sediment. To address potential impacts on jurisdictional wetlands, the licensee would obtain a Section 404 permit from the Corps' prior to engaging in any dredge or fill activities that would impact such wetlands.

Given the District's compliance with the required Section 404 permit from the Corps and the relatively small area of existing wetlands involved, the construction and implementation of the proposed action is not expected to have a significant overall effect on emergent wetlands in the area.

C. Hydrology and Water Quantity

Affected Environment

The Korty Diversion Dam is located on the South Platte River and used to divert water into the South Platte Canal. The South Platte Canal is 7.4 miles long and has a flow capacity of 1,200 cfs when fully functional. High flow events in the South Platte River in 2013 and 2015 resulted in heavy sedimentation of the entire South Platte Canal, severely diminishing its operational capacity; consequently, the canal was taken out of operation following the 2015 high flow event.

Currently, the licensee is removing the accumulated sediment from the canal as part of its ordinary maintenance activities and plans to restore the canal back to original design capacity by the fall of 2020. Prior to the 2015 event, water diverted through the South Platte Canal was used according to the project license for hydropower generation after entering Lake Maloney, then subsequently the power canal and powerhouse. After restoration of the canal, the proposed sediment basin would be operated to prevent excess sediment from accumulating downstream and consequently diminishing hydraulic capacity.

Environmental Effects

The proposed sediment basin would not have any effect on the canal's originally designed hydraulic capacity, nor alter project operations as authorized by the project license. Once construction of the proposed sediment basin is complete, the canal would return to operations described in the project license. Under the proposed action, operation of the sediment basin would allow excess accumulated sediment to be removed and stored in the proposed sediment disposal area, allowing for more effective, safe, and efficient management of high sediment loads in the South Platte River and South Platte Canal. Periodic removal of this excess sediment would help to ensure that the full

hydraulic capacity of the South Platte Canal is maintained. Upon completion of the project, license-approved operation of the canal would be restored, resulting in increased flows through the canal year-round. The proposed actions would provide long term benefits through restored hydraulic capacity and increased flows by allowing for more consistent operation of the canal, resulting in a more stable flow regime and greater ability for the canal to pass and provide water as originally intended.

D. Water Quality

Affected Environment

Water quality at the project is assessed annually in the NDEE's Integrated Report (IR). This report includes section 303(d) reporting required by the CWA. Review of the 2018 IR indicates that the South Platte Canal, as well as the Supply Canal, were classified as Category 3 waterbodies, meaning that there were insufficient data to determine if any beneficial uses are being met. The South Platte River immediately above the Korty Diversion Dam was classified as a Category 1 waterbody, meaning all beneficial uses were being met.

The sediment disposal area would be encompassed by berms to retain dredged sediments while allowing clean water to flow back into the South Platte Canal. Following completion of the proposed sediment basin and with the South Platte Supply Canal is back into operation, dredged sediment from the newly installed sediment settling basin would be regularly discharged to the bermed area. A water return structure and discharge pipe would be installed in the South Platte Supply Canal and sloped to return filtered dredge water back into the canal downstream of the sediment settling basin.

Environmental Effects

Operation of the sediment basin, as proposed, would likely provide long term benefits to downstream water quality by allowing excess sediment and possible pollutants to fall out of suspension and ultimately be removed from the waterway. The restored functionality of the South Platte Canal would reestablish inflows from the South Platte River allowing cooler, more oxygenated water to flow in greater quantity through the canal. Regarding the sediment disposal area, the licensee proposes to continually monitor the deposits to ensure that no dredged sediments would reenter the canal, thus minimizing reintroduction to the system. Considering these factors, the operation under the proposed actions would provide long-term downstream benefits by reducing sediment load and providing an increased, more stable flow regime of higher quality water through the canal.

E. Aquatic Resources

Affected Environment

As described above, the South Platte Canal has not been in operation for several years due to heavy siltation caused by major flooding in 2013 and 2015; thus, aquatic resources and associated habitat are currently in very poor to nonexistent condition within the canal. The accumulated sediment in the canal is currently being actively removed as part of regular maintenance operations to restore the canal to its originally designed hydraulic capacity and function by the fall of 2020.

Environmental Effects

During construction, flow could be periodically diverted into the South Platte Canal to assist in dredging activities. Additionally, the installation of the proposed sediment basin would involve temporarily cutting off flow to the canal during construction and excavation and passing flow through the Korty Diversion river gates. After completion, the proposed sediment basin and disposal area would be operated in concert with the restored canal to reduce sediment loads downstream.

Considering the resulting and ongoing degraded state of habitat and water quality in the canal caused by the 2013 and 2015 flooding events, the proposed action to temporarily dewater the South Platte Canal during construction of the sediment basin would not likely have any additional adverse impacts on aquatic resources. Following completion of the proposed sediment basin, functionality of the South Platte Canal would be restored and maintained, and fish and aquatic organisms would benefit from the resulting outcomes.

Over the long term, restored hydraulic capacity within the canal would allow fish and aquatic organisms to repopulate the channel and, to a lesser extent, the newly constructed sediment basin. Fish and aquatic organisms downstream of the proposed sediment basin would benefit from increased water quality and quantity due to restored inflows from the South Platte River. A more stable flow regime and greater volume of water would result in a more consistent operation of the channel and provide favorable conditions for fish and aquatic organisms when compared to the channel's current state. Additionally, the removal of sediment would produce long term benefits downstream by reducing siltation of potential spawning habitat and substrate in the canal required by aquatic organisms such as fish, mussels, and aquatic invertebrates, to reside. With the considerations above, the operation of the sediment basin and disposal area would have overall positive downstream impacts for fish and aquatic resources**.**

F. Threatened and Endangered Species

Affected Environment

In general, the proposed action area has been significantly altered and disturbed by the construction, operation, and maintenance of the project. The surrounding area, including the lands for the proposed sediment disposal site, contain primarily grassland/prairie habitat. Since 1965, the proposed disposal area site has been used to grow hay and it contains few trees. The proposed amendment application identifies the endangered least tern, threatened piping plover, endangered whooping crane, endangered pallid sturgeon, and endangered blowout penstemon as federally-listed species listed potentially affected by the proposed action.

The licensee's EA finds that the construction and operation of the proposed sediment basin could create potential habitat for least tern and piping plover within the project area. Further, the licensee's EA notes that the proposed site does not contain suitable habitat for the blowout penstemon or pallid sturgeon and is not a known location for whooping cranes. The licensee also proposes to implement the specific protective measures recommended by the Nebraska Game and Park's November 4, 2019 letter and the FWS's November 26 and December 5, 2019 letters to address potential effects on the least tern, piping plover, and whooping crane.

In its November 26, 2019 letter, the FWS determined that the federally-listed species the least tern, piping plover, and whooping crane may occur in the proposed action area. The least tern and piping plover may use the affected area for migration and nesting. These species nest on unvegetated or sparely vegetated sandbars in river channels from April 15 through August 15. Least terns feed on small fish while piping plovers forage on invertebrates on exposed beach substrates. Further, there is a potential that whooping cranes may use the area for roosting and migration. Whooping crane use shallow, sparsely vegetated streams and wetlands in which to feed and roost during migration. Migration periods for the whooping crane in Nebraska are from approximately March 6 through April 29, and October 9 through November 15.

Environmental Effects

Given the lack of suitable habitat in the affected area, the proposed action would have no effect on the blowout penstemon and pallid sturgeon; therefore, these two species are no longer discussed.

The proposed action involves dredging activities and the placement of dredged material within the proposed disposal site. These activities could create potential habitat for the least tern and piping plover within the affected area and provide benefit. However, dredging activities within, or in close proximity to nesting areas may also have adverse effects. The licensee proposes to operate the dredge outside the least tern and

piping plover nesting season to avoid such impacts. If dredging must occur during the nesting season, the licensee would conduct least tern and piping plover surveys, in accordance with the least tern piping plover survey protocol included with the FWS's November 26, 2019 letter, to avoid sediment disposal in areas where these species are actively nesting.[14] Therefore, the proposed action may affect but is not likely to adversely affect the least tern and piping plover.

While the proposed action area is not a known whooping crane location, the proposed construction activities have the potential to affect whooping cranes that may use the area for roosting and migration. Further, the deposition of sediment within the proposed disposal area overtime would likely fill in existing wetlands resulting in a loss of potential whooping crane foraging and roosting habitat. The licensee's compliance with the Corps Section 404 permit would likely mitigate or minimize adverse effects on such wetlands. Further, as part of its amendment proposal, the licensee proposes to implement the FWS's whooping crane survey protocol if project construction activities occur during the spring and fall migration periods. Given this information, the proposed action may affect but is not likely to adversely affect the whooping crane. By letter dated January 6, 2020, the FWS concurs with Commission staff's determination under Section 7 of the ESA with respect to the least tern, piping plover, and whooping crane.

G. Cultural Resources

Affected Resources

The project's approved CRMP identifies various licensed project works as a major Depression-era engineering project that is believed to be eligible for the National Register of Historic Places. The CRMP states that the "continuity-of-use" management approach would be used to protect historic properties during the operation and maintenance of the project during the term of the project license. The CRMP also includes, among other things, procedures for Nebraska SHPO consultation, discovery of yet unknown cultural resources, and the discovery of human remains.

The licensee consulted with the Nebraska SHPO on the proposed amendment application. By letter dated December 5, 2019, the Nebraska SHPO states that the proposed undertaking is unlikely to impact any prehistoric or historic cultural resources listed on the National Register or eligible for such a listing and, thus, no historic properties would be affected. The Nebraska SHPO also states that since the affected areas have not been directly evaluated, there is a possibility that currently unknown cultural or human remains may be discovered during the proposed undertaking and that it

[14] The referenced survey protocol is on pages 6-8 of the FWS's letter and includes nesting activity indicators, and specific provisions for survey dates, frequency, methods, and reporting.

should be contacted immediately for further instruction if any discovery is made during any ground-disturbing activities for the proposal.

The licensee acknowledges its obligations to fully comply with the project's approved CRMP, including its provisions to address the unanticipated discovery of cultural artifacts during construction or operation of the proposed facilities. In particular, if such a discovery is made, the licensee would immediately cease such activities and contact the Nebraska SHPO for further instruction. The provisions of the CRMP would also apply to the lands (i.e., disposal area) proposed for inclusion within the project boundary.

As noted above in Section 4.3 B. Commission staff has completed its consultation efforts with interested tribes pursuant to the Commission's Tribal Consultation Policy. As a result, no specific information has been received by the Commission that suggests that known tribal resources exist within the proposed action area.

Environmental Effects

Given the Nebraska SHPO's conclusion regarding the proposed action, Commission staff finds the proposed action is not likely to have an adverse effect on cultural resources. Further, Commission staff finds that it is unlikely that the proposed action would adversely affect tribal resources, given the absence of known tribal resources within the affected areas. In the event that construction or ground-disturbing work associated with the proposed action results in a discovery of previously unidentified archaeological or historic properties, the licensee would cease work and immediately contact the Nebraska SHPO pursuant to the discover provisions of the project's approved CRMP. Implementation of these measures would ensure that cultural resources are adequately protected.

H. Aesthetic and Recreation Resources

Affected Environment

The project area is located within the Platte River Basin at about 2,000 to 3,000 feet above sea level. The region's climate is dry to sub-humid. Land use in the area largely consists of agricultural lands with corn as the principle crop on irrigated farmlands. Population densities in the region are considered low and are concentrated along the Platte River and the Interstate 80 corridor. Recreation use in the area is centered around Lake McConaughy and the project reservoirs. The proposed action area is surrounded by the South Platte Canal, Korty Diversion Dam, South Dike and Access Road, and the proposed disposal area site and is not located near any project recreation facilities, scenic vistas, state or federal scenic highway, or any other officially designated scenic route.

Environmental Effects

The affected project area does not contain any unique scenic features or recreation features and the proposed facilities would be constructed adjacent to the South Platte Canal and would be largely surrounded by existing project facilities. For these reasons, no adverse effects to aesthetic or recreation resources are expected to occur as a result of the proposed action.

5.3 Cumulative Impacts of Proposal

According to the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act, an action may cause cumulative impacts on the environment if its impacts overlap in space and/or in time with the impacts of other past, present, or reasonably foreseeable future actions, regardless of what agency or person undertakes such other action. Cumulative impacts can result from individually minor, but collectively significant actions. There are no expected cumulative impacts to any of the resource areas analyzed in this EA, and the proposed action would not change the quantity of water for project purposes authorized under the current license.

5.4 Impacts of No-Action Alternative

Under the no-action alternative, Commission staff would not approve the licensee's amendment application and the licensee would not be able to implement the proposed action. The licensee would continue its current efforts of dredging accumulated sediment from the South Platte Canal caused by periodic high flow events on the South Platte River. These events would likely continue to have negative effects on canal operations. Overall, existing conditions at the site would remain and the environmental benefits (i.e., water quality and habitat improvements) of the proposed action would not be realized.

6.0 CONCLUSIONS

6.1 Conclusion

The proposed action would allow the licensee to implement actions to ensure operation of the South Platte Canal in the future would not be interrupted by sediment accumulations due to high flow events and continue to be used for hydropower production as authorized under the project license. Approval and implementation of the proposed action with the licensee's proposed environmental protection measures, would have no significant adverse effects on any environmental resources analyzed in this EA and would result in specific benefits to water quality, fish and aquatic resources, and certain federally-listed species. Also, the proposed action would not produce or

significantly add to any existing cumulative environmental impacts. Based on our analysis, we recommend that the proposed action be approved.

6.2 Finding of No Significant Impact

The licensee's application to construct a sediment basin as part of the project's South Platte Canal near the Korty Diversion Dam, and a new sediment disposal area to be used in conjunction with the new sediment basin, with the licensee's proposed protective measures, would not constitute a major federal action significantly affecting the quality of the human environment.

7.0 LITERATURE CITED

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