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March 14, 2014

Subject: Osage Operator's Environmental Reference Manual Update

Mr. Eddie Streater
Deputy Regional Director
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Bureau of Indian Affairs
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[also sent to: osageregnet@bia.gov]

Dear Mr. Streater:

Hydration Engineering, PLLC is a Bartlesville, Oklahoma firm which provides engineering services including preparation and certification of SPCC Plans. We appreciate the opportunity to participate in the BIA-EPA effort to update the 1997 Osage Operators Environmental Manual and Handbook. Our comments here pertain only to the parts of the Draft Manual where we feel we have some relevant experience. Our comments are limited to the Introduction, Important Contact Information, The Clean Water Act, SPCC, and the Clean Air Act.

We applaud your efforts to provide operators an efficient tool for understanding their responsibilities and maintaining compliance. We believe understanding of the requirements will be facilitated by focusing on the type of facilities and business practices that exist in the Osage and eliminating extraneous scope. The following comments follow the format and sequence of the Draft Manual dated February 2014 distributed at the meeting in Pawhuska on February 20, 2014.

Introduction:

A statement of intention and scope is suggested:

"This Manual is intended for application to oil and gas production operations that are typical to Osage County, Oklahoma. These operations primarily consist of oil wells, flowlines, tank batteries (with associated equipment), flowlines to disposal wells, and disposal wells. Tank batteries typically contain one gun barrel (for oil-water separation), two nominal 200 barrel crude oil storage tanks (for storage and custody transfer), a produced water storage tank (surge capacity for pumping and to disposal wells or storage for truck transport to disposal wells) and may contain a produced water injection pump. Where industry practices are widely used and consistent with "good engineering" they are recognized here and the discussion may be limited to those practices. The omission of alternative equipment or practices is not intended to limit their use or infer that they are in any way inferior. "

By example, underground storage greater than 42,000 gallons is irrelevant to our audience.

The Introduction refers to "Osage Operator's Handbook". We believe "Osage Operator's Manual" was intended.

I. IMPORTANT CONTACT INFORMATION, A. Spill Reporting

The Manual directs spill reporting to the BIA, the EPA, and the NRC. All spills are to be reported to the BIA, some salt water spills are reported to the EPA, some oil spills are reported to the NRC. (If a spill is reported to the NRC is it necessary to report it to the EPA and BIA as well?) Also, Oklahoma law and regulations require spill reporting to the Oklahoma DEQ and the Oklahoma Corporation Commission.

With the exception of a spill from a crude oil tank or during truck loading all spills contain salt water, usually much more salt water than oil. Generally speaking, once salt water is spilled some of it is on its way to the Waters of the State and Navigable Water. (And, spills of produced water are a much larger environmental problem in the Osage than oil.)

We are faced with a vague hierarchy of reporting requirements which, we believe, undermine your objectives of accountability and clarity.

An operator who wishes to avoid the risk of making a reporting error must report every spill to everyone. A single telephone number for reporting spills (with street and email address) would have many benefits including conveying credibility to the agencies involved. An Area Contingency Plan per 40 CFR § 109 could be a vehicle for a one call system. (Although too broad in scope to be useful here, the [EPA Region VI Inland Area Contingency Plan Volume 1 December 1993](#) appears to have been an attempt to address the requirements of 40 CFR §109 but has fallen into disuse.)

II. Water Pollution Prevention: The Clean Water Act

This section notes that it is unlawful to discharge any pollutant from a point source. Responsibilities for point source (and storm water) discharges have been delegated by the EPA to the Oklahoma DEQ. Therefore, we suggest that the Oklahoma DEQ be ask to draft this section of the manual. If there is a dispute between the EPA and the ODEQ regarding jurisdiction in the Osage then it should be duly noted and interim instructions provided to operators.

Regarding the definition of a point source:

40 CFR § 122.2 - For purposes of the Clean Water Act, "Point Source" means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill, leachate collection system, vessel or other floating craft from which pollutants are or may be discharged.

The SPCC rules contemplate draining rain water from containment structures as long as they are free of oil sheen. However, even free of visible oil, water accumulated in a tank battery maybe contaminated with salt water. We suggest instructions be provided by the Oklahoma DEQ regarding discharges from secondary containment areas including draining of incidentally contaminated storm water. The 1997 Handbook mentioned 1000 ppm TDS as an acceptable level for discharge. The source of this number was probably the common definition of "fresh water". The TDS levels of streams and lakes in the Osage is usually less than 250 ppm. (See our general comment about measurement of TDS below.)

IV. SPILL PREVENTION AND COUNTERMEASURES

A. Brief Overview of SPCC Regulations

2. Overview – SPCC regulations apply to facilities that:

It is sufficient to say that: *Oil production facilities in the Osage are invariably regulated by the SPCC rules. If you feel that your facility does not qualify refer to 40 CFR § 112.*

3. Requirements for Preparation and Implementation of SPCC Plans for Onshore production facilities that began production:

It is sufficient to say that: *Existing facilities should have a SPCC Plan which was updated no later than November 16, 2011 or 6 months after beginning operation, whichever is later. Plans which have not been updated are likely to be in non-compliance with the regulations because regulations pertaining to flowlines and salt water storage have been added. New facilities have 6 months to prepare and implement a SPCC Plan after beginning operations. Operators are advised to correct deficiencies and update delinquent plans as soon as possible.*

4. Guidelines for Implementation of SPCC Plans

a) Close and seal We have assumed that where the SPCC regulations refer to “seal” that a tamper proof car seal is intended. Perhaps the seal gives some creditability to the drainage control requirements of 40 CFR § 112.7(c) and 112.9(b) however they are not seen as having any security value and soon fall into disuse. We suggest that 4.a) state: *Close and bull plug drain valves at all times, except when draining uncontaminated rainwater. Do not leave an open drain valve unattended.*

b) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b) prior to drainage.

We suggest that using such references to the regulations which require the reader to refer to § 112.1(b) in order to understand what is required is not consistent with the purposes of the Manual.

Further, § 112.1(b) states: “... could reasonably be expected to discharge oil in quantities that may be harmful, as described in part 110 of this chapter, ...” Now we have escaped from Part 112. Requiring our operators to chase their tail in the CFR is a great misuse of their talents. Furthermore, “discharge” is inferred here to mean water contaminated with visible oil. Discharge is more broadly defined elsewhere in the Clean Water Act.

We suggest the following: *inspect the retained rainwater to ensure that it does not have a visible sheen of oil on its surface.*

c) Remove accumulated oil on the rainwater We suggest it would be clearer to say: *... if contaminated by salt water or oil, pump the water to the gun barrel or salt water tank or have the water removed by a licensed salt water disposal firm.*

d) Construct all tank battery, separation, and treating facility installations, so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. We suggest it would be constructive to include more of the regulations requirements for secondary containment such as: *Secondary containment systems should be sufficiently impervious to contain a spill until it can be removed. Sufficiently impervious to contain a spill for cleanup is not sufficiently impervious to store salt water for longer than a couple of days. Storage of salt water in earthen pits is beyond the scope of this manual and outside the SPCC rules.*

The degree to which freeboard is provided to contain precipitation varies greatly (frequently by accident rather than by design). A non-binding suggestion of how much precipitation to allow for would be constructive such as the annual or five year 24 hour rain fall for the Osage. Too much surface area exasperates the problem of disposal of rain water, too little containment volume increases the possibly of a spill.

Maintenance of secondary containment deserves comment. Such as: *Secondary containment constructed of compacted materials wears down from erosion, foot, and hose traffic. Capacity of secondary containment is limited by the lowest point on the berm. Determining Secondary Capacity requires knowledge of the average depth below the lowest point on the berm as well as the surface area. As constructed measurement and containment volume calculations are part of the scope of the certifying engineer. The operator is obligated to maintain the structures containment capacity.*

6. Availability, Review, Updates and Certification

b) A Registered Engineer We suggest that the engineer's responsibilities should be described because these have changed over the years and some operators may have the opinion that the engineer's responsibilities are limited to calculation of the secondary containment volume. We suggest that 6. b) be replaced with:

An Engineer registered by the state of Oklahoma must certify your plan. In so doing he attests that:

- *He or his agent has visited and examined the facility*
- *That the plan has been prepared in accordance with good engineering practice, including:*
- *That procedures for inspection and testing have been established*
- *That the plan is adequate for the facility*
- *That a procedure has been developed to minimize oil on the surface of produced water containers.*

General Comment about TDS measurements.

For our purposes measurement of the conductivity of water is a satisfactory way to estimate total dissolved solids (TDS). In order to make a drain or not-to-drain decision based on TDS it is necessary to make a trip to a laboratory. A conductivity meter, which costs less than \$100 and requires very little user training, allows this to be done onsite. Hydrometers, although useful for high TDS ranges, are not accurate for measuring below 2000 ppm TDS.

Gratuitous Comment about Discharge Controls and Diversionary Structures.

In addition to the well understood requirements for secondary containment 112.7(h)(1) requires that a containment system be provided to hold the maximum compartment of any single compartment of a tank truck loaded at the facility. To meet this requirement catchment basins for truck loading areas are suggested in the EPA's sample SPCC plan for production areas (Clearwater Oil Company, Big Bear Lease No. 2 Production Facility, 11/28/2005). Such a catchment basin might contain a spill incidental to truck loading (40 bbls in the example).

Truck loading catchment basins are not used in the Osage. We feel it would be inadvisable to incorporate catchment basins because of the environmental damage caused by their construction and the additional real estate required. Use of additional surface would, in some cases, require participation of the BIA. A statement that supplementary catchment basins are not required in the Osage would be appropriate and welcome.

Alternatives to catchment basins should recognize that crude oil purchase agreements transfer ownership of the crude oil immediately downstream of the valve at the tank battery. The truck loading operation is entirely in the control of the crude purchaser and loading is usually not attended by the facility operator. The crude purchaser is responsible for crude loading, initial notifications in the event of a loading spill, and cleanup response.

Gratuitous Comment about Written Commitments of Manpower, Equipment, and Materials.

While the regulations anticipate a "written commitment of manpower, equipment, and materials to expeditiously control and remove any oil that may be harmful" (40 CFR §112.7(c)(2)) we believe that it should be recognized that smaller operators have limited internal resources and rely on an informal network of other operators, occasional employees, service companies, and local businesses to respond to unusual problems. These business arrangements are based on trust and goodwill and written commitments are rare, even culturally aberrant. We suggest that an operator's list of business contacts as incorporated in a SPCC plan be recognized as evidence of a "written commitment".

In addition to the list of business contacts it is presumably expected by the EPA that a SPCC Plan include a "written commitment" of an oil spill response firm should the spill exceed the capabilities of the operator. Large operators have established "master service agreements" with recognized spill response firms. Most Osage operators do not have such agreements. The burden of establishing agreements for over 2,000 Osage SPCC Plans is not commensurate with the benefit (an agreement to provide services for an event that is not expected to happen). We suggest that incorporation of the names and 24 hour contact number for regional firms in the business of providing these response services be recognized as evidence of a "written commitment". The concurrence of response firms should be requested as part of this Manual update process.

7. Reporting Requirements

"The operator must submit the information below to the EPA and the appropriate Tribal agency whenever a facility has:" We suggest that "the appropriate Tribal agency" be specified.

The suggested reporting requirements ignore produced water spills. This should be corrected.

The reporting requirements should be inclusive of all reporting requirements including the NRC and the state of Oklahoma.

10. Civil Penalties

40 CFR § 113 specifies liability limits when the removal of a discharge is performed by the United States Government. Part 113.4 states “Unless the United States can show that oil was discharged as a result of willful negligence or willful misconduct with the privity and knowledge of the owner or operator, the following limits of liability are established for fixed on shore facilities in the classes specified:171 to 500 barrels, \$150,000.”

A full disclosure of this information is relevant to the purposes of this manual because knowledge of this liability limit can influence the timing of decisions an operator makes in an emergency.

V. CLEAN AIR ACT

A.1. EPA’s Role –

It should be noted that the Oklahoma DEQ has long standing responsibilities under the Clean Air Act which have been approved by the EPA. It is appropriate for the ODEQ to contribute instructions relative to all aspects of CAA compliance which are not in dispute with the EPA. Furthermore, for those aspects of the CAA that are currently in dispute the EPA and ODEQ should provide interim guidance.

The ODEQ should describe any permit and/or emission inventory requirements which are required for a typical Osage production facility as well as those events, e.g., New Source Performance Standards, that would trigger an emission permit and/or emission inventory where none now exist.

We do not believe this is the proper vehicle to describe what might become the role of the Osage National Government regarding the enforcement the Clean Air Act.

B...These Best Management Practices.....

The practices listed in B. and below are arguably Best Management Practices. However, they are not necessarily applicable to the facilities typical of the Osage and there is no regulatory basis for their enforcement. As they are described they are likely to become a major distraction and compromise the Manual. For example, “Conduct daily audio, visual and olfactory inspections recorded in a log book” is laughable in the context of the real world.

If the intention is to require the implementation of the listed practices for existing facilities they should be published as proposed regulations by the ODEQ and the EPA and adequate time allowed for comment.

F. Hydrogen Sulfide

The material presented fails to note that hydrogen sulfide causes olfactory desensitization at very low concentrations. **It is necessary to correct this omission.**



Conclusion

We would be most pleased to have any opportunity to discuss these comments and look forward to continued participation in the update process.

Sincerely,

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