Project Name: Pebble Project EIS
Date: November 18, 2019
Time: 8:30am-5pm
Location: The Megan Room, 6591 A Street, Anchorage
Subject: Cooperating Agency Technical Meetings, Day 1
Introduction: Safety, housekeeping, Opening remarks Ground rules Review of change from DEIS to FEIS

Attendees and Affiliation:	
AECOM and subcontractors	Bill Craig, Elizabeth Bella, Jessica Evans, Jon Isaacs, Allison Payne, Sasha Forland, Nancy Darigo, Cara Wright, Lindsey Flagstad, Arika Mercer, Cecil Urlich, Tara Bellion
ACHP	John Eddins
BSEE	John McCall
Curyung Tribal Council	No attendees
EPA	Molly Vaughan, Matt LaCroix, Barbara Butler, Betsy McCracken, Cindi Godsey, Palmer Hough, Michael Kravitz, Don Clabaugh, Kate Scofield, Joe Ebersole, Tim Maley
LPB (Jade North)	Bob Loeffler
Nondalton Tribal Council (represented by NARF)	Wesley Furlong
NPS	Sharon Kim, Susanne Fleek Green, Kerensa King, Dan Young, Buck Mangipane, Kelsey Griffin, Mark Sturm
State of Alaska (SoA)	Kyle Moselle, Cathe Heroy, Ron Benkert, Gary Mendivil, Kate Harper, Ted Otis, Robin Dublin, Bernie Nowicki, Allan Nakanishi, John Clark, Brock Tabor, Jim Curtis, Lee McKinley, Travis Elison, Tom Barret, Ori Miller, Allan Mack
USACE	Shane McCoy, Katie McCafferty, Sheila Newman, Heather Markway, Melanie Collyer, Jennifer Moyer, William James, Mary Romero, Lt. Colonell Blodel
USCG	David Seris
USFWS	Douglass Cooper, Catherine Yeargan, Veronica Varela, Angela Matz
PHMSA	Robert Guisinger

Agenda/Discussion:

Day 1 Agenda

Opening remarks, clarification of regulatory authority (USACE, BSEE, USCG)

DOT PHIMSA – responsible for review of pipeline design

EPA 404q elevation process – 3A letter to USACE has been sent, EPA has asked for an extension of time to send a 3B letter due February 28, letter would declare that the project may significantly affect aquatic resources

USFWS 404q elevation process - USFWS has submitted both a 3A and 3B letter declaring significant impact to aquatic resources, allows additional discussion outside of NEPA process, to add mitigation

Goals for the week:

- Goal 1: what additional work/analysis needs to be done to produce a FEIS
- Goal 2: shared understanding of scope of analyses
- USACE is targeting Dec 13 for issuance of a revised schedule – noting that PEIS will not be ready Dec 2 as originally proposed; PFEIS will resemble FEIS as much as possible

Review of summary of changes from DEIS to PFEIS:

- RFI 71b alternative to original application – icebreaking ferry to Eagle Bay, elimination of spur road to Iliamna, landing of pipeline to between Iliamna and Newhalen
- additional cultural resource survey in 2019 field season
- additional wetland mapping in 2019 field season
- new groundwater modeling based on USGS source code
- new air quality modeling using MOVES model
- additional analysis of fugitive dust – conceptual fugitive dust control plan prepared, Technical Memo regarding additive effects of dust deposition being prepared by AECOM, intent to be done end of week
- additional specificity for navigable waters crossings per USCG permitting
- caisson fill dock, minimal dredging and pile driving to minimize impact to aquatic resources and species
- natural gas pipeline alignment realigned through Cook Inlet to avoid wooden shipwreck
- crossing of Newhalen River moved to south to avoid cultural resources
- additional mine site optimizations to avoid and minimize impacts
- additional text to address cultural resources
- intent of USACE to release Section 106 Programmatic Agreement concurrent with PEIS
- dewatering models run to approximate groundwater drawdown at the mine site

USCG federal authority includes:

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- bridge permit over jurisdictional waters (at this time identified as the Newhalen and Gibraltar Rivers)
- enforcement of regulations involving vessel construction and design (e.g. ferry), vessel oil spill response plan; clarifying that these are nondiscretionary functions that would not trigger the NEPA process
- spill response in tidally influenced water and waters of interstate commerce

Explaining CA Matrix and SOC and draft response:

- in response to SoA, USACE explained that ideal feedback from the cooperators is the provision of clarity as to if USACE has properly addressed agency comments
- in response to EPA question regarding 'outside scope of authority' in USACE direction, specifically those that are connected to an SOC that appeared to address the comment (i.e. the USACE direction appears to contradict the SOC), USACE suggested that these situations be discussed on a case-by-case over the next few days.
- AECOM explaining how week will proceeded – Subject Matter Expert will address 'starter topics', representing general areas of concern, SME will present feedback from CA, changes made to the PFEIS (or not), and rationale for change (or inaction)

General discussion of ground rules for forthcoming discussion: any agency can participate, however technical deference will be given to those agencies with direct authority; clarification of USACE decision making process, NEPA process initiated by discharge of fill to waters of the U0S, if direct or indirect effect cannot be tied to the discharge of fill, then USACE authority is stretched. Necessary for USACE to tie authority to regulatory action.

BSEE will receive feedback to BOEM as part of ROW process

ADEC – notes spills are low probability, high consequence events, further that NEPA case law does not require the analysis of worst-case scenario

Worst case scenarios

SOC: Spill Risk – Tailings Dam Failures - Full Tailings Dam Breach Analysis

(row 589) – evaluation of full breach of tailings dam requested however worst-case scenario analysis not required by NEPA, referred instead to Dam Failure Workshop, which identified most probable dam failure scenarios, full breach eliminated as a probable scenario bulk TSF, pyritic TSF, main water management pond

- USACE clarified that the Dam Failure workshop was an EIS phase FMEA
- EPA and ADEC request revision of row 589 SOC response to include explanatory text that while scenarios are not worst case, three scenarios are representative and conservative (i.e. close to worst case)
- EPA – voices concern that most dam failures are due to human factors rather than design, and that it was unclear from workshop summary what the uncertainty was around various designs, especially without design of proposed dams, also unclear why worst-case scenario was

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dismissed, and for these reasons, EPA requests a full breach scenario analysis. Also cites USFS decision on Resolution Copper to conduct a full breach analysis based on public concern. If USACE is not going to perform a full breach scenario, then need to fully defend that decision.

- USACE asked about level of effort required to produce full breach analysis; AECOM estimates several months.
- LPB - could existing models be used for worst case scenario? Also notes that public has limited understanding of the different types of dams involved
- ADEC – notes that perhaps agencies could do a better job of educating the public
- AECOM – individual models would be needed for each dam, also notes that thickened tailings expected to flow 1/12th the distance of slurry tailings
- SoA – cites grave public concern regarding full breach scenario as rationale for conducting worst case scenario; perhaps sufficient to discuss a full breach qualitatively (i.e. without modeling); concerned about deferral of spill responsibility to SoA Dam Permitting Process where an inundation analysis would occur but a full breach analysis will not be conducted
- EPA – analysis of full breach could be helpful in identification of additional mitigation measures; rationale for worst case scenario analysis – addresses uncertainty surrounding earthquake risk
- AECOM – 1. difficult to describe worst case scenario without modeling 2. RFI 139 Lake Clark Fault refines seismic risk associated with splays of Lake Clark Fault. PLP currently evaluates four earthshaking scenarios – interslab scenario produces greatest earthshaking 3. Dam safety guidelines 4. Worst case determined from a priori probability thresholds 5. human error has been discussed, difficult/impossible to incorporate
- EPA – will EIS discuss difference in impact between thickened and slurry tails, specifically in terms of travel distance under a release scenario? AECOM – yes, EIS includes discussion of fate and behavior of thickened tailings on land and also as a slurry in flowing water.
- USFWS – wanted to confirm that worst case scenario is defined as ‘very low probability’, not necessarily highest impact
- EPA recommends checking in with SoA regarding state regulations

Additional SOCs Discussed

(row 576) Tailing Dam Failures – Blasting Agents – revised SoC response to address blasting agent residues

(row 588) Tailings Dam Failures FMEA – address uncertainty

(row 598) Tailings Dam Failures – Main WMP Probability of Release – low probability and low failure rates are stated – how do you get to probability with such limited information, and if you can evaluate spill for tailings dams why not for the water management pond? AECOM – unable to evaluate failure of

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WMP as there are no comparable for a lined WMP of this size, AECOM offered that similarly sized yet unlined systems could be described as analogues. Qualitative text will be added to SOC to explain how professional judgement was employed to determine probability of failure.

EPA – (row 609) Tailings Dam Failures SOC regarding Emergency Action Plan – would like to see reasonable detail provided in advance of plan development; provision of a plan outline suggested. SoA would review any draft plans submitted; however, clarifies that draft documents would have no bearing on state's final approval of plans; also concerned that draft documents could present new information that might require a supplemental EIS. Suggestion to revise EIS to better identify emergency action procedures and clarify what the applicant has committed to; USACE to consider requesting an EAP outline from PLP that could include applicant commitments.

Dept. of Dam Safety ADNR – Emergency Action Plan would be developed at same time as state review, prior to construction.

(row 159) Earthquakes or seismic concerns – Foundation Conditions

EPA – 1. wants EIS to describe actual foundation conditions, AECOM directs to RFI 14b, discloses that description is conceptual level pending additional geotechnical survey 2. EPA concerned that two WMPs are constructed on overburden; AECOM explains that the large WMP has been redesigned to construct on bedrock and small WMP has been moved to avoid potential buried glaciolacustrine deposits

(row 187) Earthquakes and State Dam Safety Guidelines

EPA - given size and location of facilities, are Alaska State regulations, which state a minimum standard of care, sufficient? Do they represent best management practices?

Materials evaluated/not evaluated in detail

SOC: Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) - Concentrate Transport
SOC: Spill Risk -Fuel/Natural Gas/Concentrate/Reagents - Concentrate Spills Impact Analysis/Modeling

(row 500) Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) Concentrate Spills Impacts Analysis Modeling – concentrate pipeline leak in line under Lake Iliamna citing 5 min to shut off valves on either side of the lake; this response time was applied to all valves along the pipeline. General consensus in room that this time drastically under estimated for unmanned valve locations. AECOM to discuss response time with PLP.

EPA – potential risk of concentrate spill is downplayed in EIS. AECOM presented two concentrate spill scenarios assuming trailer concentrate capacity of 80,000 lbs and less than full capacity (two of three trailers) spilled from truck to: 1. ground (easy to recover), 2. standing water (easy to recover), and 3. flowing water (not practicable to recover)

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ADFG – notes contradictory text between spill and fish impacts discussion in Section 4.27; spills discussion states that release of concentrate to flowing water would be impracticable to recover however fish impacts discussion states that no adverse impacts to fish and aquatic resources if concentrate is recovered. Request to clarify that volume of concentrate likely to enter flowing water would be dispersed and diluted to levels not expected to cause adverse impact to fish.

ADFG notes that EIS lacks fish tissue trace element baseline information the freshwater and marine environment (added to parking lot for fish technical discussion)

ADFG takes issue with statement that: smothering of eggs upstream will not have any downstream fish harvest effects. AECOM explains that impacts would be small-scale, localized and due to the size and resiliency of stock.

(row 502) Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) Concentrate Transport – concern regarding generation of fugitive dust during loading of concentrate; text has been clarified to explain that containers would not be allowed to fall more than 10 feet during transfer of concentrate shipping containers; see RFI 009c

ADFG – voiced concern regarding lack of meteorological data and the appropriateness of locations for the activity

USCG – no threshold limits (e.g. swell height) for lightering operations, accepted to be the responsibility of vessel operator

AECOM – coastal and shoreline engineering analysis were requested for both Lake Iliamna and Cook Inlet; added to Appendix M.

expand (row 502) Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) Concentrate Transport SOC response to reference the SOC that addresses meteorological data
(row 501) Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) Concentrate Spills in Kamishak Bay: ADFG requests removal of last sentence stating that ADFG has been known to close fisheries in the event of spills that threaten seafood quality. Consider discussing initiation of Natural Resource Damage Assessment process in a different SoC as the procedures are more crafted for spills.

Additional scenarios
SOC: Spill Risk – Fuel/Natural Gas/Concentrate/Reagents - Diesel spill scenarios

(row 510) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents - Diesel spill scenarios – response: impossible to analyze for all spill types, amounts and receiving environments – picked a 300,000 gal. diesel spill to the marine environment

USFWS – what is the purpose of the diesel spills section? AECOM – to standardize comparison of alternatives. USFWS brought up concept of acute large volume (e.g. ship wreck) vs chronic low volume (e.g. repeated tank overfilling) spills; 1. recommends considering other, more probable spill scenarios (i.e. tank overfill outside of secondary containment and from handysize cargo ships). Also recommends

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2. placing 300,000 gal diesel spill in a location appropriate to Alternatives 2 and 3 (to stay consistent with analysis for Alternative 1)

USFWS suggests considering adding additional, more probable spill scenarios (i.e. tank overfill outside of secondary containment and from handy size cargo ships) and placing 300,000 gal diesel spill in locations appropriate to Alternatives 2 and 3 (to stay consistent with analysis for Alternative 1)

USFWS – has entrainment of diesel under ice been addressed? – AECOM, Yes

ADFG – concerned that response to spills to ice was anemic in EIS, AECOM responded that this has been addressed in PFEIS

SoA permitting requires applicant to identify conditions under which spill response would not be possible and to estimate the time period for which response would not be possible

BIN (row 507) has a citation been added to support the statement that fish avoid diesel spills?

USFWS – have impacts of diesel released from truck to the marine environment been addressed? (also to ensure that impacts analyzed in a standard way among alternatives) – AECOM, Yes

SOC: Spill Risk – Fuel/Natural Gas/Concentrate/Reagents - Spills from ferry

(row 526) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents - Spills from ferry

EPA – why is ferry more regulated than barge? AECOM – because ferry is purpose built and operated by a sole entity opposed to barges that are designed for multiple purposes and operated by diverse entities; supporting language has been added to the PFEIS

SoA – are there ferries operating that would be analogous to the type proposed by PLP? AECOM – yes, several in Canada - operation of these other icebreaking vessels were reviewed

BSEE has jurisdiction over releases from pipeline on the outer continental shelf, requests impacts to T&E species, impacts from anchor strike regarding 1. mitigation to avoid damage from small and large vessel anchoring 2. clarification as to what the proposed mitigation if there is a release, specifically how notifications would occur, e.g. would the National Release center be notified?

USACE and BSEE to flesh out RFI to applicant to clarify BSEE requirements for the right of way

ADNR - has jurisdiction over shoreline portions of pipeline; recently permitted, similar pipeline required 700 ft from shore, 4 ft cover minimum, notes SoA jurisdiction is 3 miles offshore

Additional SOCs Discussed

(row 520) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents NaHs

EPA - SOC does not address Cu. Allison - typo revised, added text that reagent can breakdown to H2S under acidic conditions, which is highly toxic to fish, however impact analysis was not altered

(row 494) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents Concentrate Pipeline –

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EPA – SOC does not address copper, AECOM explained that reference to correct SoC response is provided in response to row 520 SoC

(row 497) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents Concentrate spill downstream impacts

EPA – does the term 'enclosed waterbody' include wetlands? Suggestion to clarify text to clarify if wetlands are included an enclosed waterbody

(row 521) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents Concentrate Natural Gas Release – AECOM explains Hilcorp pipeline was old, repurposed oil pipeline to carry gas whereas applicants proposed pipeline will be new, deigned for gas, equipped with pressure detection and automatic shutoff valves

AECOM to clarify with the applicant that pipeline would be designed to current industry standards (i.e. equipped with automatic shutoff valves).

BIN: USFWS – (row 616) Steller's Eider impacts what was done with statement that 300,000 gal diesel spill would not have significant impact to Steller's Eider due in part to seabird recovery and rehabilitation

(row 493) Spill Risk – Fuel/Natural Gas/Concentrate/Reagents Red Dog Mine data

EPA – what is rationale for variably using full or partial spill volume from spill database, why is methodology different between diesel and concentrate spills?

AECOM to explain rationale for variably using full or partial spill volume from spill database, alternatively use consistent methodology (i.e. use full volume for all scenarios or partial volume for all scenarios)

ADNR – if Alternative moving slurry through a pipeline is selected, requests that PLP provide mitigation for closure of pipeline under freezing conditions.

USFWS – If the rationale for using variable volumes for spill scenarios, perhaps it is enough to explain that there is more data available for oil spills relative to concentrate spills; also, low probability should not be equated with worst case, important to separate concepts of consequence and probability with regard to worst case spill scenario.

NPS reiterates request to not dismiss worst case scenario and to carefully explain and support thought processes throughout document

USACE solicited feedback from group on how day went

Action Items:

Topic	Actions
Spill Risk – Tailings	SOC: Spill Risk – Tailings Dam Failures - Full Tailings Dam Breach Analysis: Delete reference to State statues from the last sentence of the SOC response.
Spill Risk - Tailings	SOC: Spill Risk – Tailings Dam Failures - Full Tailings Dam Breach Analysis: Clarify in the SOC response that the FMEA was an EIS phase FMEA.

Spill Risk - Tailings	Section 4.27: Clarify the relation between very low probability events and the worse case scenario events. Separate probability vs. consequence.
Spill Risk - Tailings	SOC: Spill Risk – Tailings Dam Failures - Full Tailings Dam Breach Analysis: USACE to further discuss inclusion of a full tailing dam breach in the FEIS. If a full tailings dam breach analysis is not considered for the FEIS, revisit response to make it more defensible (e.g., define what worse case is, bring in information from RFI 008 series, address human error, discuss/disclose confidence levels)
Spill Risk - Tailings	SOC Spill Risk – Tailings Dam Failures – Main WMP Probability of Release: Revise response to address if a change will be made to the FEIS. Response will be augmented to address changes being made.
Spill Risk - Tailings	SOC Tailings Dam Failures - Spill Response: USACE to consider requesting an EAP outline which could include applicant commitments made to date. Alternately consider clarifying and adding citations for statements in Section 4.27 regarding emergency response actions.
Spill Risk - Concentrate	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) - Concentrate Spills Impacts Analysis/Modeling. Concern that the 5 min response time is not realistic. Request additional information from PLP to support this response time.
Spill Risk - Concentrate	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) - Concentrate Spills Impacts Analysis/Modeling. Clarify discussion in 4.27 about impacts to fish from concentrate spills in flowing waters. Clarify discussion regarding impacts associated with ability to respond/clean up vs. small volume likely to enter flowing waters and dilution levels.
Spill Risk - Concentrate	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) – Concentrate Transport: Expand response to refer to separate SOC for additional meteorological data.
Spill Risk - Concentrate	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) – Concentrate Spills in Kamishak Bay. Revisit the response to this SOC, particularly the last sentence of this SOC response (closure of fisheries by ADFG).
Spill Risk - Diesel	Section 4.27: Consider addressing: 1) Overfilling of tanks that result in release outside of secondary containment and 2) Cargo ship (handy size) spill (increased probability)
Spill Risk - Diesel	Section 4.27: Expand discussion of spill scenarios for all alternatives. For example: Address 300k gal spill for alternate port location.
Spill Risk – Spills OCS (BSEE)	USACE and BSEE to flesh out RFI to applicant to make sure it addresses BSEE requirements for the pipeline ROW in the OCS.
Spill Risk - Concentrate	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) - Concentrate spill downstream impacts: Clarify if enclosed waterbody includes wetlands.
Spills Risk – Natural Gas	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) - Natural Gas Release: Clarify in response and in EIS if the shutoff valves would be manual or automatic. Edit the last sentence to say “pipeline designed to current industry standards” instead of “new” pipeline.
Spill Risk - Concentrate	SOC Spill Risk (Fuel/Natural Gas/Concentrate/Reagents) - Concentrate - Red Dog Mine data: Explain basis for spill sizes used in spill scenarios (i.e., using maximum spill size for the diesel spill vs. using other than the maximum spill size for the concentrate scenario).

Additional Notes
Parking Lot Items:
• Fish Meeting – Tissue analysis, trace elements, baseline data, diesel spill impacts, citation for statement that fish avoid diesel spills.
• TES – Steller’s eiders – Spills (Row 616)