

APPENDIX A

Summary of General Permit Changes and Request for Public Review/Comments of Specific Sections

The following table summarizes some of the changes from the Expired Arctic General Permit (AKG-28-0000) and the draft Beaufort (AKG-28-2100) and Chukchi (AKG-28-8100) General Permits (GPs) requirements. The EPA is soliciting public comments on all terms and conditions of the draft Beaufort and Chukchi GPs. However, this table reflects the sections of the Beaufort and Chukchi GPs and combined Fact Sheet that the EPA is specifically requesting public comments on. The EPA also is requesting the public provide the agency with any studies, research, and/or relevant information that should be considered before making a final determination on the proposed requirements, limitations, or conditions set out in the draft GPs and combined Fact Sheet.

In addition to the issues, terms and conditions identified in the table below, the EPA is requesting public comment on the estimates of exploration drilling activities as reflected in the well projections in the Fact Sheet, Section I.D.6. The EPA is particularly interested in comments from the regulated community and state and federal agencies with oil and gas regulatory responsibilities given their experience and expertise in projecting and evaluating oil and gas exploration activities.

EXPIRED ARCTIC GP	BEAUFORT GP	CHUKCHI GP	FACT SHEET
I. Areas of Coverage			
One GP authorized exploration discharges to federal and state waters of the U.S. in the Beaufort Sea, Chukchi Sea, Hope Basin, and Northern Norton Basin.	Establishes a separate GP authorizing exploration discharges to federal and contiguous state waters of the Beaufort Sea. (Section I.B.)	Establishes a separate GP authorizing exploration discharges to federal waters of the Chukchi Sea. (Section I.B.)	Sections I.D.1. and I.D.2.
II. Authorized Discharges			
Authorized discharges 001–014.	No discharge of test fluids (Discharge 014).	No discharge of test fluids (Discharge 014).	Sections I.A. and II.E.1.m.
Authorized discharge of water-based fluids and cuttings, non-aqueous stock base fluids and non-aqueous cuttings.	Authorizes discharge of water-based drilling fluids and cuttings. No discharge of non-aqueous stock base fluids, and cuttings associated with non-aqueous fluids.	Authorizes discharge of water-based drilling fluids and cuttings. No discharge of non-aqueous stock base fluids, and cuttings associated with non-aqueous fluids.	Section II.E.2.d.

III. NOI Requirements			
- Submit at least 45 days prior to initiation of discharges. - NOI form contained general information requirements.	- Submit at least 120 days prior to initiation of discharges. - Must indicate whether discharges will be in state or federal waters. - An NOI must be submitted for each proposed drill site. - NOI form contains a checklist with specific requirements. (Beaufort GP Attachment 1)	- Submit at least 120 days prior to initiation of discharges. - An NOI must be submitted for each proposed drill site. - NOI form contains a checklist with specific requirements. (Chukchi GP Attachment 1)	Section I.F.2.
IV. Well Number Limitation			
Limited the number of wells to no more than five wells at a single drilling site.	Limits drilling discharges from no more than five wells in a lease block; discharges from additional wells will require EPA or DEC approval. (Section II.A.14)	Limits drilling discharges from no more than five wells in a lease block; discharges from additional wells will require EPA approval. (Section II.A.14)	Section II.E.1.j.
V. Duty to Reapply			
Contained standard permit language.	Includes expanded language for reapplication, administrative extension coverage, and termination requirements. (Section VI.B.)	Includes expanded language for reapplication, administrative extension coverage, and termination requirements. (Section VI.B.)	Section I.F.3.
VI. Chemical Inventory			
Required a narrow chemical additive inventory for a limited set of discharges (e.g., drilling fluids, desalination unit wastes, boiler blowdown, fire control test water, and noncontact cooling water).	Expands the chemical additive inventory and reporting requirements, including reporting and limits on chemical concentrations for Discharges 001-013. Also included monitoring and reporting of the constituents, total quantities used, rates of additive use and locations of use in the processes on the facility. (Section II.A.10.)	Expands the chemical additive inventory and reporting requirements, including reporting and limits on chemical concentrations for Discharges 001-013. Also included monitoring and reporting of the constituents, total quantities used, rates of additive use and locations of use in the processes on the facility. (Section II.A.10.)	Section II.E.1.f.
VII. Area Restrictions			
Included no-discharge restrictions for discharges of drilling fluids and drill cuttings within the following areas: - in areas with water depths that is less than 5 meters;	Expands the no-discharge prohibitions for all discharges in areas where the water depth is less than 5 meters, as measured from MLLW. (Section II.A.11.a.) Retains the same no-discharge of drilling fluids	Expands the no-discharge prohibition for all discharges in areas where the water depth is less than 5 meters, as measured from MLLW. (Section II.A.11.)	Sections I.E., II.E.1.g. and II.E.2.a.

<ul style="list-style-type: none"> - between the shore (mainland and the barrier islands) and the 5 meter isobath; - within 1,000 meters of the Stefansson Sound Boulder Patch or between individual units of the Boulder Patch where the separation between units is greater than 2,000 meters but less than 5,000 meters. - within Omalik Lagoon; - within Kasegaluk Lagoon; or - within 3 miles of the following passes of Kasegaluk Lagoon (Kukpowruk, Akunik, Utukok, Icy Cape, Alokiaakat, Naokok, and Pingaarok) 	<p>and drill cuttings restrictions within certain areas. The Beaufort GP prohibits discharge under any of the following conditions:</p> <ul style="list-style-type: none"> - between the shore from MLLW, including the mainland and the barrier islands, and the 5 meter isobath; - within 1000 meters of the Stefansson Sound Boulder Patch (near the mouth of the Sagavanirktok River) or between individual Boulder Patches where the distance between those patches is greater than 2000 meters but less than 5000 meters; and - within State waters unless a ZOD has been authorized for the discharge by DEC. (Section II.B.4.) 		
VIII. Seasonal Restrictions			
<p>Contained the following no-discharge seasonal restrictions for drilling fluids and drill cuttings:</p> <p>Open-water restrictions:</p> <ul style="list-style-type: none"> - at depths greater than 1 meter below the surface of the receiving water between 5 and 20 meters isobaths; - within 1,000 meters of river mouths or deltas; or - within state waters unless a ZOD is authorized by DEC. <p>Unstable or broken ice restrictions:</p> <ul style="list-style-type: none"> - within 1,000 meters of river mouths or deltas, or 	<p>Retains the same no-discharge restrictions for water-based drilling fluids and drill cuttings.</p> <p>The Beaufort GP contains an additional requirement for no discharge to the stable ice surface unless authorized in writing by EPA or DEC in accordance with the Alternatives Analysis requirements under Section II.A.11.c. of the general permit. (Section II.B.5.b.)</p>	<p>Includes the following similar no-discharge restrictions for water-based drilling fluids and drill cuttings: (II.B.4.)</p> <p>Open-water restrictions:</p> <ul style="list-style-type: none"> - at depths greater than 1 meter below the surface of the receiving water between 5 and 20 meters isobaths; <p>Unstable or broken ice restrictions:</p> <ul style="list-style-type: none"> - shoreward of the 20 meter isobaths as measured from the MLLW during unstable or broken ice conditions except when the discharge is prediluted to a 9:1 ratio of seawater to drilling fluids and cuttings. <p>Stable ice restrictions:</p> <ul style="list-style-type: none"> - below stable ice and must avoid, to the 	<p>Sections I.E. and II.E.2.b.</p>

<ul style="list-style-type: none"> - shoreward of the 20 meter isobaths, unless (a) the discharge is prediluted to a 9:1 ratio of seawater to drilling fluids and cuttings, and (b) the permittee conducts environmental monitoring. <p>Stable ice restrictions:</p> <ul style="list-style-type: none"> - below the ice and shall avoid, to the maximum extent possible, areas of sea ice cracking or major stress fracturing unless authorized by EPA. - below ice within state waters unless a ZOD has been authorized by DEC the permittee conducts environmental monitoring. 		<p>maximum extent possible, areas of sea ice cracking or major stress fracturing unless authorized by EPA.</p>	
IX. Discharge During Active Bowhead Whaling Activities			
None	Prohibits the discharge of water-based drilling fluids and drill cuttings (Discharge 001) during active bowhead whaling activities in the Beaufort Sea, unless EPA or DEC authorizes the discharge, after review of the operator's evaluation of exploratory facility storage capacity and land-based disposal alternatives. (Section II.A.11.b.)	Not applicable.	Sections I.A.11., I.F.2.j., II.D.2.a., and II.E.1.k.
X. Alternatives Analysis			
None	Prohibits discharge of water-based drilling fluids and drill cuttings (Discharge 001), sanitary waste (Discharge 003) and domestic waste (Discharge 004) to stable ice unless authorized in writing by EPA or DEC in	Not applicable.	Sections I.A.12., I.F.2.k., II.E.1.l. and II.E.2.b.

	<p>accordance with the following requirements:</p> <ul style="list-style-type: none"> - submit a detailed written alternatives analysis demonstrating that there are no technically feasible land-based disposal alternatives and means to transport the waste streams to those disposal sites; must be submitted with the NOI. (Section II.A.11.c.) 		
XI. Cooling Water Intake Structure Requirements			
None	Includes cooling water intake structure requirements to new offshore oil and gas extraction facilities for which construction was commenced after July 17, 2006, that meet the following criteria: (1) is a point source that uses or proposes to use a cooling water intake structure; (2) has at least one cooling water intake structure that uses at least 25 percent of the water it withdraws for cooling purposes as specified in subsection N.2. below; and (3) has a design intake flow greater than 2 million gallons of water per day. (Section II.N.)	Includes cooling water intake structure requirements to new offshore oil and gas extraction facilities for which construction was commenced after July 17, 2006, that meet the following criteria: (1) is a point source that uses or proposes to use a cooling water intake structure; (2) has at least one cooling water intake structure that uses at least 25 percent of the water it withdraws for cooling purposes as specified in subsection N.2., below; and (3) has a design intake flow greater than 2 million gallons of water per day. (Section II.N.)	Sections I.A.14., I.F.2.I., and II.E.9.
XII. Electronic Discharge Monitoring Reports (NetDMR)			
Required paper submittal of DMRs.	Requires electronic submittal of monitoring reports using NetDMR. (Section III.B.)	Requires electronic submittal of monitoring reports a using NetDMR. (Section III.B.)	Section IV.A.
XIII. Environmental Monitoring Plan (EMP)			
Required an EMP when a permittee proposed to discharge drilling fluids and drill cuttings within 4,000 meters of a prohibited area.	<p>Requires design and implementation of an EMP at each drill site. The applicant must submit an EMP plan of study to EPA and DEC for review with the NOI.</p> <p>EMP elements:</p> <ol style="list-style-type: none"> 1. Dilution, plume and deposition modeling. 2. Contains four phases: 	<p>Requires design and implementation of an EMP at each drill site. The applicant must submit an EMP plan of study to EPA for review with the NOI.</p> <p>EMP elements:</p> <ol style="list-style-type: none"> 1. Dilution, plume and deposition modeling. 2. Contains four phases: 	Sections I.F.2.d., II.D.2.c., II.E.h. and III.B.2.

	<ul style="list-style-type: none"> • Phase I (baseline) assessment – Initial site survey, physical and receiving water data collection, and benthic community structure; • Phase II (during drilling) assessment – Effluent toxicity characterization, cooling water (Discharge 009) plume and water column monitoring, and collect observations for potential marine mammal deflection during high periods of discharge; • Phase III (post-drilling) assessment – Physical sea bottom survey • Phase IV (15 months after drilling ceases) assessment – Physical sea bottom survey, benthic community structure. <p>3. WET testing once per well for certain discharges that (a) initial screening indicate potential toxicity, or (b) exceed a discharge rate greater than 10,000 gallons during any 24-hour period and if chemicals are added.</p> <p>4. Two EMP reports must be submitted.</p> <p>Additional EMP requirements for discharge of water-based drilling fluids and drill cuttings:</p> <ol style="list-style-type: none"> 5. Analyze drilling fluids and drill cuttings for metals contaminants of concern; 6. Sediment monitoring of the drilling site; 7. Evaluate benthic community tissue for metals and organic compounds, and conduct a metals bioaccumulation study in the drilling site area; 8. Sample and assess metals, organics, turbidity, and total suspended solids 	<ul style="list-style-type: none"> • Phase I (baseline) assessment – Initial site survey, physical and receiving water data collection, and benthic community structure; • Phase II (during drilling) assessment – Effluent toxicity characterization, cooling water (Discharge 009) plume and water column monitoring, and collect observations for potential marine mammal deflection during high periods of discharge; • Phase III (post-drilling) assessment – Physical sea bottom survey • Phase IV (15 months after drilling ceases) assessment – Physical sea bottom survey, benthic community structure. <p>3. WET testing once per well for certain discharges that (a) initial screening indicate potential toxicity, or (b) exceed a discharge rate greater than 10,000 gallons during any 24-hour period and if chemicals are added.</p> <p>4. Two EMP reports must be submitted.</p> <p>Additional EMP requirements for discharge of water-based drilling fluids and drill cuttings:</p> <ol style="list-style-type: none"> 5. Analyze drilling fluids and drill cuttings for metals contaminants of concern; 6. Sediment monitoring of the drilling site; 7. Evaluate benthic community tissue for metals and organic compounds, and conduct a metals bioaccumulation study in the drilling site area; 8. Sample and assess metals, organics, turbidity, and total suspended solids throughout the discharge-affected water column and 	
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	throughout the discharge-affected water column and discharge plume’ 9. Observe for potential marine mammal deflection. (Section II.A.12.)	discharge plume; 9. Observe for potential marine mammal deflection. (Section II.A.12.)	
Table 1 – Drilling Fluids and Drill Cuttings (Discharge 001)			
<ul style="list-style-type: none"> - Required SPP toxicity limit of a minimum 96-hour LC50 of 30,000 ppm for discharged water-based drilling fluids and drill cuttings. - Stock barite monitoring and limitation. - No discharge if there is a failure of the static sheen test. - Surveillance monitoring for chromium VI, silver, thallium, TAqH and TAH. 	<ul style="list-style-type: none"> - Retains the SPP toxicity limit of a minimum 96-hour LC50 of 30,000 ppm for discharged water-based drilling fluids and drill cuttings, stock barite monitoring and limitation, and no discharge if there is a failure of the static sheen test; retains surveillance monitoring for TAqH and TAH. - Requires higher frequency monitoring (weekly SPP toxicity test; mercury and cadmium testing once per well). - Requires reporting to EPA within 24 hours if the results exceed the permit limits. 	<ul style="list-style-type: none"> - Retains the SPP toxicity limit of a minimum 96-hour LC50 of 30,000 ppm for discharged water-based drilling fluids and drill cuttings, stock barite monitoring and limitation, and no discharge if there is a failure of the static sheen test; retains surveillance monitoring for TAqH and TAH. - Requires higher frequency monitoring (weekly SPP toxicity test; mercury and cadmium testing once per well). - Requires reporting to EPA within 24 hours if the results exceed the permit limits. 	Section II.E.2.c.
Table 2 – Flow Limitations for Discharge 001			
Contained hourly discharge rate limitations based on the depth of receiving waters.	No change.	No change.	Section II.E.2.e.
Table 3 – Deck Drainage (Discharge 002)			
<ul style="list-style-type: none"> - No discharge if there is a failure of the static sheen test or as determined by visual observation. - Deck drainage contaminated with oil and grease must be processed through an oil-water separator prior to discharge. - Monitoring for chromium VI, silver, thallium, TAqH and TAH. 	Same with additional surveillance monitoring requirements for pH, and WET testing if initial screening shows potential for toxicity, or the deck drainage discharge rate exceeds 10,000 gallons in any 24-hour period and if chemicals are used in the system.	Same with additional surveillance monitoring requirements for pH, and WET testing if initial screening shows potential for toxicity, or the deck drainage discharge flow rate exceeds 10,000 gallons in any 24-hour period and if chemicals are used in the system.	Section II.E.3.

Tables 4a and 4b (Beaufort GP) – Sanitary and Domestic Wastes in Alaska Waters (Discharges 003 and 004)			
- Included limitations for flow, BOD ₅ , TSS, fecal coliform, dissolved oxygen, pH, total residual chlorine, floating solids/garbage, foam and oily sheen. - Required annual testing of marine sanitation devices to ensure the unit is operating properly.	Retains the same requirements, but includes higher frequency of monitoring for BOD ₅ , TSS, fecal coliform (weekly).	Not applicable.	Section II.E.4.a.
Table 5 (Chukchi GP); Tables 5 and 6 (Beaufort GP) – Sanitary and Domestic Wastes in Federal Waters (Discharges 003 and 004)			
Included limitations for flow, BOD ₅ , TSS, fecal coliform, dissolved oxygen, pH, total residual chlorine, floating solids/garbage, foam and oily sheen.	Retains the same requirements but includes stricter pH limit for sanitary waste discharge (6.5-8.5) and higher frequency of monitoring for pH, fecal coliform, and total residual chlorine (weekly).	Retains the same requirements but includes stricter pH limit for sanitary waste discharge (6.5-8.5) and higher frequency of monitoring for pH, fecal coliform, and total residual chlorine (weekly).	Section II.E.4.b. and II.E.5.
Table 6 (Chukchi GP); Table 7 (Beaufort GP) – Desalination Unit Wastes (Discharge 005)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Section II.E.6.
Table 7 (Chukchi GP); Table 8 (Beaufort GP) – Blowout Preventer Fluid (Discharge 006)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with new monitoring for pH.	Same with new monitoring for pH.	Section II.E.6.
Table 8 (Chukchi GP); Table 9 (Beaufort GP) – Boiler Blowdown (Discharge 007)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Section II.E.6.
Table 9 (Chukchi GP); Table 10 (Beaufort GP) – Fire Control System Test Water (Discharge 008)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with new pH monitoring and WET testing (if initial screening shows potential for	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or	Section II.E.6.

	toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	
Table 10 (Chukchi GP); Table 11 (Beaufort GP) – Non-contact Cooling Water (Discharge 009)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with increased visual monitoring for free oil, new pH and temperature monitoring requirements, and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Same with increased visual monitoring for free oil, new pH and temperature monitoring requirements, and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Sections II.E.6. and II.E.7.
Table 11 (Chukchi GP); Table 12 (Beaufort GP) – Uncontaminated Ballast Water (Discharge 010)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with new monitoring for pH and a requirement that all ballast water contaminated with oil and grease must be treated in an oil-water separator.	Same with new monitoring for pH and a requirement that all ballast water contaminated with oil and grease must be treated in an oil-water separator.	Sections II.E.6. and II.E.8.
Table 12 (Chukchi GP); Table 13 (Beaufort GP) – Bilge Water (Discharge 011)			
No discharge if there is a presence of free oil; flow monitoring; and process all bilge water through an oil-water separator prior to discharge.	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Same with new pH monitoring and WET testing (if initial screening shows potential for toxicity, or the discharge exceeds 10,000 gpd in a 24-hour period and if chemicals are added).	Section II.E.6.
Table 13 (Chukchi GP); Table 14 (Beaufort GP) – Excess Cement Slurry (Discharge 012)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with new monitoring for pH.	Same with new monitoring for pH.	Section II.E.6.
Table 14 (Chukchi GP); Table 15 (Beaufort GP) – Muds, Cuttings, and Cement at the Seafloor (Discharge 013)			
No discharge if there is a presence of free oil; and flow monitoring.	Same with increased visual monitoring for free oil.	Same with increased visual monitoring for free oil.	Section II.E.6.