



*"The mission of the Council is to represent the citizens of Cook Inlet in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet."*

**Members**

22 May 2019

*Tourism  
Group*

Gerry R. Brown, PE  
Alaska Department of Environmental Conservation  
Division of Water - Wastewater Discharge Authorization Program  
555 Cordova St.  
Anchorage, AK 99501

*Alaska Native  
Group*

Dear Mr. Brown,

*Environmental  
Group*

The Cook Inlet Regional Citizens Advisory Council (CIRCAC) is responding to your call for comments regarding the Proposed Authorization to Discharge under the APDES for General Permit AKG315200 – Oil and Gas Exploration, Development, and Production in State Waters in Cook Inlet. The proposed geographic area, activities, and facilities covered in this draft permit are within our areas of concern and, as such, this letter and attached comments address our concerns specific to the draft permit (GP) and Fact Sheet.

*Recreational  
Group*

*Aquaculture  
Associations*

*Commercial  
Fishing  
Organizations*

CIRCAC is a citizen oversight council for oil industry operations in the Cook Inlet region and was established according to Section 5002 of the Oil Pollution Act of 1990 (OPA 90). Our organization represents local governments and interest groups in Cook Inlet and nearby areas who have the potential to be impacted by crude oil industry operations in Cook Inlet. Under OPA 90, CIRCAC is responsible for recommendations concerning permits, plans, and site-specific regulations governing the activities and actions that may affect the environment in the vicinity of Cook Inlet terminal facilities and are, thus, providing you with these comments on behalf of our member entities.

*City of Kodiak*

*City of Kenai*

As we stated in 2006, CIRCAC opposes any discharge permit that allows increased pollutant loads to Cook Inlet and supports a goal of zero discharge. We are especially opposed to the discharge of drilling fluids and cuttings into the waters of Cook Inlet for *any* activity and believe that with today's technology, zero-discharge of this waste stream can and should be achieved.

*City of Seldovia*

*City of Homer*

As written, we believe the draft GP allows for new discharges, including in areas not permitted under prior discharge permits. We oppose the inclusion of new discharges from Osprey Platform, the discharge of drilling fluids and cuttings from Mobile Offshore Drilling Units (MODU), the inclusion of areas precluded from prior permits shoreward of the 10-m isobaths, and the reduction in environmental monitoring requirements. We also believe ADEC's responsibilities to the citizens of Alaska includes ensuring that EPA conducts a reanalysis of the Cook Inlet exemption for the coastal subcategory in their Effluent Limitation Guidelines (ELGs). ADEC cites the ELGs in their decision to remove the exclusion of discharges from New Sources (i.e.

*Kodiak Island  
Borough*

*Kenai Peninsula  
Borough*

*Municipality of  
Anchorage*

Osprey Platform), despite the fact that EPA excluded these discharges in the current GP.

### **Public Review**

In response to our request to extend the public review comment period for the draft GP, ADEC “elected to stay on the current public notice schedules.” This was despite strong justifications by CIRCAC (and others) that the scope of the draft GP and the overlap of its review with two additional Cook Inlet Individual Permit reviews complicated the review process. Additionally, we believed that the public presentations by ADEC lacked a true discussion of new discharges proposed for coverage under the draft GP.

The prior discharge permit for Cook Inlet Oil and Gas Exploration, Development, and Production in Cook Inlet (AKG315000) went into effect in 2007 and the oil and gas industry has been discharging under this permit for 12 years, seven years beyond its original expiration date. The public has waited since 2012 while the state assumed primacy for Oil and Gas discharge permits and – for the past 5 years - while industry and ADEC prepared the draft GP.

Once released, it became clear that the proposed draft GP is significantly different than the prior permit and combines two already complex GPs (AKG315000 and the exploration permit that went into effect in 2015 (AKG315100)). In addition to the draft GP, your staff has released two additional draft Oil and Gas permits for Cook Inlet, each with a 30-day review period that overlaps the same review period as the GP. Complicating the review process, the discharges permitted by these two Individual Permits are simultaneously being proposed for coverage under the proposed GP, with insufficient explanation. Given the complexity of the permits and the simultaneous review periods, ADEC has placed unrealistic expectations on the public to review, understand, and effectively participate.

These overlapping comment periods relate to discharges that DEC is currently proposing to cover under both the general permit and individual permits. This short window of overlapping time was not sufficient for the public to adequately understand the nuances of the different permits or to provide meaningful public comments.

In effect, ADEC was provided almost unlimited time to work with industry in preparing this incredibly complex draft GP and the additional IPs, but has refused requests from the public to extend the deadlines.

### **Permit Scope**

CIRCAC is concerned about the scope of activities encompassed in the Draft GP and what we view as the potential for significant increases in contaminant loadings to Cook Inlet due to additional discharges proposed. The draft GP includes (1) new discharges, (2) the potential for significantly increased contaminant loadings to the Inlet, (3) discharges from New Sources, (4) discharges in areas not covered under

either of the existing permits, and (5) it reduces the environmental monitoring that would be required for new exploration drilling.

The ADEC presentations provided to the public in Homer and Anchorage listed new discharges as being limited to non-oil and gas facilities discharging wastewater including drilling fluids and cuttings from geotechnical surveys and HDD projects that discharge to Cook Inlet. No mention was made of the potential for significant increases to discharges that could occur in the development phase which were previously prohibited but appear to be covered under the draft GP.

The information provided to justify the inclusion of Osprey Platform discharges under the draft GP does not indicate that all options were considered for the reinjection of waste streams. There is a potential AOGCC public hearing for a Cook Inlet Energy reinjection well that takes place in late June. It is unfortunate that information provided during that hearing could have been considered if ADEC had provided the requested deadline extension for public review of the draft GP.

If you have any questions regarding our comments, please contact me or our Director of Science and Research, Susan Saupe, at the number below or at our respective e-mails, [munger@circac.org](mailto:munger@circac.org) or [saupe@circac.org](mailto:saupe@circac.org).

Sincerely,



Michael Munger  
Executive Director

## Cook Inlet Regional Citizens Advisory Council Comments: Draft Cook Inlet APDES Permit No. AKG315200

The Cook Inlet Regional Citizens Advisory Council (CIRCAC) is submitting these comments pursuant to the draft APDES permit entitled “Oil and Gas Exploration, Development, and Production in State Waters in Cook Inlet (Cook Inlet General Permit),” also known as APDES Permit AKG315200 or the Cook Inlet GP, referred to here as the Draft GP. As stated by the public notice and Fact Sheet published by ADEC in conjunction with the Draft GP, the permit proposes to authorize certain discharges associated with oil and gas (O&G) exploration, development, and production into specific areas of Cook Inlet, including coastal Cook Inlet waters within the baseline north of the southern tip of Kalgjin Island and landward of the territorial sea demarcation. The Draft GP is intended to replace the existing 2007 general permit AKG315000 (2007 GP) for authorized discharges to state waters and will also allow the discharges associated with pipeline construction and other ancillary activities (hydrostatic test water, and drilling fluids and drill cuttings associated with geotechnical surveys and horizontal directional drilling [HDD]). In addition, the Draft GP is intended to replace the 2015 Mobile Exploration GP (AKG315100; 2015 GP) by including exploratory activities within this authorization. The public notice period for the Draft GP ends on May 22, 2019.

Our cover letter provides our overall concerns regarding the permit and discharges to Cook Inlet. Here we provide comments specific to the draft GP and associated Fact Sheet as written.

### Draft GP Review Comments

- 1) **Section 1.1 Drilling Fluids and Cuttings.** The Draft GP appears to allow new sources to discharge drilling fluids and drill cuttings, which is a considerable expansion of what has been allowed in the past. “New Source Performance Standards” are defined by the Draft GP as pertaining to facilities that were initiated prior to certain federally-promulgated dates (1993 for Offshore Subcategory and 1996 for the Coastal Subcategory). The 2007 GP clearly states (Section B.1.a) that (emphasis ours): “The discharge of drilling fluids and drill cuttings is only authorized at exploratory facilities and existing facilities. The discharge of drilling fluids and drill cuttings is *not* authorized by the general permit at New Source facilities, as defined in Appendix A of this general permit.” The Fact Sheet provided in conjunction with this Draft GP, however, notes in Section 3.4.3 that “...this prohibition is being removed from the Permit.” The Draft GP, while unclear, allows this discharge as it has been included in the monitoring requirements in Section 2.2.2, where discharges of drilling fluids and cuttings are allowed during activities in addition to during exploration.

This apparent expansion in discharges is extremely problematic. This expansion in discharges:

- a) Is not detailed in the Fact Sheet as a change,
- b) Is not clearly delineated in the Draft GP,
- c) Has not been addressed by either environmental monitoring plan (EMP) or drilling fluid plan (DFP) requirements outlined in the Draft GP,
- d) Has not had an antidegradation analysis performed as part of the GP process,

- e) And was not discussed as a change in permitting at the public meetings in Homer and Anchorage.

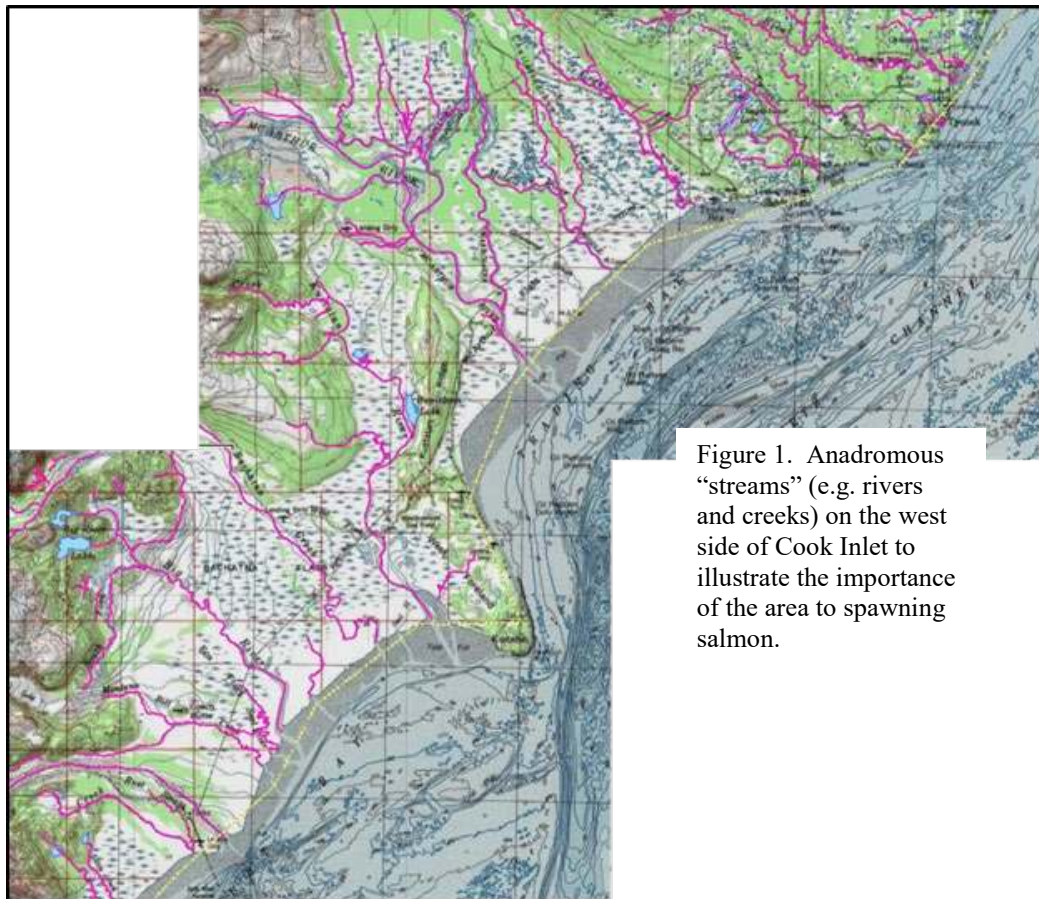
This critical restriction of not allowing drill fluids and cuttings discharges from New Source facilities in the 2007 GP has been removed from the Draft GP and is potentially a *huge source* of new pollutant inputs to Cook Inlet where up to 50 production wells could be drilled from a single production platform. **CIRCAC strenuously objects to this major change in permit coverage and takes issue with ADEC’s misrepresentation of this permit change.** Also, this change was excluded from ADEC’s presentation at public meetings in Homer and Anchorage. It has not been addressed in the Fact Sheet, which fails to describe this change in multiple places where changes in the GP were described, such as in Section 3.1, for example: “In addition, discharges associated with pipeline construction and other ancillary activities (hydrostatic test water and HDD and geotechnical drilling fluids and drill cuttings) that are similar in nature to those in the 2007 GP are included.” Section 10.4.1.2 reiterates this with: “In the context of the Permit, there are no increases in permitted loads or concentrations to existing, previously regulated discharges other than for produced water per Section 10.4.1.1. All of the limitations have stayed the same or have decreased in the Permit. Although the discharge of drilling fluids and drill cuttings now encompasses non-oil and gas activities, there are no increases in permitted load or concentrations; the geotechnical survey or HDD discharges generally have the same characteristics, or better, as oil and gas discharges and have similar limitations when applicable.”

- 2) **Table 1 and elsewhere (e.g. Section 1.1).** Table 1 identifies submission requirements and timeliness for Notices of Intent (NOIs), Drilling Fluid Plans (DFP), Environmental Monitoring Program (EMP) Study Plans, Best Management Practices (BMP) Plans, as well as other reports, notifications, and written requests. Although these submittal requirements and timelines identified in the draft GP are reasonable to ADEC, for the most part they will not be provided for public review or evaluation. It is unclear why some documents are provided only to CEP and not to WDAP, and whether there will be communication among these ADEC divisions. For examples, the Miscellaneous Discharges Chemical Inventory is submitted only to CEP, yet EMP study plans are submitted only to WDAP.
- 3) See additional comments concerning environmental monitoring programs (EMPs) regarding review.
- 4) **Table 1 – Plans and Reports.** Need to add row listing BMP Plan submittal requirement as stipulated in Section 5.2.2 of the Draft GP (this was omitted from the table). BMP Plans should be submitted prior to discharge, or, in the case of Cooling Water Intake Structures (CWIS; Section 5.2.9.6), with the NOI as stipulated in the Fact Sheet, Section 11.3.1.6.
- 5) **Section 1.5.1.** CIRCAC appreciates the attempt to redraw the map included in this Draft GP but believes the quality of the map is still significantly lacking. As well, the areal extent of the map is not as inclusive as it should be and the map should be placed in the permit itself rather than in the appendix. The map does not include all areas described in the Draft GP (regardless of whether discharges are allowed), such as Kamishak Bay and more southern reaches of Cook Inlet which are discussed in the Draft GP and Fact Sheet. The map appears to show the major exclusion zones defined by the Draft GP and Fact Sheet, in that discharges are prohibited from parts of Chinitna and Tuxedni Bays, including

around Chisik Island, as well as from areas within the Type I Beluga CHA in Upper Cook Inlet. The map also appears to exclude from potential discharges *some* sensitive locales such as the coastal intertidal and marsh areas in Chinitna Bay, intertidal/coastal marsh areas and areas near river deltas/mouths in Redoubt Bay, coastal areas near the mouths of the Kenai and Kasilof Rivers, and numerous anadromous waters (rivers, streams, creeks) throughout the permit area). The resolution of the map makes it difficult to visualize exclusion zones and it's impossible to see exclusions related to the 5- and 10-m isobaths (see comparison of Appendix D map in the draft GP and Figure 18 in the Fact Sheet). Additional comments follow on additional areas that should be excluded from permit coverage, which should then be shown in a new GP map.

- 6) **Fixed O&G Facilities.** The Draft GP could be much clearer regarding possible discharges allowed in coastal Cook Inlet for the different types of O&G facilities (fixed or MODU). Fact Sheet 3.3.1 states: "The Permit prohibits discharges of drilling fluids and drill cuttings from oil and gas facilities shoreward of the 10 meter isobath based on the mean lower low water (MLLW). All oil and gas facilities are prohibited to discharge any wastewater shoreward of the 5 meter isobaths." This implies that no O&G facilities may discharge at all shoreward of the 5-m isobath, and that other types of O&G discharges, excluding drilling fluids and cuttings, may be discharged between the 5 and 10-m isobaths. All discharges types (1-20) are potentially allowed seaward of the 10-m isobaths. The Draft GP, on the other hand, states in Section 1.6.2 "MODUs conducting oil and gas exploration are prohibited from discharging Drilling Fluids and Drill Cuttings shoreward of 10 meter mean lower low water (MLLW) isobaths." followed by Section 1.6.3 "All fixed platforms or MODUs conducting oil and gas exploration, development, or production are prohibited from discharging shoreward of the 5 meter isobaths." This Draft GP wording appears to have been built on the 2007 GP text and as a result, is not clear as to what discharges may be permitted from a fixed facility in water depths between the 5 and 10-m isobaths. These inconsistencies in the draft GP must be revised to clarify this issue. CIRCAC strongly opposes the inclusion of discharges shoreward of the 10-m isobaths. During very low spring tides, a discharge near the 5-m isobaths could actually be just 3 meters in vertical height from the intertidal zone. Littoral drift of discharged materials can potentially deposit contaminants directly into sensitive intertidal habitats downstream of nearshore currents, risking deposit feeding infauna (e.g. *Macoma* spp.) and higher-level predators.
- 7) **Section 1.6.4.** The prohibition of discharges within 4,000 m of special areas has been continued with some exceptions in this Draft GP, which is critical to afford better protection of these sensitive areas since existing baseline data on fate and effects is very limited. CIRCAC strongly concurs with continuing the discharge prohibition in the proposed areas. However, CIRCAC recommends that the nearshore area north of Anchor Point near the Anchor River and stretching up to the southern boundary of the Clam Gulch CHA should also be within an exclusion zone; this area has been shown to have some of the highest abundance of benthic infaunal seen in Cook Inlet (documented by the ICIEMAP Study), is a popular fishing area for both commercial and recreational fisheries, including salmon and halibut, and is also a migratory pathway for anadromous salmon species. The permit (Section 1.6.4.1) calls for exclusion within 4,000 m of a river mouth, however the draft GP does not provide for exclusions within 4,000m of numerous other rivers, including Swanson River. Several other rivers that should be given a 4,000 m exclusion are not included because they discharge within the Trading Bay CHA which has

been given an exception to area prohibitions between 1000 and 4000-m (Section 1.6.4.5.1). These anadromous river mouths should be protected through 4,000-m exclusions, independently of the Trading Bay CHA, including MacArthur, Middle, and Chuitna rivers, (Numerous creeks and streams are also not protected by exclusion zones, despite their identification as anadromous waters documented by ADF&G, including Stariski, Otter, Seven Egg, Bishop, Redoubt, Harriet, Tyonek, Nikolai, and Threemile creeks, and potentially others. CIRCAC believes the mouths of all anadromous waters should be provided the same protections as at the mouths of rivers. Regardless of whether regulatory authority to exclude these areas is exercised, ADEC has the authority to require fate and effects studies to ensure these areas are protected from nearshore discharge of drilling fluids and cuttings. Figure 1 below identifies ADF&G mapped anadromous streams with spawning events for at least one salmon species.



- 8) **Section 1.6.4.** Restrictions to the 4000-m prohibition include: Trading Bay SGR (restricted to 1000 m) and Redoubt Bay CHA (restricted to within 1000 m at active leases of Kustatan and Osprey). The Permit requires an Environmental Monitoring Program (EMP) Study for discharging Class B2 or B3 drilling fluids/drill cuttings between 1,000 and 4,000 m near the Trading Bay SGR and Redoubt Bay CHA. While, CIRCAC supports the EMP requirement for these discharges. However, the existing and draft GP allow discharges of Class B1 and all Class C drilling fluids/drill cuttings anywhere in state waters and the territorial seas and CIRCAC is opposed to these discharges. If permitted, **there must be EMP requirements for all discharges, but recommends additional environmental monitoring as detailed below.**

- 9) **Section 1.6.4.** The Prohibition Areas identified in the narrative of the Draft GP clearly specify that discharges from fixed platforms, onshore production facilities, or MODUs conducting O&G exploration, development, or production are prohibited in coastal waters and the territorial sea on the west side of Cook Inlet south of the baseline at Kalgin Island except for within the most current lease area boundaries established by the Department of Natural Resources (DNR), the Division of Oil and Gas (DOG) and subject to other prohibitions as described by the permit. CIRCAC supports these prohibitions due to those locations being adjacent to Lake Clark National Park boundary and highly productive intertidal areas of Polly Creek.
- 10) **Section 2.2.2.1.5 Diesel Oil.** The Draft GP specifies, as does the 2015 GP, the analytical method for diesel oil analysis as EPA SW846 Method 8015C for nonhalogenated organic compounds. CIRCAC concurs with the method but suggests that the permit verbiage specify measuring diesel range organics (DRO) by Method 8015C, as otherwise the contract laboratory – unless specifically understanding the goal of the test - might run a standard 8015C test where the standard analyte list does not include diesel oil.
- 11) **Graywater Discharges, Section 2.5.** The primary pollutants of concern are BOD, TSS, and floating materials including solids, foam, garbage, and oily sheens (Section 4.4 of Fact Sheet). However, the Draft GP does not require any monitoring of BOD or TSS, and therefore does not establish whether these discharges are meeting the regulatory specified minimum treatment requirements for secondary treatment (18 AAC 72) or in the case where a waiver from secondary treatment has been granted, whether the discharge is meeting primary treatment requirements of 30% removal of BOD and TSS. CIRCAC believes that monitoring of TSS and BOD should be required for this discharge or, in the absence of requiring monitoring, that all facilities (not just existing facilities as specified in Section 2.5, paragraph 1 of Draft GP) be required to perform a characterization study per Section 5.6 of the Draft GP. The characterization study defined in Section 5.6 should also be updated to require critical monitoring information on BOD and TSS concentrations in both the influent and effluent that could then be utilized during the next permit renewal evaluation process.
- 12) **Graywater Discharges, Section 2.5.** While it is generally understood that there is a prohibition on *any* discharge that includes oil and grease exhibiting a sheen, CIRCAC supports the clearly-stated requirement that there be no visible oil and grease discharged for this outfall and appreciates the inclusion of this parameter in Table 8 and the description of how it must be monitored (“once per day during daylight at the time of maximum estimated discharge”).
- 13) **Section 2.6.1, Table 9.** This table that describes miscellaneous discharge monitoring requirements is extremely confusing as it refers to multiple discharges with differing monitoring requirements. For example, while flow and chemical additive monitoring parameters pertain to all ten discharge types addressed by this section, the sheen monitoring requirement only pertains to five of the ten discharges, while the toxicity component only applies to three of the ten discharges. CIRCAC suggests adding another column to the table to more clearly delineate the requirements for each of the ten types of miscellaneous discharges.



- 14) **Miscellaneous Discharges, Section 2.6.3.** The Draft GP allows that certain miscellaneous discharges (Blowout Preventer Fluid-006, Uncontaminated Ballast Water-010, Bilge Water-011, Excess Cement Slurry-012, and Mud, Cuttings, Cement at the Seafloor-013) may be inspected to determine the compliance with the no free oil requirement using visual observation rather than the Static Sheen Test, the latter of which can be used at the Permittees' option for these discharges. This differs with other discharge types (Deck Drainage-002, Hydrostatic Test Water-020) where the Draft GP clearly indicates the Static Sheen Test *must* be employed when visual observations are not possible. The 2007 GP included provisions describing when these miscellaneous discharges could be discharged using the visual observation test (i.e., when visual observations were possible) or using the Static Sheen Test at the Permittees' option. CIRCAC suggests either requiring the Static Sheen Test for all miscellaneous discharges when visual observations are not possible, or rewording the Draft GP to more clearly reflect that discharging of these waste streams is unacceptable in poor observational conditions. For example, the 2007 GP stated: "Miscellaneous discharge is limited to those times that a visible sheen observation is possible unless the operator uses the static sheen method." See also below.
- 15) **Miscellaneous Discharges, Table 9, Sections 2.6.4, 2.6.5, and 2.6.6.** Chronic WET testing should also be required for Fire Control Test Water – Discharge 008. The Fact Sheet clearly shows that this discharge is very large (up to 1,500,000 gpd per discharge event) and that the test water may be treated with biocides and corrosion inhibitors, both of which are very toxic. Although this discharge is intermittent, the total volumes discharged from each facility (see Fact Sheet) are an order of magnitude greater than the discharge from Desalination Brine (Discharge 005) which does require WET testing. Elsewhere in the Draft GP and Fact Sheet, those miscellaneous discharges that have chemical additives and discharge 10,000 gallons or more per day are required to conduct chronic WET monitoring. Also, WET testing is a requirement in the current 2007 GP for this discharge. Therefore, this **WET testing requirement should also be applied to Discharge 008 since both the volume and chemical additive criteria have been met.**
- 16) **Miscellaneous Discharges, Section 2.6.4.** As in the past, the Draft GP requires chemical use optimization and the keeping a Chemical Additives Inventory for each miscellaneous discharges (005-014) including: constituents, total quantities used (dose), rates of use (frequency), and calculated maximum concentrations in any discharged waste stream. This information must be submitted to ADEC annually by January 31 of each year and included in the End of Well (EOW) Reports. CIRCAC supports this requirement as it will provide additional information on the quantities and types of potentially toxic substances that are being discharged to Cook Inlet, and this information should be provided for public access along with Discharge Monitoring Report (DMR) data. The Chemical Additives Inventory is submitted to the Compliance and Enforcement (CEP) group, and the information provided needs to be considered by the WDAP when reviewing EMP Plans.
- 17) **Miscellaneous Discharges, Table 12 (Discharges 005, 009, and 014) and Section 5.2.9.4.** The Draft GP has removed WET trigger levels that were in the 2007 GP and replaced them with pollution reduction (PR) BMP revision action levels for WET monitoring that require revisions to the BMP if the action levels are exceeded. On the face of it, this approach to toxicity reduction appears to make sense; however, with the exception of the Steelhead Platform, the action levels specified in the Draft GP are nearly an order of magnitude *larger* than the trigger levels in the 2007 GP. It appears that these

levels are based on specifying a standard 100-m mixing zone and backing into that dimension based on the effluent flow rate rather than setting the mixing zone size based on a characterization of pollutant concentrations or WET testing data. As a result, the mixing zone size and the PR action levels are in all probability much larger than required, which will result in no PR action actually ever taking place, and which will also result in reductions in WET monitoring frequency as allowed by the Draft GP. If the mixing zone sizes had been based on a characterization of WET results as was done for produced water, then it is expected that a smaller mixing zone would have been granted as required by 18 AAC 70.240 (2); “the mixing zone will be as small as practicable.” CIRCAC realizes that ADEC is trying to provide a standard mixing zone size for the Draft GP; however, based on the trigger levels in the 2007 GP and on past WET results (refer to Fact Sheet), the proposed standard mixing zone size should be much smaller than 100 m. Also, WET results discussed in the Fact Sheet indicate that toxicity was generally very low, that the lower trigger levels in the 2007 GP were too high and not exceeded, and no explanation is provided either in the Draft GP or Fact Sheet for increasing PR action levels by nearly an order of magnitude compared to the trigger levels in the 2007 GP.

- 18) **Miscellaneous Discharges, Table 12 and Table 24.** There is a discrepancy between these two tables for Steelhead, MGS-A, and MGS-C for the chronic action level (TUc) specified in Table 12 versus the dilution factor (DF) specified in Table 24. Levels specified in Table 12 are consistent with a 100-m mixing zone based on the DF formulas presented in Sections 3.3.3.1 and 3.3.3.2, whereas the higher DFs specified in Table 24 for Steelhead, MGS-A, and MGS-C appear to be for a larger 300-m mixing zone. **CIRCAC believes that the action levels presented in Table 12 are more appropriate and that these three facilities should be limited to the same 100-m mixing zones as for Discharges 005 through 014 since no justification is provided for increasing the mixing zone size for those facilities.**
- 19) **Produced Water, Fact Sheet Section 4.6.3.** Table 15 in the Fact Sheet appears to contain errors in estimated flow rates for produced water discharges, based on a comparison to those in the Draft GP. Dillon Platform’s and GPTF’s current discharge estimates in the Draft GP were increased to 0.195 mgd, not the 0.193 mgd provided in the table. The calculated Fact Sheet estimate was 10.75 mgd, which is 0.030 mgd less than a recalculated total of 10.78 mgd (10,780,000 mgd). While this volume difference may seem insignificant, for comparison, note that this volume approximates several of the facilities’ estimated volumes (i.e., the difference in volumes is less than Bruce’s estimate, similar to Tyonek A’s estimate, and about two-thirds of Baker’s estimate). CIRCAC would like

Facility	2007 GP (mgd)	Fact Sheet Estimate (mgd)	Observed Range (Min-Max; Avg)	AML Permit Limit (mgd)	Comment
Anna	0.084	--	--	None	Discontinued, net -0.084
Baker	0.045	0.045	--	0.045	Same
Bruce	0.025	0.025	--	0.025	Same
Dillon	0.193	0.193	--	0.195	Slight increase of 1,500
GPTF	0.193	0.193	0.00735-0.035; 0.0213	0.195	Slight increase of 1,800 gpd; limit 9.2x avg, 5.6x

TBPF	8.4	8.4	0.805 – 5.7; 3.57	8.4	Same; limit 2.4x avg, 1.5x max
MGS Onshore	0.84	0.84	0.062 – 0.18; 0.135	0.365	Typo? limit 2.7x avg, 2.0x
Osprey	--	1.05	--	1.05	Added; net +1.05 mgd
Tyonek A	0.031	0.038	--	0.038	Slight increase of 6,934
<b>Total</b>	<b>9.78</b>	<b>10.75</b>	--	10.31	---
<b>Recalculated Total</b>	<b>9.81</b>	<b>10.78</b>	---	<b>10.31</b>	<b>Overall increase</b>

- 20) **Produced Water** clarification on these values. In addition, it is unclear why the MGS Onshore facility has such a high Fact Sheet estimate based on the observed data, but the flow rate has been limited in the Draft GP to 0.365 mgd; this limit, CIRCAC notes, is still nearly 3 times the observed average, which seems excessive. For the TBTF, the Draft GP limit, although unchanged from the prior estimate as reported in the Fact Sheet, is approximately 2.4 times the facility average. Again, Cook Inlet questions these large allowed flows and seeks clarification on these values.
- 21) **Produced Water.** The statement in the Fact Sheet (Section 4.6.3) that “Comparing the estimated maximums [sic] discharge volumes from the 2007 GP to those currently estimated for the Permit, all previously estimated discharges either stayed the same or have been reduced, except for Tyonek A” is clearly incorrect once this table has been corrected, although we do note that the increases at GPTF and TBTF are considerably smaller than that at Tyonek A. CIRCAC agrees with the Fact Sheet in stating, however, that with the discontinuance of the Platform Anna produced water discharge, even taking the increases shown above into account, the overall total flows of produced water to Cook Inlet *have increased*, as indicated by the Fact Sheet. CIRCAC does not support *any* increase in total contaminant loading to Cook Inlet. . See also below regarding EPA review.
- 22) **Produced Water.** Given the data above, **CIRCAC questions the rationale of providing numerical produced water discharge limits as Average Monthly Limits (AMLs) rather than Maximum Daily Limits (MDLs).** In addition, the volumes appear to be quite inflated. Using an AML rather than a Maximum Daily Limit (MDL) effectively allows much larger discharge volumes than what might be allowed by looking at the discharge on a daily basis. Mathematically, looking at the estimates and ranges provided above, it appears that the AML is greatly inflated, as an average over the course of 28-31 days would be expected to be much closer to the reported average where it exists. For example, the TBTF was authorized with an 8.4 mgd discharge limit based on their 2007 estimate vs their considerably lower observed range of 0.805 – 5.7 mgd with an average of 3.57 mgd. Also, TBTF requested a *maximum* flow of 8.4 mgd per the Fact Sheet, and ADEC provided them with an 8.4 mgd *average* flow. What rationale was used to assume TBPF requires 1.5 times their maximum observed limit (or about 2.4 times their reported average)? Please provide clarification on the large volumes allowed for this discharge.
- 23) **Produced Water.** The ability for industry to discharge produced water into Cook Inlet remains a considerable concern to CIRCAC and others, and there appears to be a discrepancy between what is currently happening in Cook Inlet and what EPA anticipated would happen, in regards to these discharges being minimized and decreasing in volume. In

their 2016 Biennial Review report published in 2018, EPA stated, about its review of the subcategorization that results in different discharge requirements for Cook Inlet (40 CFR Part 435 Subpart D; emphasis ours):

“The EPA concluded that evidence of environmental impacts from these discharges is, at best, limited. The EPA also noted that produced waters are not being directly discharged to Cook Inlet by the fewer than 20 extraction platforms there but are, instead, managed through either injection at the platforms or transfer to onshore facilities for product recovery/treatment and, then, discharge to the Inlet. Moreover, the EPA noted that [emphasis added] **efforts are underway to decrease the amount of produced water that needs onshore transfers, such as through injection pilot tests at several extraction platforms. Therefore, even these discharges of produced waters are of a declining nature.** Because of this, based on its review, no additional review or action is appropriate at this time.”

CIRCAC is in strong opposition to any increases in allowable contaminant loadings to Cook Inlet and believes the discharges are not declining as stated above due to the increased volume of produced water discharges allowed by this Draft GP along with the potential of new discharges being possible either under this GP or an IP. In addition to the known or predicted changes in produced water volumes, more effluent will be produced with increased age of the fields. In addition, as stated by the Fact Sheet (Section 4.6.2), there are uncertainties regarding the pressurization of geologic formations in Cook Inlet injection of this waste stream, indicating that produced water discharge volumes may increase in future. The ADEC response to these concerns during public hearings in Homer and Anchorage was that the State must allow discharges allowed by EPA’s Effluent Limit Guidelines (ELGs). CIRCAC believes it is incumbent on ADEC to formally request a reanalysis by EPA based on ADEC’s intentions to allow increased discharged as evidenced by the draft GP.

- 24) **Produced Water, Draft GP Tables 13 through 20.** Ammonia should be added to the list of parameters to be monitored for produced water as was required in the 2007 GP. With the exception of Osprey, which may be due to lack of data, all other facilities required a chronic mixing zone for ammonia. In addition, most facilities required an acute mixing zone for ammonia. Since these facilities are clearly not meeting Alaska water quality criteria for ammonia at end-of-pipe, monitoring of this parameter should be performed to allow an accurate characterization of pollutant concentrations for the next permit renewal evaluation. Also, ammonia is an important parameter that should be used in examining WET test results and the incremental cost to add this analysis is fairly minor.
- 25) **Editorial comment, Draft GP:** Order of parameters differs in the various Tables 13-20 for produced water effluent limitations for the different facilities, which makes it difficult for locating limits as well as comparison between facilities.
- 26) **Produced Water, Tables 13 through 20.** CIRCAC supports that ADEC reviewed past monitoring data and for some parameters reduced effluent limitations for most dischargers. The reduction in limitations was particularly noticeable with TAH, which is the primary

pollutant of concern with respect to chronic toxicity. However, for most metals and dischargers, effluent limits remain the same as those in the 2007 GP. The effluent characterization data presented in the Fact Sheet indicates that **for many of the metals and discharges much lower limits are justified**. Examples for copper limits are provided in the following table, where effluent characterization data presented in the Fact Sheet clearly show that the permit limits are much higher than required and are not based on a reasonable potential analysis (RPA) of the existing data. For Baker and Bruce, the permit limits are approximately two orders of magnitude larger than the maximum and average values that were observed. For other discharges (TBPF, GPTF, Tyonek A, and Osprey), the effluent limits for copper in the Draft GP appear to match the data much better since they were based on an updated RPA for copper.

Facility	Effluent Limitations (µg/L)		Data Points Detected/Total	Observed Range (µg/L) Min – Max, Average
	MDL	AML		
MGS Onshore	79	53	8/13	<2.5 -7.02; 4.38
Baker	873	435	8/13	3.29 – 7.0; 4.9
Bruce	2,867	1,429	20/20	3.2 – 33; 16.34

A similar review of characterization data for zinc indicate that effluent limits appear to be substantially high for TBPF, MGS Onshore, GPTF, and Bruce). A similar pattern was seen for a number of the other metals at various facilities. CIRCAC requests that ADEC utilize the updated effluent characterization and perform an RPA for each of the metals and set facility-specific water quality-based permit limits rather than retaining existing limits which are unrealistically high for those metals that were not the primary (driver) parameter of concern in the acute RPA analysis. This is the approach that EPA utilized in finalizing the 2007 GP, where they set maximum daily limits (MDLs) for non-driver parameters at the maximum projected effluent concentration for each parameter. The current approach in the Draft GP results in mixing zones that are larger than necessary for non-driver parameters.

- 27) **Produced Water.** Also, CIRCAC would like to point out that in the case of some pollutants and facilities, the specified effluent limits actually result in dilution factors (DFs) that *exceed those allowed* for in the acute mixing zone authorization. For example, Bruce has an acute mixing zone that is based on zinc with a required DF of 267 (see Fact Sheet); however, the copper MDL has been set at 2,867 µg/L versus the acute water quality criteria of 5.78 µg/L and ambient background of 0.926 µg/L, resulting in a DF of 590 for copper, which is nearly twice as high as that allowed for zinc. These high limits have in fact given copper a bigger acute mixing zone than specified and authorized in the Draft GP. At a minimum, the limits in question need to be reduced to match the corresponding DF for the driver parameter in the acute mixing zone authorization, although water quality-based permit limits that utilize a statistical RPA approach based on the actual data would be preferred and is also the approach recommended in EPA’s *Technical Support Document (TSD) for Water Quality-Based Toxics Control*.
- 28) **Produced Water, Table 20.** Typographic error in table – the MDL and AML levels for Oil and Grease are reversed.

- 29) **Produced Water, Section 2.7.9.** “Monitoring of metals must be conducted simultaneously at the time of chronic WET sample collection”. CIRCAC suggest changing this wording to: “Monitoring of metals, TAH, and TAqH must be ....collection”, since TAH is the driving chronic parameter of concern for both the onshore facilities and for all of the oil platforms. Even though TAH is sampled on a more frequent basis, including it in the simultaneous sampling events for WET will provide much more useful information in that toxicity results can be directly paired with the chemical concentrations of concern that would most likely affect chronic toxicity. These paired results would also be available and could then also be used in developing PR strategies in the event that a WET notification level was exceeded.
- 30) **Produced Water, Section 2.7.10, second sentence.** Suggest changing “The metals required to be monitored at various frequencies must be analyzed concurrently when chronic WET samples are collected.” to “The metals, TAH, and TAqH required ...” since TAH is the primary chronic pollutant of concern. See previous comment.
- 31) **Produced Water, Section 2.7.10 and Table 21.** CIRCAC fully supports ADEC’s updated method of setting WET Notification Levels that were based on historic WET results rather than setting trigger levels based on dilution factors for the chronic mixing zones that were established for a particular pollutant. This change has in general resulted in lower notification levels compared to previous trigger levels, which will require the dischargers to critically evaluate WET results that exceed notification levels and potentially implement PR strategies to ensure ongoing compliance. This change in addition to alterations in the dilution series will also result in a much better characterization of WET data that can then be utilized for future permit evaluations. CIRCAC requests the continuation of semi-annual WET testing requirements.
- 32) **Hydrostatic Test Water, Discharge 020, Section 2.9.** CIRCAC supports the permit limits for turbidity, TAH, and TAqH in that this discharge will be required to meet Alaska water quality criteria at end-of-pipe and has not been granted a mixing zone.
- 33) **Chronic WET Monitoring, Section 2.10.3.4.** CIRCAC agrees and supports the permit requirements that adjustments to the dilution series be implemented to bracket toxicity endpoints observed on previous tests. We would suggest that the wording in the second sentence be changed from “should” to “shall” to ensure that the adjustments to the dilution series are actually made based on ADEC’s written direction or concurrence. The adjustment of the dilution series for all of the various discharges that require WET monitoring will ensure the best information is obtained for future permit evaluations and decisions.
- 34) **Section 2.11.3.** The Draft GP allows Permittees to submit Discharge Monitoring Reports (DMRs) either in paper format or electronically online through the NetDMR software, although the permit’s wording is a bit confusing. The ADEC e-reporting webpage provided by ADEC currently indicates, however, that “At this time all DMRs must be submitted electronically through NetDMR. Paper submittals will no longer be accepted.” CIRCAC supports digital reporting of DMR data and recommends that the ambiguous wording in the Draft GP be clarified. CIRCAC believes electronic reporting of digital data should be utilized as it will enhance accessibility and provide for easier dissemination and use of the data for examination of trends, comparisons to permit limits, and permit re-evaluation

purposes. In addition, “other reports” submitted by the Permittees should be required to be uploaded in conjunction with the DMRs, perhaps as pdf files.

- 35) **Section 5.1.** The Draft GP requires that a Quality Assurance Project Plan (QAPP) be developed for “all monitoring required by” the permit, to be certified within 90 days of effective date of the permit or authorization to discharge. Unlike the BMP Plan, the QAPP is not required to be submitted to ADEC for review, although it is to be available to ADEC upon request; rather, the document is intended to be an operator’s internal facility-specific document designed “to assist in planning for the collection and analysis of effluent samples and field observations in support” of the permit. In addition, it is noted that including a QAPP for a specific discharge or monitoring event may be included in another plan (i.e., a Drilling Fluids Plan [DFP] or EMP) if this is properly documented as to which sections are intended to comply with the QAPP requirement. CIRCAC agrees that the QAPP is an important document that should be used to guide sampling and analysis for any monitoring program and agrees that in some cases, QAPP information might be best presented in a DFP or EMP, as long as it is clearly described. However, while most laboratories already follow internal quality control/quality assurance (QA/QC) procedures, CIRCAC believes that the QAPP should cover the laboratories as well as address all sampling and analyses required by the permit, including sampling and analytical procedures performed at the facility (e.g., Static Sheen Test).
- 36) **Section 5.2.2.** The Draft GP requires that the Best Management Practices (BMP) Plan be submitted prior to any discharge, with certification of implementation submitted within 90 days of the effective date of the permit or authorization and prior to January 31st each year after review and/or revision. While the Draft GP clearly states in Section 5.2.2 that the initial BMP Plan shall be submitted prior to initiating a discharge, it does not indicate that the plan should be included with the NOI, which appears to be an oversight. (Note the 2007 GP included the wording “BMP Plan shall be ready to implement upon submittal of an NOI...”.) CIRCAC requests this be clarified. In addition, as noted above, Table 1 of the Draft GP does not include BMP Plan submittal itself as a line item but only indicates when and to whom BMP certification must be submitted. CIRCAC suggests that this table be corrected to indicate the requirements of BMP Plan submittal. CIRCAC also notes that prior permits required only that a certification statement (rather than the BMP Plan itself) be submitted. CIRCAC supports this substantive change as it will allow ADEC to review the BMP Plan and ensure that it has adequately addressed all the objectives and requirements as outlined in the Draft GP.
- 37) **Section 5.2.9.6.** The Draft GP includes Cooling Water Intake Structure (CWIS) requirements for new offshore O&G extraction facilities as required by federal regulations, 40 CFR Part 125, Subpart N. CIRCAC appreciates how ADEC has included implementation procedures for the CWIS requirements that require O&G permittees to detail their implementation technologies or operational measures in their BMP Plan to minimize impingement and entrainment of fish and shellfish. CIRCAC also supports the idea that ADEC retains the authority to impose more stringent conditions on a case-by-case basis if necessary (Section 5.2.9.6), if there is information indicating “the potential for specified aquatic organisms to pass through the hydraulic zone of influence” of the CWIS, but believes the wording of the Draft GP (and Fact Sheet) is insufficient to determine when ADEC may, in fact, take this approach. In addition, the Fact Sheet (Section 11.3.1.6)

specifies that the BMP for any CWIS be submitted with the NOI to allow ADEC time for review. This requirement should also be included in Section 5.2.9.6 of the Draft GP.

- 38) **Section 5.4, Environmental Monitoring Plan (EMP) Applicability.** The EMP requirements should also include Class B3 Non-Aqueous/Synthetic drilling fluids if they are approved for a particular drilling operation.
- 39) **Section 5.4, EMP Applicability.** The requirements should also include *all* other O&G exploratory drilling operations in Cook Inlet as was required by the 2007 GP, rather than restricting the EMP to just the two limited geographic areas (Trading Bay SGR and Redoubt Bay CHA) specified in the Draft GP. This draft GP now includes Exploration activities, which would allow coverage for new exploration beyond the planned permit expiration date if the permit is administratively extended. Given the uncertainties in volumes and locations where discharges could occur over the length of this permit, it is unrealistic to expect that the very limited existing data on the fate and effects of drilling fluids and cuttings discharges is representative of all potentially impacted habitats. Sediment transport, deposition, and erosion varies throughout the Inlet and the potential impacts from each drilling operation need to be evaluated individually.
- 40) **Section 5.4.** CIRCAC strongly supports EMP requirements for the Draft GP and believes that monitoring will provide valuable information on the fate of O&G exploration discharges and their effect on the marine ecosystem in Cook Inlet. CIRCAC has some concerns, however, on how monitoring efforts are currently being implemented and has some suggested changes to clarify the permit requirements that are outlined below. The environmental monitoring methods should be far more rigorous than those currently being conducted for exploration activities. Little monitoring data has been collected for potential impacts by drilling discharges in Cook Inlet to date, and a rigorous monitoring program should provide data that informs future decisions. There was quite an extensive study (Dames and Moore 1978) that was conducted during earlier drilling activities, although this took place in deeper waters of Lower Cook Inlet. In areas where benthic invertebrate sampling was difficult due to sediment, Dames and Moore identified alternate ways to obtain data. The more recent ICIEMAP Study also provided a considerable amount of data in Cook Inlet, including available substrate types (i.e., sediment fines), benthic community analysis, and water quality data, indicating that these data can be collected if proper sampling techniques are employed by experienced marine scientists. CIRCAC believes that in no way should ADEC lessen the requirements of the EMPs and should do everything possible to ensure that any EMP plan obtains review by scientists familiar and experienced with Cook Inlet's physical, chemical, and biological environment.
- 41) **Section 5.4.** The objective of the EMPs, as specified in the Draft GP, is to include monitoring of potential drilling fluids and drill cuttings impacts through the assessment of: (1) sediment pollutant chemical concentrations, (2) the potential for sediment toxicity, and (3) benthic biological community monitoring. CIRCAC notes that the "potential for sediment toxicity" wording appears to be a relaxation of the 2007 GP (Section II.B.5) requirement that included actual "sediment toxicity" rather than the assessment of the "potential of sediment toxicity." This "relaxation" may be acceptable if ADEC requires additional toxicity testing based on sediment pollutant concentrations; i.e., that a tiered approach can be implemented so that toxicity testing is triggered if sediment pollutant concentrations appear to warrant further investigation.



- 42) **Section 5.4.** Given the EMP objectives as described above, CIRCAC also notes that in Section 5.4.4 (Plan of Study) the Draft GP states that: “The monitoring must include, but not be limited to, relevant hydrographic, sediment hydrocarbon, and heavy metal data...” benthic biological community should be added to the wording in Section 5.4.4 in order to be consistent with and to address all the objectives of the program.
- 43) **Section 5.4.** It is unclear from the Draft GP that hydrographic and/or water quality data should also be collected as part of any EMP. For example, “relevant hydrography” is included in Section 5.4.4 (Plan of Study) but is not mentioned in the program objectives. In addition, the EMP reporting requirements (Section 5.4.5) state (emphasis ours): “The report must address the environmental monitoring objectives by using appropriate descriptive and analytical methods to test for and to describe any impacts of discharged drilling fluids on sediment pollutant concentrations, sediment quality, *water quality*, and the benthic community.” CIRCAC would suggest clarifying these sections of the Draft GP so that EMP objectives are clearly stated and that the following pertinent sections of the permit provide the same information to avoid confusion.
- 44) **Section 5.4.** CIRCAC recommends the inclusion of hydrographic and water quality (chemical pollutant concentrations) sampling and analysis in any EMP to be performed under the permit. Past studies have shown that the analysis of water samples for pollutant concentrations (hydrocarbons and heavy metals) was very useful, particularly in areas of Cook Inlet where the collection of bottom sediments is difficult due to the prevalence of large cobble and an erosional environment (ADL 2001 and ICIEMAP 2012, various). This water quality sampling plan should include the analysis of both total recoverable and dissolved metals. Due to the highly turbid water conditions in Cook Inlet, it has been shown by past studies that total recoverable (particulate) metals are directly correlated with the total suspended sediment (TSS) concentrations, with TSS accounting for approximately 80-90% of the background metal concentrations (ICIEMAP 2012, various). Therefore, the analysis of both dissolved and particulate metals will be necessary to determine any effluent impacts. The analysis of TSS should also be included in the EMP to allow better interpretation of any metals monitoring data.
- 45) **Section 5.4.** CIRCAC strongly feels that these sections describing the EMP in the Draft GP should be strengthened and clarified where necessary to ensure future studies address all permit requirements. Exploration monitoring programs that have been performed in the past under the existing Cook Inlet permit clearly did not fully address the EMP requirements and appeared to be in violation of permit conditions. With no requirements for public review, we have had to rely on ADEC’s review of EMP study plans and reports, which has led to inconsistencies and loss of opportunities for meaningful data. For example, neither the Environmental Study Plans (Furie 2011 & Buccaneer 2012) nor Environmental Sampling Efforts (Furie 2012a and 2012b) addressed all of the existing permit objectives.
- 46) **Section 5.4.** CIRCAC has a concern that the EMP Plans were not (for the existing GP) and might not be (for the Draft GP) adequately reviewed by ADEC prior to studies being conducted and discharges occurring. Neither of the Study Plans cited above under the existing GP included: (1) a sediment toxicity component, (2) a benthic biological community component, (3) addressed how they would determine statistically significant changes with distance from the discharge, (4) adequately described all of the monitoring

procedures and methods as required, or (5) included statistical methods or null hypotheses for sediment toxicity or benthic invertebrates. With the exception of not requiring sediment toxicity, the EMP objectives as stated in the Draft GP specify all these requirements. CIRCAC recognizes the difficulties in sampling sediment habitats in Cook Inlet and, therefore, is concerned by the lack of experience demonstrated by the developers of past plans in not discussing these issues and providing adequate alternatives to collecting useful data. We believe this situation arose in part by there being no outside peer or public review of the submitted sampling plans or reports. During industry's development of a sampling plan for produced water discharges under the existing GP, CIRCAC was able to provide very significant comments and a critical review on the original plan submitted to EPA that resulted in industry's coordination of a statistically sound study plan and their hiring of contractors with significant experience sampling in Cook Inlet's marine environment (especially related to sediment quality triad approach sampling); this resulted in the ICIEMAP Study that has since proven so useful in Cook Inlet. The process that was used for the exploration monitoring plan under the existing GP did not allow for outside review and resulted in poorly devised sampling plans. For example, Furie's monitoring efforts were not successful in collecting any sediment at KLU Well #1, only two marginal pipe dredge samples were collected for KLU Well #2, and even the most basic data collections for the hydrographic components of the study were of extremely limited use. A repeat of this is not acceptable for this new permit, and for this reason, CIRCAC strongly encourages the thorough review of any future EMP Plans, including review and consultation with scientists outside of ADEC as described above.

- 47) **Section 5.4.** CIRCAC recognizes that a critical consideration for the sediment sampling program is the bottom type. Based on our experience of sampling throughout Cook Inlet, many locations are scoured with each tidal cycle and no net accumulation of sediments occurs. The sediment sampling program may not even be possible, as the bottom may consist entirely of cobble, large gravel, or very coarse sediments. Typically, the accumulation of pollutants in the marine environment is associated with fine-grained sediments. Thus, if the sediment program is in a net erosional environment, it is expected that sediment sampling will be difficult or impossible and pollutants may not be accumulating in these areas. If sediment sampling is not possible, then some type of sampling such as a pipe dredge should be undertaken to document the bottom type. Also, in the event that sediment sampling is not possible, the Permittee should be required to specify an alternative method to address the permit objectives. Past work by CIRCAC on the ICIEMAP study in Cook Inlet showed that the collection of water column chemistry (hydrocarbons & metals) was very effective for examining the potential effects as a function of both time and distance from the discharge. Finally, historical sampling throughout Cook Inlet shows that deposition of fine sediments occurs in many nearshore areas in the draft GP coverage area. Nearshore Exploration activities will be allowed under the proposed GP and any EMP must consider sediment transport along-shore and the fate of discharge materials and potential effects to downstream depositional environments.
- 48) **Section 5.4.5.** Based on the existing GP Study Plans and Monitoring Reports cited above, CIRCAC believes that the provision stated in the Draft GP ("The permittee will be required to correct, repeat, or expand EMPs which have not fulfilled the requirements of this Permit.") should be exercised by ADEC going forward, and that a serious effort be made to incorporate recommendations by those experienced in sampling Cook Inlet's sediment and

water column environment. It is unreasonable that ADEC does not provide for outside review of these EMPs to not only ensure that the permittee is meeting permit requirements but that ADEC is providing effective oversight.

- 49) **Section 5.4.7.** The Draft GP allows ADEC to grant a written exemption to the EMP requirements if the Permittee can (emphasis ours) "...satisfactorily demonstrate that information on the fate and effects of the discharge is available (e.g., EMP studies from previous wells at the location) or the discharge will not have significant impacts on the receiving environment in the area of discharge (e.g., sediment is significantly *present* at the site due to scour)." CIRCAC believes this statement contains a typographic error and should read "sediment is significantly absent" but more importantly, feels that **it is absolutely inappropriate at this time to grant exemptions to the environmental monitoring since very little information exists on the fate and effect of drilling fluids/drill cuttings discharges in Cook Inlet.** It would be impossible to predict whether any significant impacts would occur in advance of drilling operations as the chemical composition of drilling muds may be adjusted during actual operations. As well, it is clear from some of the vague and even wrong descriptors in the past Ocean Discharge Criteria Evaluation that there have been many misunderstandings about the abundance, diversity, and potentially unique species occurring throughout Cook Inlet. Without the assurance of peer and public review, exemptions to monitoring could be potentially granted based on misinformed applications.
- 50) **Section 5.5.1.** The Draft GP requires that a DFP be developed and submitted with or prior to the NOIs for new MODUs, existing MODUs that are relocating, and geotechnical surveys and HDDs where applicable. In particular, the permit states (Section 5.5.1) that MODUs conducting O&G "...exploration and discharging Class B2 must develop and submit a DFP for Class B2 proposed to be discharged within 4,000 m to 1,000 m of Trading Bay SGR or the Redoubt Bay CHA or any Class C2 or C3 drilling fluid systems for HDD or geotechnical surveys." The Draft GP notes that drilling fluids systems meeting Class B1 or C1 requirements do not require submittal of DFPs, although DEC recommends Permittees consider developing one as a contingency if additional chemical additives could be required during drilling and result in the fluid system to become reclassified and, thereby, initiate this requirement. CIRCAC strongly supports this requirement since it will hopefully minimize the introduction of additional toxic chemicals to the Cook Inlet marine ecosystem.

### **Other Comments**

- 51) **Fact Sheet Section 2.2.3.2. Environmental Studies Conducted Under the Existing 2007 Cook Inlet General Permit:** The Fact Sheet describes the 2007 GP requirements for a comprehensive sampling study to gather data regarding potential fates and effects of large volume discharges of produced water. It erroneously gives credit for the program to ADEC through their administration of the EMAP program. CIRCAC did work with ADEC in 2002 to develop the first ever EMAP study in Alaska, by organizing and leading the collection of samples throughout the western Gulf of Alaska from Unimak Pass in the south to Copper River Delta in the north. Based on that experience, when CIRCAC received funds through a peer-reviewed process to conduct a 2008 contaminants program in Cook Inlet, a decision was made to encompass protocols used by the National Coastal Assessment Program (the coastal portion of EMAP) so that the larger Gulf of Alaska

EMAP data could provide a context for interpreting the Cook Inlet data. In addition to incorporating most standard EMAP protocols, CIRCAC added analytes, hydrocarbon fingerprinting, sampling source river contaminants, water column contaminants, and sampling for a NOAA National Status & Trends program in Kachemak Bay. The stratified sampling design (i.e. including mixing zone, industry area, and Cook Inlet background strata) was developed by CIRCAC with support by EPA statisticians. During development of the program and through presentations to EPA and ADEC, we provided recommendations how the permit-required produced water study could benefit from partnering with our sampling program. It was through all of these efforts, organized and led by CIRCAC, that an integrated sampling program was developed - the Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP).

- 52) **ICIEMAP:** ADEC is missing a point that they have unwittingly made throughout the Fact Sheet which is: we need to understand Cook Inlet's oceanographic, physical, biological, and chemical environment, in order to effectively regulate discharges into its marine waters. Therefore, it makes no sense that ADEC is reducing the level of environmental sampling required by industry. If EPA had not been pro-active in seeking review of industry's original sampling plans for the required produced water fate and effects study, that study would not have leveraged against the incredible body of work provided by CIRCAC funds (received through NOAA's National Ocean Service), which accounted for over 80% of the total ICIEMAP study costs. In addition, the original industry EMP submitted to EPA was clearly developed by scientists with little to no experience sampling in Cook Inlet's marine environment and, as written, would not have successfully collected the data as proposed. By soliciting outside review (in this case from CIRCAC), industry developed a more reasonable EMP that has provided useful data. All of the ICIEMAP data and graphics were provided to the industry contractors to be used in their produced water fate and effects study report. The overall ICIEMAP data were clearly useful to industry and government regulators – it was mentioned over 13 times in the Fact Sheet and data used during the preparation of mixing zones applications and discharge limits in the permit included the area-specific hydrographic data and background contaminants data. Since ADEC has assumed APDES primacy, it has been discouraging that they have actively *not* sought outside review. By ADEC's own descriptions in the Fact Sheet, several EMPs have been unsuccessful in their original plans: "Although EMP Studies have been conducted under the 2015 Exploration GP, the sites have all been at locations where sediment is scoured out and collection of data has not been possible resulting in exemptions to post-drilling sampling." As mentioned in our comments above, there are other methods that could have looked at dilution of the contaminants with distance from discharge without looking specifically at sediments in a zone of deposit. ADEC needs to require EMP studies for discharges of drill fluids and cuttings, as well as additional sampling for large volume discharges of produced water. There are still large gaps in our knowledge of Cook Inlet that should be required for study by the industries requesting to discharge. For example, little data is available regarding sediment transport both along-shore and across-shore, seasonal stratification and residence times north of the Forelands, and intertidal infauna abundance and biomass throughout the Inlet's mud flats.
- 53) The process is not clear where public review of an NOI is provided, even though an NOI submission can include requests by the Permittee for significant changes to what have been identified in the permit, such as a request for mixing zone and effluent modifications or a

request for a waiver from minimum treatment requirements. The Permittee is asked to provide information in the NOI addressing these requests, but we have noted in the past that there has often been poor descriptions or understanding of local hydrography, sediment characteristics, and biota and believe it is important to provide opportunities to evaluate the reasoning behind any NOI waiver or modification requests.

- 54) According to 18 AAC 83.120 “When a fact sheet has been prepared under 18 AAC 83.115(b), the department will issue a revised fact sheet for the final permit, which must include all of the requirements of 18 AAC 83.115(c), and be available to the public. The department will notify EPA that the final permit, revised fact sheet reflecting the final permit, and response to comments are available on the department’s web page. ADEC must ensure that any changes to the permit between the Draft GP and Final GP are reflected in the Fact Sheet, especially where numerical limits or calculations are revised. Because the Fact Sheet stays online with each permit throughout the length of that permit, a revised Fact Sheet or addendum to that document should accurately reflect the changes made during the draft review process.
- 55) CIRCAC notes that the Draft GP and Fact Sheet have no mention of a previously defined discharge of “Produced Sand” (Outfall 015 in 2007 GP was “Produced Water and Produced Sand.”) If this discharge is no longer applicable in any case, it may be worth noting this in the Fact Sheet. (Note the 2007 Fact Sheet [Section IV.B.4] indicated that the discharge of produced sand was prohibited based on ELGs).

## **References**

- Buccaneer, 2012. Environmental Monitoring Plan, Buccaneer Alaska Operations, LLC, Cook Inlet Exploratory Drilling Program. Prepared by Cardno Entrix.
- Dames and Moore. 1978. Drilling Fluid Dispersion and Biological Effects Study for the Lower Cook Inlet C.O.S.T. Well. Anchorage, AK; Atlantic Richfield Company, 109 pp.
- EPA 2007. Authorization to Discharge Under the National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Extraction Facilities in Federal and State Waters in Cook Inlet, Permit No. AKG- 31-5000. United States Environmental Protection Agency, Region 10, 1200 Sixth Avenue, Seattle, WA, July 2, 2007.
- EPA. 2018. Final 2016 Effluent Guidelines Program Plan. EPA-821-R-18-001. U.S. Environmental Protection Agency. Washington, DC. April 2018.
- Furie, 2011. Environmental Monitoring Plan, NPDES General Permit AKG-31-5022, 2011-2016 Exploration Drilling Plan, Kitchen Lights Unit.
- Furie, 2012a. KLU Well #1, During-Drilling Environmental Sampling Effort, Cook Inlet, Alaska. Prepared by Jacobs Engineering Group, Inc.
- Furie, 2012b. KLU Well #2, During-Drilling Environmental Sampling Effort, Cook Inlet, Alaska. Prepared by Jacobs Engineering Group, Inc.

ICIEMAP. 2012. Integrated Cook Inlet Environmental Monitoring and Assessment Program, Draft Report. Funded by CIRCAC, National Oceanic and Atmospheric Administration, Chevron, and XTO Energy.

Additional ICIEMAP references are:

Kinnetic Laboratories, Inc. 2010. Large Volume Discharge Study – a subset of ICEIMAP Study.

Saupe, S.M., A.K. Furkuyama, G. Gillingham, I. Hartwell, T.L. Robertson, M.A. Savoie, and J.J. Trefry. 2012. Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICEMAP): A Collaboration of Four Inlet Contaminant Studies. In: *Alaska Marine Science Symposium Book of Abstracts*, Anchorage, AK, Alaska Marine Science Symposium.

Saupe, S.M., M.A. Savoie, and T.R. Robertson. 2012. Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP): Statistical Design, Field Studies, Indices, and Analytical Parameters. In: *Alaska Marine Science Symposium Book of Abstracts*, Anchorage, AK, Alaska Marine Science Symposium.

Trefry, J.J., R.P. Trocine, M.A. Savoie, and S.M. Saupe. 2012. Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP): Distribution Patterns and Sources for Trace Metals in Seawater and Bottom Sediments. In: *Alaska Marine Science Symposium Book of Abstracts*, Anchorage, AK, Alaska Marine Science Symposium.

Savoie, M.A., G. Gillingham, and S.M. Saupe. 2012. Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP): Distribution Patterns and Sources for Organic Contaminants in Seawater and Bottom Sediments. In: *Alaska Marine Science Symposium Book of Abstracts*, Anchorage, AK, Alaska Marine Science Symposium.

Fukuyama, A., G. Gillingham, and I. Hartwell. 2012. Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP): Benthic Infaunal Communities. In: *Alaska Marine Science Symposium Book of Abstracts*, Anchorage, AK, Alaska Marine Science Symposium.

Hartwell, I., D. Dasher, L. Clafin, and E.. Johnson. 2012. Sediment Quality Triad Assessment in Kachemak Bay and Kenai Peninsula: Characterization of Soft Bottom Benthic Habitats and Contaminant Bioeffects Assessment. In: *Alaska Marine Science Symposium Book of Abstracts*, Anchorage, AK, Alaska Marine Science Symposium.