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Colorado River Sub-Area Contingency Plan

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CONTENTS

Section	Page
1.0 INTRODUCTION	1
1.1 PURPOSE	1
1.2 SCOPE	2
1.3 STATUTORY AUTHORITY	3
2.0 DESCRIPTION OF SUB-AREA	3
2.1 WATERSHED AND CLIMATE	3
2.2 SENSITIVE AREAS	4
3.0 OIL THREATS	7
3.1 EPA-REGULATED FRP (FIXED) FACILITY HAZARDS	7
3.2 TRANSPORTATION HAZARDS	7
3.3 OIL PRODUCTION FACILITIES	8
3.4 WORST-CASE DISCHARGES AND PROJECTIONS	8
3.4.1 FRP Spill Projections	8
3.4.2 FRP Worst-Case Discharges	9
4.0 RESPONSE OPERATIONS AND ROLES	10
4.1 GENERAL PATTERN OF RESPONSE (OPERATIONS)	10
4.2 RESPONSE ROLES	14
4.2.1 Responsible Party Roles/Responsibilities	15
4.2.2 Federal OSC Roles/Responsibilities	16
4.2.3 Federal Agency Roles/Responsibilities	18
4.2.4 State Government Roles/Responsibilities	19
4.2.5 Tribal Government Roles/Responsibilities	20
4.2.6 Local Jurisdictions/Agencies Roles/Responsibilities	21
4.3 RESPONSE STRATEGIES AND CONTROL POINTS	22
4.4 RESOURCES AND EQUIPMENT	23
4.5 THE EMERGENCY RESPONSE APPLICATION	24
5.0 CHEMICAL COUNTERMEASURES, IN-SITU BURNS, BIOREMEDIATION	25
5.1 CHEMICAL COUNTERMEASURES/SUBPART J AGENTS	25
5.2 IN-SITU BURNS	26
5.3 BIOREMEDIATION	26
6.0 OTHER CONTINGENCY PLANS	27

46 **APPENDICES**

47 **Appendix**

48 A SUB-AREA CONTACT LIST

49 B OIL SPILL RESPONSE TECHNIQUES

50 C MEMORANDUM OF AGREEMENT BETWEEN THE NAVAJO NATION AND THE U.S.
51 ENVIRONMENTAL PROTECTION AGENCY REGIONS 6, 8, AND 9

COLORADO RIVER SUB-AREA CONTINGENCY PLAN

1.0 INTRODUCTION

The three levels of contingency plans under the Federal National Response System are the National Contingency Plan (NCP), Regional Contingency Plan (RCP), and Area Contingency Plan (ACP). ACPs were most recently required by the Oil Pollution Act of 1990 (OPA 90). Following OPA, most EPA regions, including Region 8, added various ACP requirements into their Regional Plans, resulting in combined RCP/ACP plans. However, the area covered by the combined plans (RCP/ACP) was regional in scope and lacked localized geographic details necessary for oil spill response planning and coordination.

To conduct planning in localized areas, Region 8 designated 10 smaller sub-areas based on watershed boundaries for oil spill planning. The Sub-Area Contingency Plans (SACP) provide a greater level of tactical response planning to guide initial actions in response to major discharges of oil that threaten waters of the United States. These planning efforts focus on areas most vulnerable to oil spills. For additional detail on the Area Planning strategy, refer to the EPA Region 8 RCP. The area planning development strategy was approved by the Region 8 Regional Response Team (RRT) in August 2013. This SACP, in conjunction with the RCP, will constitute Region 8's ACP for the Colorado River Sub-Area. This SACP was developed via a collaborative effort of federal, Tribal, state, and local agencies, as well as industry groups.

1.1 PURPOSE

OPA 90 defined the purpose of area planning as follows: "The Area Contingency Plan shall, when implemented with the National Contingency Plan, be adequate to remove a worst-case discharge and to mitigate or prevent a substantial threat of such a discharge from a vessel, offshore facility or onshore facility operating in or near the area."

1.2 SCOPE

OPA 90 required that several elements be met in developing ACPs, which were later codified into the Clean Water Act (CWA) 311 (j)(4)(c) and subsequently into the NCP at 40 *Code of Federal Regulations* (CFR) Section 300.210 (c). The requirements of CWA Section 311 (j)(4)(C) are as follows:

- (i) *When implemented in conjunction with the National Contingency Plan, be adequate to remove a worst-case discharge [of oil] and to mitigate or prevent a substantial threat of such a discharge from a vessel, offshore facility, or onshore facility operation in or near the area;*
- (ii) *Describe the area covered by the plan, including the areas of special economic or environmental importance that might be damaged by a discharge;*
- (iii) *Describe in detail the responsibilities of an owner or operator and of federal, state, and local agencies in removing a discharge, and in mitigating or preventing a substantial threat of a discharge;*
- (iv) *List the equipment (including firefighting equipment), dispersants or other mitigating substances and devices, and personnel available to an owner or operator and federal, state and local agencies to ensure an effective and immediate removal of a discharge and to ensure mitigation or prevention of a substantial threat of a discharge;*
- (v) *Describe the procedures to be followed for obtaining an expedited decision regarding the use of dispersants;*
- (vi) *Describe in detail how the plan is integrated into other Area Contingency Plans and vessel, offshore facility, and onshore facility response plans approved under this subsection, and into operating procedures of the National Response Unit;*
- (vii) *Include any other information the President requires; and*
- (viii) *Be updated periodically by the Area Committee.*

Additionally, NCP Section 300.210(c)(4)(i) calls for Area Plans to incorporate a detailed annex containing a Fish and Wildlife and Sensitive Environments Plan that is consistent with Regional Plans. The EPA Region 8's Fish and Wildlife Sensitive Environments Plan is included as Annex III of the Region 8 RCP and provides information for OSCs and other responders for protection of threatened and endangered species and their habitats during a response.

Within a particular geographic watershed boundary, each SACP will assess threats from facilities that could cause substantial harm to the environment by discharging into or on the navigable waters and or adjoining shorelines. Section 300.211 of the NCP identifies those facilities that “could cause substantial harm to the environment” and that must submit a Facility Response Plan (FRP) for responding to a worst-

case discharge and to a substantial threat of such a discharge. Requirements for FRPs for non-transportation related onshore facilities are specified at 40 CFR Section 112.20, and pertain to those facilities with total storage capacity exceeding one million gallons (gal) and that meet certain criteria. These facilities are regulated by the EPA and are referred to as FRP facilities. Requirements for pipeline (transportation) FRPs are specified at 49 CFR Part 194 and are regulated by the Department of Transportation (DOT). While these higher threat facilities are the focus of this planning effort, spills from smaller and more prevalent sources and facilities, such as railroads and trucking operations could also be addressed by response strategies developed as part of this SACP. Discharges from these other potential sources may constitute a “Major Discharge” as defined in the NCP for inland waters. The SACP response strategies are expected to assist in responding to such discharges that may be more prevalent.

Although this SACP focuses on oil spill response, the successful development of this plan (and the web-based response tool discussed in this document), along with the updates to the RCP will prepare and enhance the Region’s ability to respond to both oil discharges and hazardous substance releases. This SACP and associated response strategies do not relieve operators of requirements for FRPs or other applicable regulatory compliance.

1.3 STATUTORY AUTHORITY

This SACP was prepared under the NCP, 40 CFR Part 300 and Section 311(j) of the CWA, as amended by OPA 90, 33 *United States Code* (U.S.C.) 1251 et seq.

2.0 DESCRIPTION OF SUB-AREA

This section describes the sub-area, its sensitive environments and critical infrastructure (sensitive resources), and the planning approach developed for protection of these.

2.1 WATERSHED AND CLIMATE

According to a watershed-based approach for defining sub-area boundaries, the Colorado River sub-area is composed of the Colorado Headwaters, Gunnison, Upper Colorado-Dirty Devil, Upper Colorado-Dolores, and San Juan watersheds (referred to as sub-regions). These watersheds are classified as Hydrologic Unit Code 4. The sub-area includes parts of 30 counties within Colorado and Utah. The Colorado River is the principal drainage system within the sub-area. Surface water drainage generally flows south-southwest.

The Colorado Headwater watershed encompasses north-central Colorado (from the headwaters of the Colorado River) to the western slope of Colorado and a small sliver at the Utah state line. The watershed covers an area of 9,838 square miles and includes the following counties in Colorado: Eagle, Garfield, Grand, Gunnison (very small portion), Mesa, Pitkin, Routt, and Summit; and Grand County in Utah. The Colorado River is the major river in the watershed. Major tributaries within the sub-region include the Fraser, Blue, Piney, Eagle, and the Roaring Fork Rivers.

The Gunnison watershed encompasses central Colorado (from the continental divide) west to the edge of Grand Junction and south to Telluride, Colorado. The watershed covers an area of 8,027 square miles and includes the following counties in Colorado: Delta, Gunnison, Hinsdale, Mesa, Montrose, Ouray, Saguache, and San Juan. The Gunnison River is the major river in the watershed and drains into the Colorado River south of Grand Junction. Within the Gunnison watershed is the Blue Mesas reservoir. Major tributaries within the sub-region include the Taylor, East, Cimarron, North Fork Gunnison, and the Uncompahgre Rivers.

The Upper Colorado-Dolores watershed straddles the Colorado and Utah State line. The watershed covers an area of 8,363 square miles and includes the following counties in Colorado: Mesa, Montezuma, Montrose, San Miguel, and Dolores. The watershed also includes the following counties in Utah: Grand and San Juan. The Dolores is the major river in the watershed and drains into the Colorado River northeast of Arches National Park in Utah. Major tributaries within the sub-region include the Little Dolores, West Dolores, and San Miguel Rivers.

The Upper Colorado-Dirty Devil watershed encompasses the south central and southern portion in Utah. The watershed covers an area of 13,615 square miles and includes the following counties in Utah: Sanpete, Emery, Sevier, Piute, Wayne, Garfield, Kane, and San Juan. The Dirty Devil River is the major river in the watershed and drains into the Colorado River in Glen Canyon National Recreation Area. Another major tributary within the sub-region is the Escalante River.

The San Juan watershed encompasses the southeast corner of Utah and the southwest corner of Colorado (Four Corners). The watershed covers an area of approximately 10,140 square miles within Region 8 and includes the following counties in Colorado: Archuleta, Mineral, Hinsdale, Rio Grande, San Juan, La Plata, Montezuma, and Dolores; and San Juan County in Utah. The San Juan is the major river in the watershed and drains into the Colorado River in Utah at Lake Powell. Major tributaries within the sub-region include the Navajo, Piedra, Los Pinos, Animas, and Mancos Rivers.

The Colorado River Sub-Area is within the Colorado Plateaus and Southern Rocky Mountain Physiographic Provinces. The Colorado Plateau is characterized by sparsely vegetated plateaus, mesas, deep canyons, and barren badlands. Elevations on the plateau range from 3,000 to 14,000 feet with an average of 5,200 feet. Annual precipitation amounts are less than 10 inches at the mid and lower elevations, while areas above 8,000 feet receive over 20 inches of precipitation. The mountains that reach 11,000 feet elevation can receive nearly 3 feet of precipitation. Temperatures also vary considerably within the Colorado Plateau. In the lower elevations, average daily high temperatures range from the low 20's degrees Fahrenheit (°F) in the winter to the lower and mid-90's degrees °F in the summer. At mid and upper elevations, temperatures range from sub-zero in the winter to low-60s °F and 70s °F in the summer.

The Southern Rocky Mountain Range is characterized by rugged mountains, including most of the highest peaks in the conterminous United States. Colorado contains the highest summits with mountains exceeding 14,000 feet. Other notable topographic features include hogbacks, mesas, and rocky outcrops where the high mountains meet the plains on the eastern front, and rugged canyons and mesas where the mountains meet the high desert in the west. The climate is a temperate semiarid steppe regime with average annual temperatures ranging from 35°F to 45°F in most of the ecoregion, but reaching 50°F in the lower valleys. Prevailing west winds and general north-south orientation of the mountain ranges also influence the climate. Winter precipitation varies considerably with elevation. In the highest mountains, a considerable part of the annual precipitation falls as snow, although permanent snowfields and glaciers cover relatively small areas. Annual rainfall ranges from under 10 inches at the base of the mountains in the San Luis Valley to over 55 inches at higher elevations in the Park Range.

Three distinct seasons of water flow occur within the sub-area: (1) winter/low flow, (2),spring runoff or peak/high flow, and (3) base flow. The winter season is primarily from October through late April when the rivers and reservoirs of the sub-area are covered to some degree by ice. Spring runoff, or peak/high flow, generally starts late April to early May at lower elevations and continues through late June to July at higher elevations. The period of peak flows varies year to year; however, May and June are the primary months of peak flow, again moving from lower elevations to higher ones. Following the spring runoff, base flow occurs. These seasonal variations are likely to impact response strategies devised by the Sub-Area Committee, and adjustments in the field will very likely be necessary.

2.2 SENSITIVE AREAS

As part of the development of this SACP, the planning process focused on identifying areas where sensitive environmental areas could be impacted by a worst-case discharge of oil. The river system and reservoirs described in Section 2.1 are considered sensitive and/or critical for multiple reasons that include it provides water for domestic and irrigation purposes, provides critical habitat for threatened and endangered species, contains cultural and historically significant areas, and is economically important based on the recreational opportunities it provides. Additionally, the sub-area contains Arches National Park, Black Canyon of Gunnison National Park, Bryce Canyon, Canyons of the Ancient National Monument, Canyonlands National Park, Capitol Reef National Park, Grand Mesa National Forest, Gunnison National Forest, Gunnison Gorge National Conservation Area, Natural Bridges National Monument, Manit-La Sal National Forest, Mesa Verde National Park, Uncompahgre National Forest, San Juan National Forest, Southern Ute Indian Reservation, and Ute Mountain Indian Reservation.

Planning initially focused on the I-70 and rail corridors along the Colorado River where higher density of oil operations and rail and truck transportation are located. However, other sensitive environments/areas near oil production fields and hazardous materials routes were accounted for during the planning process. Those included smaller streams, rivers, and water bodies throughout the sub-area. There are not currently any major crude oil or refined product pipelines in this subarea. In the future, additional planning may be appropriate as infrastructure changes and the river moves.

Water intakes are located in rivers and reservoirs within the sub-area and are used for various purposes (drinking water, irrigation, etc.). Water intake information is included under the "Facilities" layer on the web-based response tool The Emergency Response Applications (TERA), which is discussed further in this document. All current available water intake and diversion data is available in TERA; however, water intake and diversion data come from disparate sources and may not be 100% current. Responding personnel are advised to contact the Colorado Division of Natural Resources at (303)866-3311 or the Utah Division of Water Rights at (801)538-7240 for the most up to date diversion ownership and contact information and assistance in contacting non-drinking water users.

A general approach to protection of the sub-area was devised via close coordination among members of the Sub-Area Committee that included representatives from the Colorado Department of Public Health and Environment, Utah Department of Environmental Quality, United States Fish and Wildlife Service (USFWS), Bureau of Indian Affairs, federal land management agencies including the United States Forest Service and Bureau of Land Management, and several county emergency management offices. Within the

Colorado River Sub-Area, portions of the Colorado River and associated shoreline are designated critical habitat. As such, resource trustees and managers generally preferred a general protection approach rather than the development of habitat and/or location-specific strategies. Although, due to seasonal variability a combination of the general protection approach and the development of habitat and/or location-specific strategies may be used.

The general approach is to control the source of the spill as quickly as possible and then focus actions on limiting impacts downstream. For example, if an oil spill would threaten Colorado River, the initial goal would be to contain the oil within the first impacted waterway. This would limit impact on the Colorado River. Conversely, if a spill would occur on Colorado River, the initial goal would be to contain the oil within the main body and thus protect the shoreline and lake bays to the extent possible.

Although sensitive environments that include threatened or endangered species and critical habitat are present across the sub-area, the committee agreed that this general protection approach is most applicable within the first 24 to 72 hours of a response. Importantly, this approach does not replace the requirement for coordination and consultation with the trustees as required under the NCP during an incident. In fact, protection of trustee-managed resources, including wildlife and habitat, must be factored into oil spill response operations. The Federal On-scene Coordinator (OSC) shall ensure that natural resource trustees and natural/historic resource managers are promptly notified of a discharge or release that may impact trust resources.

If cultural, historic, or archaeological sites could be affected by response operations, the Federal OSC must consult the State Historic Preservation Officer (SHPO) and other appropriate entities as specified in the Programmatic Agreement (PA) on Protection of Historic Properties During Emergency Response Under the NCP (refer to Annex V of the Region 8 RCP for a copy). Identification of culturally, historically, or archaeologically sensitive sites in the vicinity of a spill can be accomplished by contacting the appropriate SHPO or land managing agency cultural resource specialist or other appropriate contact. At the state level, this individual is generally associated with the State Historical Preservation Office or Society. However, federal and state land management agencies will generally have an inventory of historically significant sites on their lands and can provide assistance with PA compliance. Contacts for states associated with the sub-area are as follows:

- Colorado State Historic Preservation Officer (Archaeology & Historic Preservation) – (303) 447-8679 or <http://www.historycolorado.org/>

- Utah State Historic Preservation officer (Utah Historical Society) – (801) 245-7225 or <http://heritage.utah.gov/history/historical-society>

Where possible, advanced clearance at pre-established oil spill control points will be coordinated through the appropriate land management agency. The advanced clearance process is ongoing. Additionally, coordination with the Tribal agencies is required during response actions on Tribal lands to determine potential impacts on cultural resources. Proper consultation with these and other appropriate entities should occur to ensure protection of all culturally sensitive resources. Trustee agencies must assist in identifying cultural resources during a response action, and coordinate with the lead response agency.

The Colorado Pikeminnow, Humpback Chub, Bonytail, and the Razorback Sucker are all listed as federally endangered fish species that have been known to occur within the Colorado River sub-area. The discussion summarizes a species description, species range, habitats they occupy, and reproduction mainly per the species profiles developed by Colorado Parks and Wildlife (CPW; www.cpw.state.co.us) in addition to profiles from US Fish and Wildlife (FWS; www.fws.org) and Utah Division of Wildlife Resources (DWR; www.wildlife.utah.gov).

Colorado pikeminnow

Scientific Name: *Ptychocheilus Lucius*

Status: Federally Endangered, State Threatened

Description: The Colorado Pikeminnow is the largest minnow in North America and is an endangered, native fish of the Colorado River thought to have evolved more than 3 million years ago. Called the “white salmon” by early settlers due to its migratory behavior, the Colorado pikeminnow has a torpedo-shaped body and a large, toothless mouth. It has an olive-green and gold back and a silvery-white belly. Colorado pikeminnow can live up to 40 years and were historically known to grow to nearly 6 feet long and weigh 80 pounds. Today, researchers commonly see adult Colorado pikeminnow that are 2 to 3 feet in length.

Range: Colorado pikeminnow were once abundant in the main stem of the Colorado River and most of its major tributaries in Colorado, Wyoming, Utah, New Mexico, Arizona, Nevada and California. Today, two wild populations of Colorado pikeminnow are found in the Upper Colorado River Basin – one in the upper Colorado River system and one in the Green River system. The San Juan River Basin Recovery Implementation program continues to stock Colorado pikeminnow to develop a separate, self-sustaining population.

Habitat: The species thrives in swift flowing muddy rivers with quiet, warm backwaters.

Reproduction: The species are known for long-distance spawning migrations of more than 200 miles in late spring and early summer. They spawn over riffle areas with gravel or cobble substrate. Eggs are randomly splayed onto the bottom and usually hatch in less than one week. They are capable of reproducing at 5 to 7 years of age.

Humpback chub

Scientific Name: *Gila cypha*

Status: Federally Endangered, State Threatened

Description: The humpback chub is a remarkable member of the minnow family that is green to silver and white with an abrupt hump behind the head. They grow to about 18 inches in length.

Range: The historic range of the humpback is similar to the pikeminnow, occurring in great numbers throughout the Colorado River system from Green River in Wyoming to the Gulf of California in Mexico. Today, they can be found in deep, canyon-bound portions of the Colorado River System, such as Black Rocks and Westwater canyons on the Colorado River and Yampa canyon inside Dinosaur National Monument.

Habitat: The humpback prefers deep, fast-moving, turbid waters often associated with large boulders and steep cliffs.

Reproduction: Spawning occurs between April and July during high flows from snowmelt. The species can spawn as young as 2 to 3 years of age. During breeding, males develop red tinges on the venter and cheeks.

Bonytail

Scientific Name: *Gila elegans*

Status: Federally Endangered, State Endangered

Description: The bonytail is the rarest of the endangered, native fish of the Colorado River and is thought to have evolved around 3-5 million years ago. It has large fins and a streamlined body that is pencil-thin near its tail. Its name describes the fish as an elegant swimmer and member of the “chub” group of minnows. The bonytail has a gray or live-colored back, silver sides, and a white belly. Bonytail can grow to 22 inches or more and have been known to live up to 50 years.

Range: Historically, bonytails were present in the Colorado River system, which includes the Yampa, Green, Colorado, and Gunnison Rivers.

Habitat: Because there were so few bonytail in existence when recovery efforts began, their preferred habitat is still unknown. Their large fins and streamlined body enable bonytail to swim in swift river flows. Through research and monitoring of stocked fish, researchers continue to gain information to help determine this species' life-history needs and ways to improve their survival.

Reproduction: Historically, the species spawned in the spring and summer over gravel substrate. Many bonytail are now produced in fish hatcheries, with the offspring released into the wild when they are large enough to survive in the altered Colorado River system environment. Females produce between 1,000 and 17,000 eggs. Hatching occurs about nine hours after fertilization and swim-up begins generally 48 to 120 hours later. Survival rate of young fish is about 17 to 38 percent. Bonytail are thought to spawn at 2 to 3 years of age during late June and early July.

Razorback Sucker

Scientific Name: *Xyrauchen Texanus*

Status: Federally Endangered, State Endangered

Description: The razorback sucker is a large, bronze to yellow fish that grows to a weight of about 15 pounds and has a sharp-edged keel behind the head. Breeding males turn gray-black with a bright orange belly.

Range: Originally widespread in the Colorado River system, wild populations were reduced to a small number of individuals in the Yampa, Colorado and Gunnison rivers in Colorado.

Reproducing populations remain only in the middle Green River in Utah and in an off-channel pond in the Colorado River near Grand Junction. The razorback is most often found in quiet, muddy backwaters along the river.

Habitat: Razorbacks are found in deep, clear to turbid waters of large rivers and some reservoirs over mud, sand or gravel.

Reproduction: The razorback sucker spawns in the spring, breeding males turn black up to the lateral line, with brilliant orange extending across the belly.

Additionally, EPA Region 8 has developed an interactive web-based tool (see Section 4.5 of this SACP for details concerning The Emergency Response Application [TERA]) that will identify some sensitive and/or critical features within the sub-area. The information may include, but is not limited to, critical habitat, threatened and endangered species, public use areas, cultural and historic areas, managed and protected areas, resources extraction areas, and water supplies.

3.0 OIL THREATS

This section discusses oil-related sources that pose a spill threat within the sub-area. Those threats include: (1) EPA-regulated storage facilities (those exceeding one million gallons in storage capacity), (2) rail and truck transport activities, and (3) other facilities including oil production wells and associated tank batteries. An uncontrolled discharge from a production site could pose a significant threat if occurring near water, but as previously discussed, the planning process for the SACP's places specific emphasis on large-scale discharges. Results of that planning process will also enhance capability to respond to smaller incidents.

3.1 EPA-REGULATED FRP (FIXED) FACILITY HAZARDS

EPA-regulated FRP facilities could cause substantial harm to the environment. These facilities within the sub-area have oil storage capacities exceeding 1,000,000 gallons. Each of these facilities is required to develop an approved FRP that documents, by contracts or other approved means, the resources capable of addressing a worst-case discharge at that facility. EPA regulated FRP facilities have been determined to pose such a risk, most of which are located in the Grand Junction, Colorado area of the sub-area. EPA Region 8 maintains current copies of all FRPs. FRP facilities within Region 8 are identified on the TERA Viewer under the "Facilities" layer.

3.2 TRANSPORTATION HAZARDS

Transportation threats include potential discharges along rail and truck transportation routes. Rail and truck transport of oil is of concern because so much of this occurs within the sub-area, particularly along the Colorado River and its tributaries with ubiquitous drinking water intakes. Rail transport continues to be a primary means of moving oil in the Colorado River sub-area. Currently, approximately 915 miles of rail lines are present within the sub-area. In particular, the Union Pacific (UP) and Burlington Northern Santa Fe (BNSF) transport oil throughout the Colorado River sub-area on a daily-basis. Railroads within Region 8 are identified on the TERA Viewer under the "Infrastructure" layer.

3.3 OIL PRODUCTION FACILITIES

Oil production wells throughout the sub-area pose a threat of release, although such facilities were not evaluated as worst-case threats based on their limited storage capacities. Regardless, currently, approximately 15,700 active oil wells exist within the subArea. Active energy wells (including oil wells) within Region 8 are identified on the TERA Viewer under the "Energy" layer.

3.4 WORST-CASE DISCHARGES AND PROJECTIONS

As part of the planning process, oil spill projections were developed for FRP facilities to illustrate downstream extents of oil spills. For the sub-area, spill projections were created for 8 FRP facilities.

3.4.1 FRP Spill Projections

EPA-regulated FRPs are required to calculate planning distances (spill projections) per regulation 40 CFR Part 112 Appendix C. The planning distance represents the estimated distance a discharged material would travel within the first 27 hours following a discharge. Planning distance calculations are required to account for adverse weather conditions.

Pipeline spill projections for this plan were developed by first identifying priority locations where pipeline spills could impact significant water bodies. These locations were primarily pipeline crossings over major rivers and primary tributaries. Within the sub-area, projections were created for pipeline crossings over water bodies considered stream order six or larger, as classified by the United States Geological Survey (USGS).

By use of the USGS National Hydrography Dataset (NHD) and the NHDPlus dataset, flow direction was determined within a watershed from a potential spill point. The NHDPlus dataset was utilized to provide mean velocity data for water bodies throughout the sub-area., and oil spill projections were developed following a stream channel segment-by-segment approach. Stream segments have been established by USGS. Velocity data for each segment were used to plot the 27-hour projection. The velocity data are based on annual mean values that have been compiled over an approximate 30 year period; therefore, the projections are for average velocity conditions but do account for variable conditions, including periods of flooding and droughts.

3.4.2 FRP Worst-Case Discharges

Storage Facilities

For single-tank facilities, the worst-case discharge planning volume equals the capacity of the oil storage tank. For multiple-tank facilities, the worst-case discharge is based on the capacity of the largest oil storage tank within a common secondary containment area or the largest single oil storage tank within a secondary containment area, whichever is greater. For tanks with common piping operated as one unit, the worst-case discharge is based on the combined volume of all the tanks manifolded together.

Pipelines

DOT-regulated pipelines are required to determine the worst-case discharge for each of their response zones per 40 CFR Section 194.105. The worst-case discharge is calculated as the largest volume of one of the following:

- The pipeline's maximum release time in hours, plus the maximum shutdown response time in hours (based on historical data or operator's best estimate) multiplied by maximum flow rate, plus the largest line drainage volume after shutdown of the line section(s) in the response zone;

Or

- The largest foreseeable discharge for the line section based on the maximum historical discharge, if one exists, adjusted for any subsequent corrective or preventive action taken;

Or

- If the response zone contains one or more breakout tanks, the capacity of the single largest tank or battery of tanks within a single secondary containment system, adjusted for the capacity or size of the secondary containment system.

Although there are no crude oil or product pipelines within the subarea (excluding existing lines within the Navajo Nation territory which are assisted by EPA Region 9), there are natural gas (NG) and natural gas liquid pipelines (NGL) located within the subarea which are not regulated by 40 CFR. Instead, the NG and NGL lines are regulated by the Department of Transportation and Homeland Security under 49 CRF. Within 49 CFR 192.615 & 195.402, NG and NGL pipelines are required to have a plan for abnormal or emergency operations. The regulations include, but are not limited to, furnishing the abnormal or emergency response plans to supervisors, having properly trained employees, operators that "establish and maintain liaison with appropriate fire, police, and other public officials" etc.

Although the NG and NGL lines are regulated under a different CFR than crude oil and product pipelines, the companies involved with the NG and NGL lines are still required to follow all of the applicable regulations set forth within all 50 titles published by the Office of the Federal Register. The rules and regulations within all 50 CFR titles are subject to federal enforcement.

4.0 RESPONSE OPERATIONS AND ROLES

This section describes response roles, notification procedures, control point and response strategies, equipment and resources, and the EPA-managed web-based tool TERA.

4.1 GENERAL PATTERN OF RESPONSE (OPERATIONS)

Subpart D of the NCP outlines the general pattern of response and expected response operations. This is defined in detail at 40 CFR Sections 300.300 through 300.315, and generally includes the following:

Phase I—Discovery or Notification

A discovery and reporting of a spill or discharge of oil may be communicated to the appropriate agencies through various sources including members of the public, governmental agencies, private companies, etc. Reporting requirements differ among counties and states. Critical aspects of reporting are timeliness and accuracy of information provided. Specific federal reporting requirements apply to the facilities from which a discharge of oil threatens waters, and the federal reporting requirements are not met by reporting to the State or local agencies. Federal reporting requirements are specified below:

*“Any person in charge of a vessel or a facility shall, as soon as he or she has knowledge of any discharge from such vessel or facility in violation of Section 311(b)(3) of the CWA, immediately notify the NRC [National Response Center]. If direct reporting to the NRC is not practicable, reports may be made to the USCG [US Coast Guard] or EPA predesignated OSC [On-Scene Coordinator] for the geographic area where the discharge occurs. **The EPA predesignated OSC may also be contacted through the Regional 24-hour emergency response telephone number.** All such reports shall be promptly relayed to the NRC. In any event such person in charge of the vessel or facility shall notify the NRC as soon as possible.”*
(40 CFR Section 300-300(b)).

The NRC is the national communications center for oil and hazardous substance spill reporting. The NRC acts as the single point of contact, at the federal level, for all incident reporting. Notice of an oil discharge or release of a hazardous substance in an amount equal to or greater than the reportable quantity must

occur immediately in accordance with the CWA and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) under 33 CFR Part 153, Subpart B, and 40 CFR Part 302, respectively. All notices of discharges or releases received at the NRC are relayed by telephone to the Region 8 Regional Response Center. The OSC receiving these notifications will ensure notification to the appropriate federal, state, or Tribal agency affected by or reasonably expected to be affected by the discharge or release. The NRC spill reports are also sent directly to the RRT agencies, including the states, and certain other agencies.

To notify the NRC Duty Officer, call (800) 424-8802.

To notify the Region 8 Regional Response Center, call (303) 293-1788.

The Department of Interior (DOI) Regional Environmental Officer, Office of Policy and Compliance (303-445-2500), should be notified and kept advised of any spills or releases on DOI-administered lands. The United States Department of Agriculture (USDA) should be kept advised of any spills or releases on USDA-administered lands. Additional notification protocols are further defined in the Region 8 RCP.

Appendix A of this SACP includes a list of Sub-Area Committee members, sub-area stakeholders, and industry contacts. The sub-area contact list is also available on TERA (discussed further in Section 4.5 of this SACP), on the Tool Bar in the "Documents" folder. The contact list available on TERA will be revised periodically as contact information changes. TERA Viewer is available at the following website:

https://r8.ercloud.org/tera_external/index.html

Phase II—Preliminary Assessment and Initiation of Action

Following a report to the NRC and/or the EPA that an oil discharge has occurred which threatens surface water, a Federal OSC will initiate efforts to determine potential impacts from the oil and whether response actions are under way. The purpose of the assessment is to determine the magnitude and potential threats to the public using available information such as existing mapping tools, contacting the reporting party, contacting state and/or local officials on scene, and possibly deploying EPA personnel and contractors to directly assess conditions.

If a response action is under way or deemed necessary, the Federal OSC will assess whether to rely on personnel on scene or if a response by the EPA is necessary. Generally, any major discharge of oil that threatens waters (10,000 gallons or more to inland zone waters) will result in deployment of a Federal

OSC from the Regional office to ensure implementation of an adequate response action. The standard incident management approach during a significant incident includes a Unified Command organization with appropriate agency and industry representatives. The following section from the NCP describes generally the protocol for evaluating a response and determining the level of federal involvement:

“Except in a case when the OSC is required to direct the response to a discharge that may pose a substantial threat to the public health or welfare of the United States (including but not limited to fish, shellfish, wildlife, other natural resources, and the public and private beaches and shorelines of the United States), the OSC may allow the responsible party to voluntarily and promptly perform removal actions, provided the OSC determines such actions will ensure an effective and immediate removal of the discharge or mitigation or prevention of a substantial threat of a discharge. If the responsible party does conduct the removal, the OSC shall ensure adequate surveillance over whatever actions are initiated. If effective actions are not being taken to eliminate the threat, or if removal is not being properly done, the OSC should, to the extent practicable under the circumstances, so advise the responsible party. If the responsible party does not respond properly the OSC shall take appropriate response actions and should notify the responsible party of the potential liability for federal response costs incurred by the OSC pursuant to the OPA and CWA. Where practicable, continuing efforts should be made to encourage response by responsible parties.” (40 CFR Section 300.305(d))

In addition, the Federal OSC shall ensure that the natural resource trustees are promptly notified. The Federal OSC will coordinate with affected trustees regarding assessment, evaluations, investigations, and planning of appropriate removal actions as per 40 CFR Section 300.305(e).

Phase III—Containment, Countermeasures, Cleanup, and Disposal

The appropriate actions to implement to reduce impacts of an oil spill will vary significantly, depending on the physical environment, water flow conditions, access to the area, and potential threats to public safety and the environment. The NCP outlines basic guidelines for responding that include:

“(a) Defensive actions shall begin as soon as possible to prevent, minimize, or mitigate threat(s) to the public health or welfare of the United States or the environment. Actions may include but are not limited to: analyzing water samples to determine the source and spread of the oil; controlling the source of discharge; measuring and sampling; source and spread control or salvage operations; placement of physical barriers to deter the spread of the oil and to protect natural resources and sensitive ecosystems; control of the water discharged from upstream impoundment;.....” (40 CFR Section 300.310(a))

“(b) As appropriate, actions shall be taken to recover the oil or mitigate its effects. Of the numerous chemical or physical methods that may be used, the chosen methods shall be the most consistent with protecting public health and welfare and the environment. Sinking agents shall not be used.” (40 CFR Section 300.310 (b)).

Additional standards apply to use of chemical countermeasures such as dispersants, and these are addressed in the NCP and the RCP, and as discussed below in Section 5. In short, the Federal OSC may approve any chemical countermeasure for mitigation or elimination of a threat to human life; however, in all other situations, chemical agents may be used only if approved by the Federal OSC after consultation with and approval by the RRT.

Oil and contaminated materials recovered in cleanup operations shall be disposed of in accordance with applicable laws, regulations, or requirements. Any localized disposal requirements identified by Sub-Area Committees will be described in those SACP. Disposal assistance may be obtained through the EPA RCRA National Hotline at 1-800-424-9346, the EPA Region 8 Hotline at 1-800-227-8917, or

<http://www2.epa.gov/region8/contact-region-8>.

Additional authorities are available to the Federal OSC during response actions conducted under the NCP that address CWA regulations. For example, the Federal OSC has the authority to direct a discharge to water without a permit as specified in 40 CFR Section 122.3(d), and actions subject to CWA 404 permit requirements are authorized under Nationwide Permit 20.

Phase IV—Documentation and cost recovery

Agencies undertaking response actions funded by the Oil Spill Liability Trust Fund (OSLTF) must comply with reporting and documentation requirements to receive reimbursement and to allow for cost recovery from responsible parties. In addition, the information must be obtained during a response to an oil spill to accurately record the impacts, and that information must be available to trustees to assist in evaluating potential injuries to natural resources. For more information regarding the OSTLF, please refer to Sections 300.315 and 300.335 of the NCP.

4.2 RESPONSE ROLES

The NCP and the National Response System was created to address response roles of many federal, state, local, and Tribal organizations. More information about the National Response System is in Sections

300.100 through 300.185 of the NCP. The general assumption is that local and state authorities will be the first responders at the scene of an oil discharge, with federal resources to follow as needed. Some incidents may impact multiple jurisdictions. The NCP relays the expectation that responding entities will coordinate their efforts and, to extent practicable, respond in a manner that considers each jurisdiction's priorities and concerns. This should be accomplished through a Unified Command structure or some other appropriate means.

If an oil spill poses a threat to the public, the NCP describes in significant detail the role of lead agencies and other federal agencies during both planning activities and response actions. As a matter of general practice and as conceived in the NCP, the intent is for the Responsible Party (RP) to conduct response actions. Also, the state and local agencies with such authority are part of the National Response System and will likely oversee most response actions. The federal government may respond to an incident in various ways depending on the nature and magnitude of the incident. During such incidents, the Federal OSC must assess the situation in coordination with the appropriate state and local officials.

In addition to the elements of a response described above in Section 4.1, Section 300.317 of the NCP identifies the National Response Priorities for a response to a discharge of oil regardless of who conducts the response action. The National Response Priorities are listed below.

- (a) Safety of human life must be given top priority during every response action.
- (b) Stabilizing the situation to preclude the event from worsening is the next priority. All efforts must be focused on measures to stabilize a situation involving a facility, pipeline, or other source of pollution. Stabilizing the situation includes securing the source of this spill and/or removing the remaining oil from the container (vessel, tank, or pipeline) to prevent additional oil spillage, to reduce the need for follow-up response actions, and to minimize adverse impact to the environment.
- (c) The response must use all necessary containment and removal tactics in a coordinated manner to ensure a timely, effective response that minimizes adverse impact to the environment.
- (d) All parts of this national response strategy should be addressed concurrently, but safety and stabilization are the highest priorities. The OSC should not delay containment and removal decisions unnecessarily and should take actions to minimize adverse impact to the environment that begins as soon as a discharge occurs, as well as actions to minimize further adverse environmental impact from additional discharges.
- (e) The priorities set forth in this section are broad in nature, and should not be interpreted to preclude the consideration of other priorities that may arise on a site-specific basis.

The sections that follow highlight some of the major entities involved with a typical oil spill incident and their roles/responsibilities. This is not intended to be all inclusive. An agency's or jurisdiction's involvement may vary based on site-specific conditions and concerns.

4.2.1 Responsible Party Roles/Responsibilities

The RP is the individual, agency, or company owning or operating the vessel or facility that becomes the source of a discharge of oil into navigable waters or threatens to discharge thereto. As defined in OPA, each party responsible for oil discharged, or if there is substantial threat of a discharge, into or upon the navigable waters or adjoining shorelines, is liable for the removal costs and damages specified in Section 311(f) of CWA. Section 311(c)(3)(b) of CWA requires a facility owner or operator participating in removal efforts to act in accordance with the NCP and the applicable response plan required under Section 311(j).

Any person in charge of a vessel or facility (as defined in Section 300.5 of the NCP) shall, as soon as he or she has knowledge of any discharge from such vessel or facility in violation of Section 311(b)(3) of the CWA, immediately notify the NRC, as described in the Emergency Notifications section above.

The RP should immediately provide the Federal OSC and relevant authorities with information about the discharge and assist the Federal OSC with the preliminary assessment, including determining the magnitude and severity of the discharge and the threat to public health or welfare of the United States or the environment. As soon as practicable, the RP should assess the feasibility of removal and initiate response actions. Once established, the RP is expected to operate within a Unified Command with federal, state, and local authorities to achieve an effective and efficient response.

Permission to access private property to conduct the response action must be obtained from the property owner. The RP is expected to secure such access before or during response actions. Furthermore, restoration of private property damaged during the response is considered appropriate as part of the removal action.

If the RP is unknown, fails to respond, or responds in a manner considered inadequate, the local, state, or federal agency having jurisdiction should exercise its authority to assume control of the response effort. The RP shall provide all reasonable cooperation and assistance requested by the Federal OSC, consistent with the CWA (CWA Section 311(c)(3)(B)). Following termination of the emergency response, the RP is

required by law to take steps to prevent recurrence of spills or releases. Corrective actions may include improved planning, increased inspections, or implementation of physical preventive measures.

4.2.2 Federal OSC Roles/Responsibilities

The CWA and OPA 90 direct the President to respond to, oversee, and ensure adequate removal of discharges of oil to waters of the United States. This authority and responsibility has been delegated to the Federal OSC. The primary duties of the OSC have been described in the above sections of this document. In summary, the Federal OSC, once notified of a discharge of oil that has entered or that threatens waters of the United States, must perform a preliminary assessment of the spill and ensure notification to the natural resource trustees. If a response is required to mitigate the threat from the oil, the Federal OSC must evaluate adequacy of the response by private, state, or local authorities. Not all spills warrant that an Federal OSC perform on site oversight, and in many cases, the state and local agencies will assume that responsibility to monitor RP cleanup activities.

However, if the Federal OSC determines that EPA involvement is required, based on information available from the scene, the Federal OSC will request funding as needed from the National Pollution Fund Center to conduct a response. The Federal OSC will encourage and may allow the RP to voluntarily and promptly perform removal actions, provided the Federal OSC determines such actions will ensure an effective and immediate removal of the discharge or mitigation or prevention of a substantial threat of a discharge. When the RP or other entity does conduct the removal, the Federal OSC shall ensure adequate surveillance over whatever actions are initiated. If effective actions are not being taken to eliminate the threat, or if removal activity is not adequate, the Federal OSC should, to the extent practicable under the circumstances, so advise the RP. (40 CFR Section 300.305(d)).

If the RP does not respond adequately, the Federal OSC may take appropriate response actions and should notify the RP of the potential liability for federal response costs incurred by the Federal OSC pursuant to the OPA and CWA. The Federal OSC has the responsibility and authority to respond and commit federal resources to implement the actions necessary to respond to a discharge of oil. Because no coastal zones are present within Region 8, EPA is the agency that will provide the Federal OSC for oil discharges in accordance with the CWA and OPA 90.

In carrying out a response under this section, the Federal OSC may:

- Remove or arrange for removal of a discharge, and mitigate or prevent a substantial threat of a discharge, at any time;

- Direct or monitor all federal, state, and private actions to remove a discharge; and
- Remove and, if necessary, destroy a vessel discharging, or threatening to discharge, by whatever means are available. (40 CFR Section 300.305 (d)(1)).

If the oil discharge results in a substantial threat to the public health or welfare of the United States (including, but not limited to fish, shellfish, wildlife, other natural resources, and the public and private beaches and shorelines of the United States), the Federal OSC must direct all response efforts, as provided in Section 300.322(b) of the NCP. The Federal OSC should declare as expeditiously as practicable to spill response participants that the federal government will direct the response. The Federal OSC may act without regard to any other provision of the law governing contracting procedures or employment of personnel by the federal government in removing or arranging for removal of such a discharge. (Subpart D of the NCP).

The Federal OSC shall ensure that the natural resource trustees are promptly notified, to the maximum extent practicable as provided in the Fish and Wildlife and Sensitive Environments Plan Annex to the RCP for the area in which the discharge occurs. The Federal OSC and the trustees shall coordinate assessments, evaluations, investigations, and planning with respect to appropriate removal actions. The Federal OSC shall consult with the affected trustees on the appropriate removal action to be taken. This is required by Section 6 of the National Historic Preservation Act and Section 7 of the Endangered Species Act. National memoranda of understanding were developed to define how these consultations shall be performed during oil and hazardous substance emergencies. These memoranda are included as annexes to the RCP.

Damage assessment activities by the trustee agencies are separate from removal activities but should be coordinated to ensure greatest efficiency and protection. When circumstances permit, the Federal OSC shall share use of non-monetary response resources (i.e., personnel and equipment) with the trustees, provided trustee activities do not interfere with response actions. The lead administrative trustee facilitates effective and efficient communication between the Federal OSC and the other trustees during response operations and is responsible for applying to the Federal OSC for non-monetary federal response resources on behalf of all trustees. The lead administrative trustee is also responsible for applying to the National Pollution Funds Center to initiate funding for damage assessment pertaining to injuries to natural resources.

4.2.3 Federal Agency Roles/Responsibilities

The federal government may respond to an oil discharge in various ways depending on the nature and magnitude of the incident. Federal agencies have defined roles established in the NCP, and those agencies have responsibilities under delegated authorities. They may also have resources needed to assist during a response. If assistance is required, it will be coordinated through an incident-specific RRT (refer to Section 300.115 of the Region 8 RCP for further details concerning Incident-Specific RRTs). Federal agencies are required to make facilities and resources available to the Federal OSC consistent with agency capabilities and authorities, as called for in the NCP (NCP Sections 300.170 and 175).

In any case, where a natural resource is injured or threatened, the natural resource trustees (both federal and state) will provide additional assistance and provide advice regarding response priorities. The trustees will provide timely advice concerning recommended actions regarding trustee resources potentially affected. The trustees also will ensure that the Federal OSC is informed of their activities in natural resource damage assessment that may affect response operations. The trustees shall ensure, through the lead administrative trustee that all data from the natural resource damage assessment activities, which may support more effective operational decisions, are provided in a timely manner to the Federal OSC.

In the event of a worst-case discharge of oil, as described herein, the Federal OSC will respond and coordinate the response activities with local and state responders and the RP within a Unified Command system. The following sections in the NCP define the basic roles and responsibilities of the lead federal agency and other agencies.

Generally, many federal agencies may have significant roles to fulfill during a response action. Departments having land management, cultural resource, and wildlife management duties may have resource concerns that must be factored into the response operations. It is the responsibility of the Federal OSC to coordinate with the appropriate trustees in the event a discharge of oil or hazardous substance release that impacts those resources.

Other federal agencies involved with the National Response System, such as the Department of Health and Human Services, Department of Energy, and the Federal Emergency Management Agency (FEMA), may be called upon to assist in accordance with their usual statutory roles.

4.2.4 State Government Roles/Responsibilities

The roles of the respective state agencies during an oil discharge are generally well established, and coordination with the EPA through the RRT occurs on regular basis. Each state is encouraged to actively participate in National Response System activities, and each Governor has designated lead state agencies for certain activities. These designations can be found in the RCP. These designees and other state entities are critical to oil spill response because of their authorities governing water quality, management of state lands, and other items.

The state RRT representative is responsible for ensuring the following actions are completed, as appropriate: notify downstream water users (municipal, industrial, and agricultural) of all discharges and releases that may pose a threat to the water supply; notify and coordinate with other state and local agencies, including other state natural resource trustees, as appropriate; take responsibility, in conjunction with the Federal OSC, for selection of disposal sites, arrangements for use of disposal sites, and selection of transportation routes to disposal sites; make arrangements with the State Emergency Response Commission to provide security for all on-scene forces and equipment; assist the EPA with the determination of the degree of hazard of the discharge; and operate a site, if necessary and when no RP or principal RP has been identified.

For incidents not subject to the National Response System organization (i.e., because these are not regulated by CERCLA or CWA), states are encouraged to undertake response actions themselves or to use their authorities to compel potential RP(s) to undertake response actions.

State Emergency Management Agencies

State Emergency Management Agencies are often heavily involved in maintaining situational awareness of local incidents occurring within each state. They are also responsible for coordinating with, resourcing, and mobilizing elements and agencies in the rest of state government for incident response and local support, as needed. Spill notifications and distribution of this information to other federal, state, and local agencies is critical to initiating response actions under this SACP.

State Environmental Regulatory Agencies

State environmental regulatory agencies typically have a role in overseeing response to oil and hazardous materials incidents, and often provide a representative to the Region 8 RRT. Generally, states have primary authority for enforcing standards related to water quality and permitting. In these capacities, the

states play a key role in notification, monitoring, and approval of certain actions during an oil removal action. For example, if an in-situ burn is determined appropriate, a state emergency air permit may be required prior to commencing that burn. Also, if drinking water supplies are impacted, the state has a role in evaluating those impacted facilities and water supplies, if necessary.

State Resource Trustee Agencies

State resource trustees are typically technical resources for the Unified Command. All trustee agencies, both federal and state, are to designate a leader for the OSC to interface with. State wildlife management agencies often serve as subject matter experts on local river access, wildlife habitat and behavior, and sensitive ecological resources. State land management agencies may be able to provide technical support and resources, including personnel and equipment to assist where appropriate. Consultation with state resource trustees is necessary to ensure proper measures are implemented to limit the effects of the response actions on natural resources and recreation facilities. For example, proper decontamination is necessary to prevent spread of aquatic invasive species into a state or their migration to multiple areas within a state. Support from the appropriate state agency to inspect response contractor equipment may be necessary during a large incident.

4.2.5 Tribal Government Roles/Responsibilities

The NCP also defines roles and responsibilities of Tribal governments. Tribal emergency management and environmental agencies have responsibilities similar to those described above for state agencies. Water and air quality program standards within reservations must be factored in during response actions. Representatives from these agencies should be consulted during response activities.

In addition, Tribes act as trustees for the natural resources, including their supporting ecosystems, belonging to, managed by, controlled by, or appertaining to such Indian Tribe, or held in trust for the benefit of such Indian Tribe, or belonging to a member of such Indian Tribe, if such resources are subject to a trust restriction on alienation. Designated Tribal officials are assigned to act when there is injury to, destruction of, loss of, or threat to natural resources, including their supporting ecosystems.

4.2.6 Local Jurisdictions/Agencies Roles/Responsibilities

Local Fire Departments, Law Enforcement, and Emergency Medical Services

Public safety organizations will generally be the first government representatives at the scene of a discharge or release. They are expected to initiate public safety measures necessary to protect public health and welfare, and that are consistent with containment and cleanup requirements in the NCP. They are responsible for directing evacuations pursuant to existing state or local procedures. Local agencies may provide the initial incident command and establish a command post. The local agency may also establish a Unified Command with other government agencies, depending upon the extent of the incident. They will likely isolate the scene and restrict access, conduct appropriate initial notifications, and perform any other necessary life-safety functions including search and rescue, firefighting, or other defensive actions, emergency medical care, and decontamination of exposed persons. They may also provide emergency communications equipment, on-scene liaison with Unified Command, public information support to Unified Command, and protective action guidance to stakeholders.

Local Emergency Planning Committee (LEPC) and County Emergency Management

As specified in Sections 301 and 303 of the Superfund Amendments and Reauthorization Act (SARA) Title III, local emergency planning districts are designated by the State Emergency Response Commission (SERC) in order to facilitate preparation and implementation of emergency plans. Each LEPC is to prepare a local emergency response plan for the emergency planning district and establish procedures for receiving and processing requests from the public for information generated by Title III reporting requirements. The LEPC is to appoint a chair and establish rules for the LEPC. The LEPC is to designate an official to serve as coordinator for information, and designate in its plan a community emergency coordinator. In addition to meeting the requirements for local emergency plans under SARA Section 303, state and local government agencies are encouraged to include contingency planning in all emergency and disaster planning for responses, consistent with the NCP, RCP, and ACP.

Local Hazardous Material (HAZMAT) Response Teams

Local HAZMAT Response Teams have been developed throughout federal Region 8 to perform specialized mitigation and response actions at incidents involving hazardous substances and petroleum. These resources are often a sub-set of the local fire departments in the largest cities and towns throughout each state. Rural areas of Colorado often assign the responsibility hazardous materials response to the Sheriff's Office or State Patrol. In some cases, regional/multi-county HAZMAT teams are assembled from multiple jurisdictions and can take time to fully mobilize. Generally, dispatch of local HAZMAT response teams outside of their local jurisdictions in support of neighboring communities within their designated regions must occur via the state emergency management agencies. Local HAZMAT teams

may implement defensive measures in the initial response, and these agencies are critical to ensure public safety. However, most local HAZMAT teams are not equipped to perform oil containment and recovery on water.

4.3 RESPONSE STRATEGIES AND CONTROL POINTS

A key component of this sub-area oil spill response planning effort is development of pre-planned response strategies. Field reconnaissance activities occurred in conjunction with the Sub-Area Committee to identify accessible control points along the rivers and large water bodies within the sub-area where response strategies could be implemented relatively quickly. Control points and response strategies were developed in relation to worst-case discharge spill projections and the general protection approach defined in Section 3.0 of this SACP. Control Points are identified on the TERA Viewer within the “Geographic Response Plans” layer. This layer also contains boat ramps, staging areas, booming strategies, and other response-related information.

These control points were determined to be the best locations identified to contain/collect oil with the goal of protecting sensitive resources. Assumedly, these control points will be used during the initial 24 to 72-hour response period, when response equipment and resources are often limited.

Relative ease of access to the pre-identified control points was considered during the response planning. The majority of the control points are on public lands, so legal access (i.e., permission to enter the property) is expected to be granted. However, several control points may be on, or require passing through, privately-owned property. To obtain entry on privately-owned property, access agreements, verbal or written, are required. Response strategies developed as part of this SACP are not the only activities required to contain and recover oil during a response. Defensive actions must be initiated as soon as possible to prevent, minimize, or mitigate threat(s) to the public health or the environment.

Response strategies to be implemented at each control point area were developed for certain conditions (flow, weather, etc.). A response strategy is the technique likely to be implemented at a particular control point (e.g., deflection boom deployed to move oil away from sensitive receptors/habitat). However, incident-specific or site-specific conditions, movement of oil, and time necessary to mobilize response resources to a control point must be considered during an incident. Response personnel must be knowledgeable and ready to modify the response strategies as needed to mitigate the threat, given specific environmental conditions during a response.

Implementation of the response strategies requires trained personnel. All responding organizations must ensure that all response personnel they employ are trained to meet the Occupational Safety and Health Administration standards for emergency response operations promulgated in 29 CFR 1910.120 (Hazardous Waste Operations and Emergency Response regulations). These regulations were established to ensure the health and safety of personnel employed in hazardous substance response and cleanup operations. Additionally, response activities could involve boat operations and handling of oil response equipment. Trained personnel who may be available to assist during a response include those affiliated with private industry, response contractors, and federal/state/local agencies.

Additionally, Appendix B of this SACP is an oil spill response document that summarizes general oil spill response techniques that are relevant to the Colorado River Sub-Area. Response strategies/techniques discussed in this document are not site/location-specific and are intended for broad planning use.

4.4 RESOURCES AND EQUIPMENT

As previously discussed, owners of EPA-regulated FRP facilities and DOT-regulated pipelines are required to develop plans to address a worst-case discharge from their facilities or pipelines. These plans include notification procedures, identification of resources, and provisions for specific actions. The plans also include details on installation or construction of equipment or structures so that spills can be contained as soon as possible. This usually involves secondary containment systems, such as dikes, barriers, and diversionary flow paths. In general, industry planning is designed to contain spills at the source and at the facility.

In addition, regulated facilities/pipelines have minimum equipment requirements to address a worst-case discharge (generally 1,000 feet of boom). Facility equipment and resources are often limited and used immediately at the time of a spill at the source or the nearest downstream location. Regulated FRP facilities and pipelines have contracts with Oil Spill Removal Organizations (OSROs) to respond to spills. Mobilization time for an OSRO can be lengthy depending on the location of the spill. The initial 24 to 72 hours following a spill are the most critical for containment and planning of upcoming response operations. The control points and response strategies discussed in Section 4.3 were primarily developed to provide guidelines for potential response measures designed to reduce downstream spread of an oil spill.

Available equipment and resources may be a limiting factor within the initial hours following a spill. Notably, equipment caches owned by private companies (to address spills from their facilities) may be

available for use on other spills. While these companies may have trained personnel to respond to spills from their operated facilities, this does not mean these same personnel are available to respond to spills from other facilities. The intent of the SACP planning effort is to include information regarding equipment cache locations, inventories, and contacts in this plan. Current equipment cache information is available on The Emergency Response Application (TERA) Viewer within the “Geographic Response Plan” layer, in the “Documents” folder on the “Tool Bar”.

4.5 THE EMERGENCY RESPONSE APPLICATION

TERA is an EPA-developed and -managed web-based tool (referred to as a Viewer). TERA contains geospatial data from federal, state, and private sources. TERA was developed to assist in planning and response. TERA also provides the initial geospatial platform for the EPA during spill responses.

TERA was used in this plan to assess reaches of navigable waters and adjoining shoreline that would be impacted by a discharge of oil or for transportation related incidents along railroads and designated hazardous materials routes. The 27-hour FRP spill projection data layer was used in conjunction with data layers where sensitive areas are identified. Those areas include: critical habitat for threatened and endangered species, national wildlife refuges and wilderness areas as identified by USFWS; national parks and monuments as designated by the National Park Service; all of the state parks in Region 8; public drinking water facilities in the 6-state area, and other such critical resources as identified by the EPA. Representatives from federal and state trustees who manage these sensitive areas were contacted to attend area committee meetings and conduct field work with the Federal OSC to establish access locations (control points) for development of response strategies (see Section 4.3).

TERA is composed of mapping components and data layers including drinking water intakes, critical habitat information, sensitive species information, protected areas, bulk oil storage facilities, pipelines, tactical response strategies, equipment caches, and river access points (control points and/or boat ramps). Each component is organized and grouped in a layer structure and includes pertinent response information. The user can access and display critical response information, such as emergency contacts and boom deployment strategies. TERA is an important tool in the initial stages of a response and provides readily-accessible information to OSCs, trustees, and state, Tribal, and local emergency responders.

TERA will be the primary method of disseminating this SACP because it allows the Sub-Area Committee to readily maintain up-to-date information. TERA is available to the Sub-Area Committee, RRT, and

responding governmental agencies and industry that is subject to oil spill and hazardous substances response planning requirements; however, a username and password must be obtained through EPA Region 8. TERA Viewer is available at the following website:

https://r8.ercloud.org/tera_external/index.html

A TERA User Guide is available on the TERA Viewer Tool Bar in the "Documents" folder.

5.0 CHEMICAL COUNTERMEASURES, IN-SITU BURNS, BIOREMEDIATION

A number of actions are possible to address oil discharges. Normal physical recovery methods of containment, pumping, sorbing, and digging are preferred in Region 8, but chemical countermeasures, in-situ burns, and bioremediation are also options. These techniques include use of various chemicals to emulsify, solidify, gel, or herd oil on water; chemicals to promote biodegradation of oil; and combustion of spilled oil to quickly reduce the volume of oil in the environment. Section 311(j)(4)(C)(v) of the CWA, as amended by OPA 90, requires that the Area Committee “describe the procedures to be followed for obtaining an expedited decision regarding the use of dispersants.” General procedures are described in the following sections, and more detail is available in the Region 8 RCP.

5.1 CHEMICAL COUNTERMEASURES/SUBPART J AGENTS

Region 8 provides no pre-authorizations for use of chemical countermeasures. If subject to Subpart J regulations in the NCP, chemical countermeasure use must be reviewed and authorized by the site-specific RRT. This includes use of surface collecting agents, dispersants, biological additives, burning agents, or miscellaneous oil spill control agents. “Sinking agents” are not allowed in EPA Region 8. The Federal OSC may request RRT approval to use chemicals on behalf of the RP for the spill. However, physical recovery and removal of oil is the preferred cleanup technique.

The Federal OSC may authorize use of any chemical countermeasure agent without obtaining RRT authorization if it is immediately necessary to prevent or substantially reduce hazard to human life. In this event, the Federal OSC will inform the RRT and the RRT representative of the affected state as soon as practicable. In situations not involving immediate human hazard, the Federal OSC must notify and receive concurrence of the RRT Co-Chairs (EPA Region 8 and USCG) and the RRT representative of the affected state.

The EPA has compiled a list of dispersants and other chemicals that the Federal OSC or the party responding to the spill may consider for use during a spill emergency—the NCP Product Schedule (available at: <http://www.epa.gov/emergencies/docs/oil/ncp/schedule.pdf>). Listing of a product on the NCP Product Schedule does not authorize or pre-approve use of listed products, and products not listed may not be used.

5.2 IN-SITU BURNS

Under certain specific conditions, in-situ burning may offer a logistically simple, rapid, inexpensive, and relatively safe means of reducing impacts of an oil spill. Burning can reduce the need for collection, storage, transport, and disposal of recovered material. In certain circumstances, such as oil spilled under ice conditions, burning may be the only viable response technique. In-situ burning may have significant short-term impacts (e.g., airborne release of particulate matter), but may actually produce the lowest long-term impact because it removes the oil quickly. In-situ burning should augment, not replace, other oil spill response techniques such as mechanical removal or chemical countermeasures. For the Colorado River Sub-Area, the use of in-situ oil burning will be considered as a means to avert potential oil spill impacts.

In accordance with the NCP, RCP, and ACPs, if an accelerant is used to promote sustained burning of oil, procedures described in Section 5.0 above and Subpart J of the RCP must be followed. Specifically, the RRT must authorize use of the accelerant for the in-situ burn. If no accelerant or other chemical countermeasure is used, the RP/Unified Command must consult with the affected state(s) and/or locals, as well as natural resource trustees to obtain appropriate permits (i.e., air quality/open burn permits) and other permissions for the burn.

5.3 BIOREMEDIATION

Bioremediation activities may be subject to the same regulations and authorizations described for chemical countermeasure use as defined in Section 5.1 above, depending on site-specific conditions and desired use of the bioremediation agent. Any entity wanting to use bioremediation agents during an incident should contact the Federal OSC for more information. Biotreatment cells or land-farming cells for contaminated soils are likely subject to other solid waste management requirements but not necessarily Subpart J standards.

6.0 OTHER CONTINGENCY PLANS

This SACP was prepared under Section 311(j) of the CWA, as amended by OPA 90. This plan is intended to be fully consistent with and supportive of other private, local, state, regional, and federal plans as described in this section. It also functions as a part of the RCP and ACP for Region 8.

Private-Sector Response Plans

Private-sector response plans, including those for FRP facilities and pipelines, are structured and written as self-contained documents that serve as a complete reference tool for their operators during a spill response. These plans must be consistent with local, state, and federal government contingency plans. They must identify response personnel and equipment to be used to mitigate a worst-case discharge. Environmental, economic, and cultural sensitivity data, as well as response resources and other information required as part of private-sector response plans, must be consistent with this sub-area plan.

State and Local Response Plans

In addition to meeting the requirements for local emergency plans under SARA Section 303, state and local government agencies are encouraged to include contingency planning for responses consistent with the NCP, RCP, and ACP in all emergency and disaster planning (NCP Section 300.180).

Federal Response Plans

The U.S. EPA Region 8 RRT developed the RCP to coordinate timely, effective responses by various state and federal agencies and other organizations to discharges of oil or releases of hazardous substances. When implemented in conjunction with other federal, state, and local contingency plans, the RCP and ACP are designed to effectively facilitate removal of a worst-case discharge from a facility or vessel operating in Region 8, which includes the states of Colorado, Utah, Wyoming, Montana, South Dakota, and North Dakota.

The RCP includes:

- A description of the area covered by the plan, including the resources of special economic or environmental importance that might be negatively impacted by a discharge and for which protection is to be planned;
- Descriptions of the responsibilities of owner/operators and government agencies in responding to a discharge;

- A list of equipment available to owner/operators and government agencies to ensure an effective and immediate removal of a discharge;
- A description of procedures for use of dispersants;
- A description of how the plan is integrated with private-sector response plans and other contingency plans;
- Information on potentially useful facilities and resources in the Region, obtained from government, commercial, academic, and other sources.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP)

The NCP (40 CFR Part 300), referenced repeatedly herein, created the National Response System. This provides the organizational structure and procedures to prepare for and respond to discharges of oil and releases of hazardous substances, including specific responsibilities among government agencies, descriptions of resources available for response, a summary of state and local emergency planning requirements, and procedures for undertaking removal actions under the CWA. This is the mechanism for coordinating response actions by all levels of government in support of the local incident commander and/or state or Federal OSC.

National Response Framework

Response actions under OPA/CWA to discharges of oil are not managed through the NRF or the Stafford Disaster Relief Act. The National Response Framework (NRF) (<http://www.fema.gov/emergency/nrf/>) was developed under the Disaster Relief Act of 1974, as amended by the Stafford Disaster Relief Act of 1988. The NRF established a foundation for coordinating federal assistance to supplement state and local response efforts to save lives, protect public health and safety, and protect property in the event of a natural disaster, such as a catastrophic earthquake or other incident declared a major disaster by the President.

Under the NRF, federal assistance is delivered through 15 annexes, or Emergency Support Functions (ESFs), each of which describes a single functional area of response activity. The Hazardous Materials Annex, ESF #10, addresses releases of oil and hazardous substances that occur as a result of a natural disaster or catastrophic event, and incorporates preparedness and response actions carried out under the NCP. The EPA serves as the chair of ESF #10 and is responsible for overseeing all preparedness and response actions associated with ESF #10 activities. The National Response Team and RRT departments and agencies serve as support entities.

980 An oil discharge may occur during a natural disaster; however, response to such an incident will not likely
981 be conducted within the structure of the NRF. Specifically, this means the EPA and others may respond
982 without the state's request for assistance and without a mission assignment from FEMA. In such cases,
983 the oil response actions will still be coordinated by and communicated to the state Emergency Operations
984 Center and/or FEMA's Joint Field Office and other response agencies. However, funding, incident action
985 planning, and operations will be largely independent of FEMA and state actions.

986

APPENDIX A

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SUB-AREA CONTACT LIST

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APPENDIX B

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OIL SPILL RESPONSE TECHNIQUES

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APPENDIX C

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**MEMORANDUM OF AGREEMENT BETWEEN THE NAVAJO NATION AND THE U.S.
ENVIRONMENTAL PROTECTION AGENCY REGIONS 6, 8, AND 9**

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