

NPDES PERMIT NO. OK0044806
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT

Keystone Pipeline Project (Gulf Coast Segment)
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ISSUING OFFICE

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DATE PREPARED

October 17, 2012

PERMIT ACTION

This is a modification to a current permit issued on May 31, 2011, with an effective date of July 1, 2011, and an expiration date of June 30, 2016. The permit expiration date remains June 30, 2016. An NPDES Application for a Permit to Discharge (Form 1 & 2D) dated August 20, 2012, was received on August 24, 2012.

This permit modification is prepared in response to TransCanada Keystone Pipeline, LP (Keystone) letter dated August 20, 2012, requesting modification of the current permit. Keystone Pipeline is planning to add additional Outfalls described below to the already permitted Outfalls.

40 CFR CITATIONS: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of August 24, 2012.

DOCUMENT ABBREVIATIONS

For brevity, Region 6 used acronyms and abbreviated terminology in this Statement of Basis document whenever possible. The following acronyms were used frequently in this document:

| | |
|------------------|--|
| BAT | Best Available Technology Economically Achievable |
| BOD ₅ | Biochemical oxygen demand (five-day unless noted otherwise) |
| BPJ | Best professional judgment |
| CFR | Code of Federal Regulations |
| cfs | Cubic feet per second |
| COD | Chemical oxygen demand |
| COE | United States Corp of Engineers |
| CPP | Continuing Planning Process |
| CWA | Clean Water Act |
| DMR | Discharge monitoring report |
| ELG | Effluent limitation guidelines |
| EPA | United States Environmental Protection Agency |
| ESA | Endangered Species Act |
| F&WS | United States Fish and Wildlife Service |
| HT | Hydrostatic Testing |
| IP | Procedures to Implement the Oklahoma Surface Water Quality standards |
| mg/L | Milligrams per Liter (one part per million) |
| MGD | Million gallons per and Intrastate Surface Waters |
| MLQ | Minimum quantification level |
| NPDES | National Pollutant Discharge Elimination System |
| OAC | Oklahoma Administrative Code |
| ODEQ | Oklahoma Department of Environmental Quality |
| O&G | Oil and grease |
| OWQS | Oklahoma Surface Water Quality Standards |
| OWRB | Oklahoma Water Resources Board |
| RP | Reasonable potential |
| SIC | Standard industrial classification |
| s.u. | Standard units (for parameter pH) |
| SWQB | Surface Water Quality Bureau |
| TMDL | Total maximum daily load |
| TRC | Total residual chlorine |
| TSS | Total suspended solids |
| µg /L | Micrograms per Liter (one part per billion) |
| WET | Whole effluent toxicity |
| WQMP | Water Quality Management Plan |
| WQS | Water Quality Standards |

I. PROPOSED CHANGES FROM CURRENT PERMIT

1. Additional Outfalls 055 through 066 have been established in the modified permit based on Permit modification application.
2. In order to avoid impacts to the critical habitat for the Arkansas River shiner, discharges of hydrostatic test water into the South Canadian River is not authorized.
3. The proposed permit modification would not authorize discharges where the source water would be withdrawals of water from the South Canadian River.
4. The Coordinates for the permitted Outfall 016 has been changed from Latitude: 34°14'48"N; Longitude: 96°10'25"W to Latitude: 34°14'17.17"N; Longitude: 96°10'11.79"

II. APPLICANT ACTIVITY

The proposed modification allows only the hydrostatic test discharge water from Cushing, Oklahoma to the Red River Oklahoma/Texas border.

Under the SIC code 4612, Crude Petroleum Pipelines, the applicant plans to operate a crude oil pipeline and related facilities. The project will have the nominal capacity to deliver 830,000 barrels per day of crude oil from an oil supply hub in Cushing, Oklahoma through to the Red River State border and then extending down to Nederland, Texas. In total, the Gulf Coast project will consist of approximately 485 miles of 36-inch diameter Mainline Pipeline, 155 miles of which will be within Oklahoma State borders.

III. DISCHARGE LOCATION

The additional discharge points showing Outfall number, discharge coordinates: latitude and longitude, county, average flow rate in millions gallons per day (MGD), receiving water, and the waterbody identification numbers are shown in the following table:

| Outfall Reference Number | Discharge Coordinates Latitude Deg° Min' Sec'' Longitude Deg° Min' Sec'' | County | Average Flow MGD | Receiving Water | Waterbody ID # |
|--------------------------|--|--|------------------|---------------------------------------|----------------|
| 055 | 35° 55' 14.07'' N 96° 43' 50.60'' W | Lincoln | 4.32 | Wildhorse Creek | OK620900010320 |
| 056 | 35° 55' 14.07'' N 96° 43' 50.60'' W | Lincoln | 4.32 | Wildhorse Creek | OK620900010320 |
| 057 | 35° 39' 11.32'' N 96° 35' 44.94'' W | Creek | 4.32 | Unnamed Trib to Deep Fork River | OK520700030010 |
| 058 | 35° 16' 18.80'' N 96° 26' 52.26'' W | Seminole | 4.32 | Unnamed Trib. to Little Wewoka Creek | OK520500020090 |
| 059 | 34° 59' 25.26'' N 96° 25' 29.38'' W | Hughes | 4.32 | Little River | OK520800010010 |
| 060 | 34° 13' 46.27'' N 96° 9' 58.22'' W | Atoka | 4.32 | Clear Boggy Creek | OK410400020010 |
| 061 | 35° 45' 19.73'' N 96° 38' 33.90'' W | Lincoln | 4.32 | Unnamed Trib. to Salt Creek | OK520700030100 |
| 062 | 35° 25' 54.75'' N 96° 30' 22.85'' W | Okfuskee, just north of the Seminole N. border | 4.32 | Unnamed Trib. to North Canadian River | OK520500020090 |
| 063 | 34° 59' 10.69'' N | Hughes | 4.32 | Unnamed Trib. to Little | OK520800010010 |

| Outfall Reference Number | Discharge Coordinates Latitude Deg° Min' Sec'' Longitude Deg° Min' Sec'' | County | Average Flow MGD | Receiving Water | Waterbody ID # |
|--------------------------|--|--------|------------------|-------------------------------------|----------------|
| | 96° 25' 24.04" W | | | River | |
| 064 | 34° 35' 9.76" N 96° 20' 32.12" W | Hughes | 4.32 | Unnamed Trib. to Little River | OK520800010010 |
| 065 | 34° 17' 41.56" N 96° 10' 53.04" W | Atoka | 4.32 | Unnamed Trib. to Fronterhouse Creek | OK410400020300 |
| 066 | 34° 14' 17.17" N 96° 10' 11.79" W | Atoka | 4.32 | Clear Boggy Creek | OK410400020010 |

The permitted Outfalls showing Outfall number, discharge coordinates: latitude and longitude, county, average flow rate in millions gallons per day (MGD), receiving water, and the waterbody identification numbers are shown in the following table:

| Outfall Reference Number | Discharge Coordinates Latitude Deg° Min' Sec'' Longitude Deg° Min' Sec'' | County | Average Flow MGD | Receiving Water | Waterbody ID # |
|--------------------------|--|----------|------------------|--------------------------------------|----------------|
| 001 | 35° 55' 30" N 96° 45' 13" W | Lincoln | 4.32 | Unnamed Trib. To Wildhorse Creek | OK620900010320 |
| 002 | 35° 55' 32" N 96° 45' 7" W | Lincoln | 4.32 | Unnamed Trib. To Wildhorse Creek | OK620900010320 |
| 003 | 35° 55' 14" N 96° 43' 51" W | Lincoln | 4.32 | Wildhorse Creek | OK620900010320 |
| 004 | 35° 45' 19" N 96° 38' 35" W | Lincoln | 4.32 | Salt Creek | OK520700030100 |
| 005 | 35° 39' 2" N 96° 35' 41" W | Creek | 4.32 | Canadian River, Deep Fork | OK520700030100 |
| 006 | 35° 25' 54" N 96° 30' 24" W | Okfuskee | 4.32 | North Canadian River | OK520510000010 |
| 007 | 35° 17' 30" N 96° 27' 0" W | Seminole | 4.32 | Unnamed Trib. to Little Wewoka Creek | OK520500020090 |
| 008 | 35° 16' 27" N 96° 26' 53" W | Seminole | 4.32 | Unnamed Trib. to Little Wewoka Creek | OK520500020090 |
| 009 | 34° 59' 24" N 96° 25' 29" W | Hughes | 4.32 | Little River | OK520800010010 |
| 010 | 34° 59' 11" N 96° 25' 25" W | Hughes | 4.32 | Unnamed Trib. to Little River | OK520800010010 |
| 011 | 34° 57' 27" N 96° 24' 16" W | Hughes | 4.32 | Unnamed Trib. to Canadian River | OK520600010010 |
| 012 | 34° 38' 48" N 96° 22' 10" W | Coal | 4.32 | Unnamed Trib. to Turkey Creek | Unlisted |
| 013 | 34° 38' 44" N 96° 22' 4" W | Coal | 4.32 | Unnamed Trib. to Turkey Creek | Unlisted |
| 014 | 34° 35' 6" N 96° 20' 26" W | Coal | 4.32 | Unnamed Trib. to Owl Creek | Unlisted |
| 015 | 34° 17' 41" N 96° 10' 54" W | Atoka | 4.32 | Unnmmed Trib. to Fronterhouse Creek | Unlisted |
| 016 | 34° 14' 17.17" N 96° 10' 11.79" W | Atoka | 4.32 | Unnamed Trib. to Clear Boggy Creek | OK410400020010 |
| 017 | 34° 13' 46" N 96° 10' 0" W | Atoka | 4.32 | Clear Boggy Creek | OK410400020010 |
| 018 | 33° 59' 4" N 96° 0' 19" W | Bryan | 4.32 | Unnamed Trib. to Whitegrass Creek | OK410400010210 |

IV. STREAM STANDARDS

The general criteria and numerical criteria which make up the stream standards are provided in the Oklahoma Water Quality Standards (Title 785, Chapter 45) promulgated by the Oklahoma Water Resources Board including all amendments which are effective as of May 27, 2008.

V. DISCHARGE DESCRIPTION

This will be a new facility and some discharges have already occurred in the permitted Outfalls. However, the proposed discharges from each outfall are described as follows:

Discharges from Outfalls 055 and 056 are to Wildhorse Creek. The designated uses for waterbody identification number, OK620900010320 are Public and Private Water Supply (PPWS), Warm Water Aquatic Community (WWAC), and Primary Body Contact Recreation (PBCR).

Discharges from Outfalls 057 and 061 are to unnamed tributary, thence to Deep Fork River, and to unnamed tributary to Salt Creek in waterbody identification number, OK520700030100. The designated uses for waterbody identification number, OK520700030100 are Public and Private Water Supply (PPWS), Warm Water Aquatic Community (WWAC), and Primary Body Contact Recreation (PBCR).

Discharges from Outfall 058 are to unnamed tributary, then to little Wewoka Creek in waterbody identification number, OK520500020090. The designated uses for waterbody identification number, OK520500020090 are Public and Private Water Supply, Warm Water Aquatic community, and primary body contact recreation.

Discharges from Outfall 059 are to receiving water named Little River, while discharges from Outfall 063 are to unnamed tributary, then to Little River. Both Outfalls 059 and 063 have the same waterbody identification number, OK520800010010. The designated uses for waterbody identification number, OK520800010010 are Public and Private Water Supply, Warm Water Aquatic community, and primary body contact recreation.

Discharges from Outfalls 060 and 066 are both to Clear Boggy Creek in waterbody identification number, OK410400020010. The designated uses for waterbody identification number, OK410400020010 are Agriculture, Aesthetic, Fish Consumption, Warm Water Aquatic community, Public and Private Water Supply, and primary body contact recreation.

Discharges from Outfall 062 are to unnamed tributary, then to North Canadian River in waterbody identification number, OK520510000010. The designated uses for waterbody identification number, OK520510000010 are Public and Private Water Supply, Warm Water Aquatic community, and primary body contact recreation.

Discharges from Outfall 064 are to unnamed tributary, then to Owl Creek in waterbody identification number, OK410400030380. The designated uses for waterbody identification number, OK410400030380 are Agriculture, Aesthetic, Warm Water Aquatic community, and primary body contact recreation.

Discharges from Outfalls 065 are to unnamed tributary, then to Fronterhouse Creek in waterbody identification number, OK410400020300. The designated uses for waterbody identification number, OK410400020300 are Agriculture, Aesthetic, Fish Consumption, Warm Water Aquatic community, and primary body contact recreation.

VI. TENTATIVE DETERMINATION

The EPA has made a tentative determination, after consultation with the ODEQ to modify this permit for the applicant for the activities described.

VII. DRAFT PERMIT RATIONALE

The proposed effluent limitations for those pollutants proposed to be limited are based on regulations promulgated at 40 CFR 122.44. The draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR 122.44(a), on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

A. REASON FOR PERMIT ISSUANCE

An NPDES Application for a Permit modification to Discharge (Form 1 & 2D) dated August 20, 2012, was received on August 24, 2012.

B. OPERATION AND REPORTING

The permittee must submit DMR's quarterly, beginning on the effective date of the permit, lasting through the expiration date of the permit or termination of the permit, to report on all limitations and monitoring requirements in the permit.

C. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR 122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELG's where applicable, on BPJ in the absence of guidelines, or on a combination of the two. There are no published ELG's for this type of activity. Permit limits are proposed based on BPJ. Since hydrostatic test water discharges are batch discharges of short term duration, limits in this Permit will be expressed in terms of daily maximum concentrations rather than in terms of mass limitations, as allowed by 40 CFR 122.45(e) and (f). Limitations for Oil & Grease, TSS, and pH are proposed in the permit. The proposed limitations for TSS are 30mg/l average, 45 mg/l maximum; and Oil & Grease is 15 mg/l maximum. The draft permit will not propose mass limits since the flow is variable and intermittent. Concentration limits will be protective of the stream uses.

D. WATER QUALITY SCREENING

1. General Comments

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at

40 CFR 122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that pollutant. If the discharge poses the reasonable potential to cause an in-stream violation of narrative standards, the permit must contain prohibitions to protect that standard.

The narrative and numerical stream standards are provided in OWQS, as amended (OAC 785:45), and implementation criteria contained in OACs 785:46 and 252:690, promulgated by the OWRB, effective as of May 27, 2008, and Department of Environmental Quality (DEQ), respectively. This is to ensure that no point-source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

2. Reasonable Potential

EPA develops draft permits to comply with State WQS, and for consistency, attempts to follow OWQS, OWQS implementation criteria in OAC 785:46 and OAC 252:690, and the CPP document where appropriate. However, EPA is bound by the State's WQS, not State guidance, including the OWQS implementation, in determining permit decisions. EPA performs its own technical and legal review for permit issuance, to assure compliance with all applicable State and Federal requirements, including State WQS, and makes its determination based on that review.

In the RP screening process, the 95th percentile effluent concentration, or estimate thereof if the effluent data set is not sufficiently large to determine it directly, is used to compute an instream concentration according to the regulatory mixing zone equations defined in OAC 785:46. The computed instream concentrations are then compared with the applicable criteria to determine whether RP is exhibited. If RP is exhibited, in accordance with 40 CFR 122.44(d)(1)(vi) and OAC 252:690, a wasteload allocation and criterion long term average is computed for each applicable criterion. Water quality-based permit limitations are calculated for each pollutant exhibiting RP for all applicable criteria. The most stringent of the resulting monthly average permit limitations is established in the draft permit for each pollutant requiring such limitations.

The applicant proposes to draw water from various municipal water supplies, Rivers and Pond to conduct its hydrostatic testing. Hydrostatic test water will contact only new pipe, and no chemicals will be added. As a result, no contaminants are expected to be present in the hydrostatic test water discharge at amounts that would pose a reasonable potential to exceed State WQS.

For Outfalls 061, 064 and 065, the hydrostatic test water will be drawn from municipal water supply and discharged into unnamed tributary to Salt, Owl and Fronterhouse Creek respectively. Total Residual Chlorine is proposed for Outfalls 061, 064 and 065, since the source water is from municipal water supply. For Outfalls 055, 057, 059, 060, 062, 063, and 066, the hydrostatic test water is to be discharged back into the same water body from which it was taken. As a result, intake credits are authorized for Outfalls 055, 057, 059, 063, and 066, to account for in-situ waterbody conditions for only TSS. Water Source for Outfall 056 and 058 will be from the Deep Fork River and be discharged into Wildhorse Creek and unnamed tributary to Little Wewoka Creek respectively.

Although Outfalls 059 and 063 are to be discharged into the same waterbody as the source water, it is listed for turbidity in 303 (d) lists. Outfalls 061, 064, and 065 source water is from municipal water supply. As a result, intake credits for TSS are not authorized for Outfalls 059, 061, 063, 064 and 065.

3. Reasonable Potential-Calculations

a. pH

The daily minimum and daily maximum permit limits of 6.0 standard units to 9.0 standard units on hydrostatic test general permits developed by other EPA Regions and States. OAC 785:45-5-12(f)(3) states, "pH values shall be between 6.5 and 9.0 in waters designated for fish and wildlife propagation; unless pH values outside that range are due to natural conditions." The water quality-based daily minimum pH limit of 6.5 is more stringent than the technology-based daily minimum pH limit of 6.0 standard units. As a result, the Oklahoma Water Quality Based limits of 6.5 standard units to 9.0 standard units are established in the proposed permit.

b. Narrative Limitations

1. Aesthetic Standards

According to OWQS, OAC 785:45-5-12(f) (4) which states that narrative protection for aesthetic standards will propose that surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film or globules of grease on the surface or coat the banks or bottoms of the watercourse; or cause toxicity to man, aquatic life, or terrestrial life. A narrative condition prohibiting the discharge of any visible sheen of oil or globules of oil or grease will be included in the proposed permit. In addition, the technology-based limit of 15 mg/l for Oil and Grease should assure that the narrative criterion is maintained.

2. Public and Private Water Supplies (OAC 785:45-5-10)

Test water being discharged from hydrostatic testing should not contain substances listed in Raw Water Numerical Criteria (785:45-5-10(1)) and Water Column Criteria to protect for the consumption of fish, flesh and water (785:45-5-10(6)) at levels which would have reasonable potential to violate numerical criteria.

3. Fish and Wildlife Propagation (OAC 785:45-5-12)

Test water being discharged from hydrostatic testing should not contain substances listed in Toxic Substances (785:45-5-12(f)(6)) and Water Column Criteria to protect for the consumption of fish, flesh and water (785:45-5-10(6)) at levels which would have reasonable potential to violate numerical criteria.

4. Agriculture/Livestock and Irrigation (OAC 785:45-5-13)

The levels of chloride, sulfate and total dissolved solids in the test water should be the same as in the receiving water. Hydrostatic testing should not result in significant increases in levels of chloride, sulfate or total dissolved solids in the test water above levels contained in the fill water.

5. Primary Body Contact Recreation (OAC 785:45-5-16)

Hydrostatic test wastewater should not contain coliform bacteria, Escherichia coli, and Enterococci at significant levels.

E TECHNOLOGY BASED VERSUS WATER QUALITY STANDARDS BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at 40 CFR122.44(l)(2)(ii), 122.44(d), and 130.32(b)(6), the draft permit limits are based on either technology-based effluent limits pursuant to 40 CFR122.44(a), on the results of or on State Water Quality Standards and requirements pursuant to 40 CFR122.44(d), or on the results of an established and EPA approved Total Maximum Daily Load (TMDL), whichever are more stringent.

Numerical water quality based limitations have been placed in the permit for pH. Narrative standards for oil, grease, or related residue have been placed in the proposed permit. A technology-based limit of 15 mg/l for Oil and Grease should assure that the narrative criterion is maintained

F. WHOLE EFFLUENT TOXICITY LIMITATIONS

There are no chemical specific limitations in the draft permit and the applicant has stated that no chemical additives such as corrosion inhibitors are being added to the HT water. There does not appear that the discharge will have a potential for toxicity. The draft permit does not propose any biomonitoring of the HT water.

G. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

H. MONITORING FREQUENCY

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity 40 CFR 122.48(b) and to assure compliance with permit limitations 40 CFR 122.44(i)(1). The monitoring frequencies are based on BPJ, taking into account the nature of the discharge.

For ALL outfalls, monitoring for flow, TSS, Oil & Grease, turbidity and pH shall be daily by grab sample, when discharging.

VIII. IMPAIRED WATER - 303(d) LIST AND TMDL

According to the 2010 edition of the 303(d) list of impaired waters, the receiving stream for Outfalls 061, Salt Creek (OK520700030100) is listed for Enterococcus, Escherichia coli, and Dissolved Oxygen. Outfall 058, Little Wewoka Creek (OK520500020090) is listed for Enterococcus. Outfalls 059 and 063, Little River, (OK520800010010) is listed for lead, Sedimentation/Siltation, thallium, and turbidity. Outfalls 055, Wildhorse Creek(OK620900010320); 056, Wildhorse Creek(OK620900010320); 057, Deep Fork River(520700030010); 0064, Owl Creek(OK410400030380); 065, Fronterhouse Creek(OK410400020300); Outfall 062, North Canadian River(OK52051000010); and Outfalls 060, 066, Clear Boggy Creek, (OK410400020010) are not listed in the 2010 edition of the 303(d) list of impaired waters. The proposed permit is limited for turbidity end-of-pipe of 50 NTUs for those waterbodies that are listed for turbidity. Therefore no additional requirements beyond the

already proposed technology-based and/or water-quality based requirements are established in the proposed permit.

IX. ANTIDegradation

The Oklahoma Water Quality Standards, Antidegradation, OAC 785:45:3-1, sets forth the requirements to protect designated uses through implementation of the State WQS, OAC 785:46, Subchapter 13. There are no antidegradation restrictions listed in Appendix A of the OWQS for all the receiving waters to which the facility proposes to discharge (see Discharge Description in Section IV). As a result, no special requirements beyond Tier 1 protection (maintenance and protection of designated uses, as herein described) are necessary as described in OAC 785:46, Subchapter 13, implementation of the state's antidegradation policy.

The limitations and monitoring requirements set forth in the proposed permit are developed from the State WQS and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The proposed permit requirements are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water.

X. ENDANGERED SPECIES

The effects of EPA's permitting action are considered in the context of the environmental baseline. The environmental baseline is established by the past and present impacts of all Federal, State, or private actions and other human activities in an action area; the anticipated impacts of all proposed Federal projects in an action area that have already undergone formal or early ESA §7 consultation; and the impact of State or private actions that are contemporaneous with the consultation in process (50 CFR §402.02). Hydrostatic test water discharges occur after a pipeline has already been put in place following earth disturbing activities that have had to have received appropriate federal, state, and local authorizations putting the construction of pipeline itself into the environmental baseline. The scope of the evaluation of the effects of the discharge authorized by this permit was therefore limited to the effects related to the authorized discharge.

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), IPAC-Information, Planning, and Conservation System Website <http://ecos.fws.gov/ipac/>, Five species in Seminole and Atoka Counties; four species in Hughes and Okfuskee Counties; and three species in Lincoln and Creek Counties are listed as endangered or threatened. Least tern (*Sterna antillarum*) and piping plover (*Charadrius melodus*) are listed in all the Counties. American burying beetle (*Nicrophorus americanus*) is listed in Creek, Seminole, Okfuskee, and Atoka Counties. Arkansas River Shiner (*Notropis girardi*) is listed in Seminole and Hughes Counties. Whooping Crane (*Grus americana*) is listed in Lincoln, Seminole, Hughes, Atoka, and Okfuskee Counties. Ouachita Rock pocketbook (*Arkansia wheeleri*) is listed in Atoka County. Based on the following discussion, EPA has determined that the issuance of this permit may affect but not likely to adversely affect the Arkansas River Shiner and will have no effect on the remaining federally listed threatened or endangered species.

LEAST TERN (*Sterna antillarum*)

The Least tern populations have declined due to habitat destruction by permanent inundation, destruction by reservoir releases, channelization projects, alterations of Natural River or lake dynamics resulting in vegetational succession of potential nesting sites, and recreational use of potential nesting sites. The interior least tern is known to use reaches of the North Canadian River, South Canadian River, and Red River in Oklahoma (USFWS 2011b). The species also occurs along the Red River in Bryan County, Oklahoma and Fannin County, Texas. Hydrostatic test water will not be withdrawn from the South Canadian River. Issuance of this permit is found to have no impact on the habitat of this species, as none of the aforementioned listed activities is authorized by this permitting action.

PIPING PLOVER (*Charadrius melodus*)

A small plover has wings approximately 117 mm; tail 51 mm; weight 46-64 g (average 55 g); length averages about 17-18 cm. Inland birds have more complete breast band than Atlantic coast birds. The nonbreeding plovers lose the dark bands. In Laguna Madre, Texas, non-breeding home ranges were larger in winter than in fall or spring. The breeding season begins when the adults reach the breeding grounds in mid- to late-April or in mid-May in northern parts of the range. The adult males arrive earliest, select beach habitats, and defend established territories against other males. When adult females arrive at the breeding grounds several weeks later, the males conduct elaborate courtship rituals including aerial displays of circles and figure eights, whistling song, posturing with spread tail and wings, and rapid drumming of feet. The plovers defend territory during breeding season and at some winter sites. Nesting territory may or may not contain the foraging area. Home range during the breeding season generally is confined to the vicinity of the nest. Plovers are usually found in sandy beaches, especially where scattered grass tufts are present, and sparsely vegetated shores and islands of shallow lakes, ponds, rivers, and impoundments.

Food consists of worms, fly larvae, beetles, crustaceans, mollusks, and other invertebrates. The plovers prefer open shoreline areas, and vegetated beaches are avoided. It also eats various small invertebrates. It obtains food from surface of substrate, or occasionally probes into sand or mud.

Destruction of habitat, disturbance and increased predation rates due to elevated predator densities in piping plover habitat are described as the main reasons for this species' endangered status and continue to be the primary threats to its recovery. The remaining populations, whether on the breeding or wintering grounds, mostly inhabit public or undeveloped beaches. These populations are vulnerable to predation and disturbance.

Research of available material finds that the primary cause for the population decreases leading to threatened or endangered status for these species is destruction of habitat. Issuance of the permit will have no effect on this species, in that the discharge is not expected to lead to the destruction of habitat.

AMERICAN BURYING BEETLE (*Nicrophorus americanus*)

American burying beetle is a shiny black with hardened protective covers that meet in a straight line down the back. It has large orange-red marking on the raised portion of the pronotum, a feature shared with no other members of the genus in North America. The American burying beetle also has orange-red frons (a mustache-like feature) and a single orange-red marking on the

top of the head (triangular in females and rectangular in males). Antennae are large, with notable orange clubs at the tips.

American burying beetle is nocturnal (active at night), lives for only one year, and typically reproduces only once. During the winter months when temperatures are below 60°F (15°C) American burying beetles bury themselves in the soil. When temperatures are above 60°F (15°C) they emerge from the soil and begin the mating and reproduction process.

The American burying beetle has been found in various types of habitat including oak-pine woodlands, open fields, oak-hickory forest, open grasslands, and edge habitat. Research indicates that American burying beetles are feeding habitat generalists. Data is lacking pertaining to American burying beetle reproductive habitat requirements, but species experts assume that they are more restrictive in selecting their reproductive habitat than feeding habitat.

The cause for the decline of this species could be a result of habitat fragmentation, habitat loss, carcass limitation, pesticides, disease, light pollution, or a combination of these factors. Species experts believe the primary causes of decline are habitat loss and fragmentation. The construction of the Project may cause the loss and disturbance of habitat used by the American burying beetle.

ARKANSAS RIVER SHINER (*Notropis girardi*)

Arkansas River Shiner is a small, straw-colored with silvery sides. It has scattered brown flecks which occur on its sides behind the head. The Arkansas River Shiner formerly occurred throughout the Arkansas River main stem and in that river's major right bank tributary basins. The fish is extremely dependent upon flood flows from June through August to successfully spawn. Declining streamflows have now restricted its probable range in Kansas to a few stream reaches within the Lower Arkansas, Salt Fork Arkansas and Cimarron basins. The fish occurs in the upper reaches of the Cimarron River only during high streamflow events.

Arkansas River Shiner is a producer of semi-buoyant eggs, and may be particularly susceptible to modification of natural flow patterns. The decline of *Notropis girardi* in the upper mainstream Arkansas River could be attributed to anthropogenic reduction of high summer flows apparently needed to stimulate reproduction. Issuance of the permit may affect but not likely to adversely affect this species, in that the intake and hydrostatic test water discharge may result in reduced stream flows.

WHOOPING CRANE (*Grus americana*)

The tallest bird in North America, the Whooping Crane breeds in the wetlands of Wood Buffalo National Park in northern Canada and spends the winter on the Texas coast at Arkansas National Wildlife Refuge near Rockport. Cranes live in family groups made up of the parents and 1 or 2 offspring. In the spring, Whooping Cranes perform courtship displays (loud calling, wing flapping, and leaps in the air) as they get ready to migrate to their breeding grounds. Whooping Cranes are endangered because much of their wetland habitat has been drained for farmland and pasture. Whooping Cranes are nearly 5 feet tall. They eat Blue crabs, clams, frogs, minnows, rodents, small birds, and berries. They are found in large wetland areas. Cranes are considered sacred in many parts of the world. In China, they are a symbol of long life.

The overall decline of whooping cranes has been attributed to habitat loss, direct disturbance and hunting by humans, predation, disease, and collisions with manmade features (CWS and USFWS 2005). The main threat to whooping cranes in the wild is the potential of a hurricane or contaminant spill destroying their wintering habitat on the Texas coast. Collisions with power lines and fences are known hazards to wild whooping cranes. The primary threats to captive birds are disease and parasites.

Based on information available, EPA believes that this permit modification will have no effect on the Whooping Crane or will it adversely modify designated critical habitats.

OUACHITA ROCK POCKETBOOK (*Arkansia wheeleri*)

This is a medium-sized freshwater mussel with a dark brown to nearly black and slightly oval-shaped shell. It is a filter-feeder that filters particles of decaying vegetation and microscopic animals and algae from the water that flows around it.

The Ouachita Rock Pocketbook embeds itself in coarse sediment and gravel at the bottom of the river channel in the Kiamichi and Little rivers in southeastern Oklahoma.

The Ouachita Rock Pocketbook is a very rare mussel and makes up a fraction of one percent of the mussel community of the rivers in which it occurs. Currently, the last remaining populations exist in the Kiamichi River in Oklahoma, the Little River in southeastern Oklahoma and southwestern Arkansas, and the Ouachita River in Arkansas. Historically, they were more widespread in these three rivers and occurred in other river systems in the Red River drainage of Arkansas.

The reasons for their decline are uncertain but may be related to past water pollution or increased sediment deposition in their habitat. Currently, they are threatened by existing and proposed new man-made reservoirs because these alter the season flow patterns of rivers and isolate mussel populations above and below dams.

Based on information available, EPA believes that the modification of Permit No. OK0044806 may affect but not likely to adversely affect the Arkansas River Shiner. The proposed issuance contains controls to limit the quantity of pollutants which are discharged. The discharge water will not be treated with biocides or other additives. The proposed permit has limits for Oil & Grease, Total Suspended Solids, flow, TRC and pH. The proposed permit is written to include limitations and monitoring requirements on those parameters as conditions in permit.

Furthermore, issuance of this species will have no effect on the Least tern (*Sterna antillarum*), piping plover (*Charadrius melodus*), American burying beetle (*Nicrophorus americanus*), Whooping Crane (*Grus americana*), and the Ouachita Rock pocketbook (*Arkansia wheeleri*)

In a letter dated September 14, 2012, the F&WS expressed concern on the withdrawal of water from/discharge of wastewater into the South Canadian River of the Arkansas River Basin. Arkansas River Shiner is known to occupy this stretch of the South Canadian River. Based on the discussions between F&WS, the facility and EPA, It was agreed that there should be no intake of water or discharge of wastewater into this stretch of the South Canadian River.

Operators have an independent ESA obligation to ensure that any of their activities do not result in prohibited “take” of listed species. Section 9 of the ESA prohibits any person from “taking” a listed species, e.g., harassing or harming it, with limited exceptions. See ESA Sec 9; 16 U.S.C. §1538. This prohibition generally applies to “any person,” including private individuals, businesses and government entities. Operators who intend to undertake construction activities in areas that harbor endangered and threatened species may seek protection from potential “take” liability under ESA section 9 either by obtaining an ESA section 10 permit or by requesting coverage under an individual permit and participating in the section 7 consultation process with the appropriate FWS or NMFS office. Operators unsure of what is needed for such liability protection should confer with the appropriate Services.

XI. CERTIFICATION

The permit is in the process of certification by the Oklahoma Department of Environmental quality following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers, to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XII. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XIII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2D, Permit Application Package 1, dated August 20, 2012, and received on August 24, 2012.

A. REFERENCES

"Implementation of the Oklahoma Water Quality Standards," Oklahoma Water Resources Board, Title 785, Chapter 46, effective as of May 27, 2008

Oklahoma Water Quality Standards, (Title 785, Chapter 45) promulgated by the Oklahoma Water Resources Board including all amendments which are effective as of May 27, 2008.

<http://ecos.fws.gov/ipac/>

<http://www.fws.gov/southwest/es/oklahoma/beetle1.htm>

<http://www.kdwp.state.ks.us/news/Other-Services/Threatened-and-Endangered-Species/Threatened-and-Endangered-Species/Species-Information/ARKANSAS-RIVER-SHINER>

<http://www.bio.txstate.edu/~tbonner/txfishes/notropis%20girardi.htm>

<http://www.wildlifedepartment.com/wildlifemgmt/endangered/pocketbook.htm>
<http://www.fws.gov/southwest/es/oklahoma/Documents/ABB/Final%20Draft%20Keystone%20HCP%2020120815.pdf>

B. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

C. MISCELLANEOUS CORRESPONDENCE

Letter from Dorothy Brown, EPA, to MS. Sandra Barnett, Manager, Environment, TransCanada Keystone Pipeline, LP, dated September 14, 2012, informing applicant that the new NPDES permit numbers were terminated and assigned the existing NPDES permit number OK044806.

Letter from Dixie Porter, Field Supervisor, Fish & Wildlife Service, Oklahoma Ecological Field Office, to Permits Branch, EPA, dated September 14, 2012, expressing its concern on the Arkansas River Shiner

E-mails from Jonathan Fredland, Asst Environmental Gulf Coast Project Manager, Keystone Gulf Coast Project to Maria Okpala, EPA, 8/28/12, 9/05/12, 9/06/12, 9/19/12, 9/25/12, & 9/27/12 receiving additional facility information.

E-mail from Molly Cagle, Partner, Baker Botts LLP, on behalf of Keystone Gulf Coast Project to Maria Okpala, EPA, 10/16/12, receiving additional permit application modification information.

Emails from Kevin Burges, Fish and Service, Oklahoma Ecological Field Office, to Maria Okpala, EPA, 10/04/12 & 10/09/12 on EPA's concurrence to EPA's consultation on the Arkansas River Shiner.