August 16, 2024

VIA EMAIL TO
DNR.RENEWABLESREPORT@ALASKA.GOV

Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
550 W. 7th Avenue, Suite 107
Anchorage, AK 99501-3579

Re: Comments of Longroad Energy and Alaska Renewables in response to Administrative Order No. 355

Thank you for the opportunity to submit information that will inform and assist the Department of Natural Resources with preparing recommendations and a strategic plan for implementing changes that will establish a more conducive environment for wind energy projects in Alaska.

Longroad Energy ("Longroad") has extensive experience in developing, financing, constructing and operating wind energy projects. Longroad (as a legacy First Wind team and since its inception in 2016), has developed more than 2 GW of utility scale on-shore wind projects throughout the U.S., including 553 MW under Longroad since 2019. Longroad has experience developing projects in areas with weak transmission infrastructure and especially sensitive cultural and environmental regimes like Hawaii, and regions such as northern Maine where topography and siting requirements can make renewable energy development challenging. Longroad's success in these traditionally challenging markets provides relevant and essential insights to update Alaska's renewable energy statutes and regulations.

Longroad's business model involves obtaining third-party financing for project construction which requires site control at a relatively early stage in project development. Since 2016, Longroad has successfully raised over $14.6 billion in capital to finance renewable energy projects. This development and construction capital has been secured via various financing structures including construction and permanent project debt, tax equity financing, mezzanine financings and equity investment. Longroad has experience with over 20 different financial counterparties through a variety of structures.

The Alaska-based team at Alaska Renewables ("AKR") began development of a set of wind energy assets in direct response to the now well-publicized energy crisis facing the Railbelt, seeking outcomes that would be economic, environmentally friendly, and timely to address the various issues facing the region, including poor air quality in Fairbanks and significant current and expected energy cost increases across all Railbelt utilities. Recognizing that Alaska currently

has the highest energy cost burden per capita of any US state, the wind energy projects developed by AKR aim to provide public benefits in Alaska and for Alaskans. In 2024, Longroad acquired these wind energy projects from AKR. AKR continues to support the projects through a development services agreement with Longroad and the two companies are working collaboratively in the continued development of the Projects. Both Longroad and AKR recognize the opportunity and transformative impact that wind energy projects will have on Alaskans.

Based on this experience, Longroad and AKR provide the following comments regarding the existing State of Alaska process and standards for wind energy projects on state lands.

I. General Needs of Commercial Wind Energy Projects.

To encourage wind and other renewable energy development, Alaska's process should be designed to reduce the risk to developers in assessing early-stage assets and create predictability as a project progresses. To reduce risk, a project developer needs exclusive rights to the potential project site at an early stage to assess project feasibility. The ability to secure exclusive rights to a potential site early in the process will encourage developers to invest necessary time and money in assessing project feasibility.

The capital required to secure site access for these early-stage efforts should be minimal. At this stage, a project is prospective and best positioned to compete for capital if the capital costs are relatively low. Financial obligations should increase as project feasibility is secured and peak only after a project begins to generate revenue. Financial predictability over the life of the project is also key in obtaining project construction financing.

Streamlining and consolidating permitting processes to the extent practicable is also important in attracting wind developers. A one-stop shop for permitting is ideal. To the extent that is not feasible, a consolidated and coordinated permitting process using a single application and concurrent processing by different involved agencies is preferred.

II. Changes to the Existing Statutes, Regulations, or Policies that Authorize the Use of State Land for Large-Scale Renewable Energy Development Needed to Foster Future Development in Alaska

A. Entry Authorization and Lease. To obtain construction financing, an energy company is typically required to demonstrate that it has site control, meaning the unencumbered property rights needed to construct and operate the project for its expected life span. Such rights are typically acquired by leases which are then mortgaged to finance project construction. The current state system anticipates that a lease will be granted only after project construction is complete and an as-built survey has been approved by the state. An Entry Authorization is issued to allow project construction to proceed before the lease is granted. Because an Entry Authorization does not convey any interest in real property, it does not create the property rights that are needed to obtain the financing necessary to construct a large-scale project.

Nor is the Entry Authorization an interest in property on which Longroad can obtain title insurance. In Longroad's experience, typical construction finance lenders in the renewable energy sector will require title insurance on the property interests necessary for both construction and long-term operation of a project. At the time of financing, Longroad must hold an interest in the state land that is both insurable and mortgageable.

A lease creates the long-term site control that is needed to obtain construction financing. We understand that Alaska requires a survey before issuing a lease. It is standard practice for Longroad to obtain an ALTA survey of the project site prior to construction and an as-built survey following construction. The ALTA survey is used for several purposes: it ensures that there are no encroachments on the property that would interfere with the project, it facilitates finalization of the project construction plans, and it evaluates the property that will be pledged as collateral in the mortgage and insured by title insurance.

Longroad suggests that the State provide for flexibility in its entry authorization and leasing regime to allow the leasing process to be customized for different development models. For example, Longroad's current development process would be served by granting a lease prior to project construction based on the ALTA survey with provisions that automatically adjust the lease boundaries following construction when the as-built survey is submitted to and approved by the State. Because market standards may change in the future, the ability to obtain a lease early and adjust the project boundaries later creates a flexible approach that can adapt to accommodate future innovations in renewable energy development.

B. Term of Entry Authorization. Renewable energy projects take considerable time and at-risk capital to site, plan, design, finance, and construct. Accordingly, the developer must secure rights to the general area to be developed long before construction begins. The State's existing Entry Authorization is useful to facilitate these early project stages if it can be maintained for a sufficient term. Longroad suggests an initial term of five (5) years with automatic extensions so long as the project is being diligently pursued.

C. Mineral Interests. Longroad understands that, in issuing a lease for a renewable energy project, the State must retain rights to minerals within the project site. Those state-owned minerals can then be "located" by interested persons who obtain rights to explore for and develop the mineral interests.

Wind turbines require a significant foundation to not only support the structure but also to withstand the forces imparted by wind, ice, and seismic loads. Any disturbance around a turbine foundation can threaten the stability of the turbine, threatening human health and safety and compromising the investment's ability to deliver electricity to the grid. Furthermore, renewable energy projects require

other buried and above-ground infrastructure such as electrical and communication cables, electrical substations, maintenance buildings, meteorological/communication towers, and access roads. Both the project developer and the financier typically require assurances that no subsurface disturbance will occur during the life of the project as such disturbance would threaten the investment. These assurances can be obtained by controlling the mineral rights through the terms of a lease or by a non-disturbance agreement with a mineral owner.

We understand that, on state lands in Alaska, mineral locations are self-initiated. As appropriate, the state prevents incompatible mineral activities by declaring certain state lands closed to mineral entry. Alternatively, the state designates certain state lands subject to "leasehold locations" meaning that self-initiated rights to minerals are allowed but a lease must be obtained before mining occurs. We understand that some level of mineral exploration can occur on such lands before a lease is obtained.

To properly protect both the developer and the public, the state should seek to prevent any and all activities that could potentially undermine a turbine foundation and other essential project infrastructure. The best protection is a mineral closing order that would prevent mineral activities on lands surrounding the project infrastructure. The state could provide by statute that the granting of an entry authorization for a wind energy project imposes a mineral closing order ("MCO") on the project lands and that the MCO is reduced in size as the project advances. For example, when the as-built survey is filed, the mineral closing order could automatically adjust so that only those lands within the contracted lease boundary or a specified distance from each turbine base, transmission line support, access roads required for maintenance, and substation remain closed to mineral entry. In this manner, the statute would appropriately protect the wind project infrastructure while minimizing the impact on concurrent use of mineral rights.

D. Financial Obligations. In Longroad's experience, large-scale wind energy projects are based on extensive modeling of both the expected electrical output and the financial return. The lender must confirm that the project will generate sufficient revenues to retire the financing and provide a sufficient return to the developer and/or operator. To prepare the requisite financial models and forecasts, the company must be able to predict project costs up front, as accurately as possible, for the life of the project.

The State's leasing program anticipates that the rent due under the lease will be determined only after the survey is prepared and that the rental rate may change every five years, with no cap. This leaves the company with no way to accurately predict its site control costs over the life of the project. Both the timing of

establishing the initial rent as well as the periodic changes are inconsistent with the expectations of wind developers and wind project financiers.

For wind projects, Longroad suggests that the State provide for either (i) a fixed rental rate over the term of the lease, or (ii) an initial lease rental rate to be established early (possibly when the Entry Authorization is issued) on a per acre basis and that increases be capped at a reasonable rate over the life of the project. If a survey is needed to establish the initial rental rate, the ALTA survey should be sufficient for the pre-construction and construction periods. During early-stage project assessment, larger acreages are involved but the site control costs should be set low to reflect the prospective nature of a project at this stage. As the project footprint contracts around the final turbine locations, the per-acre costs can increase but need to remain stable, or at least predictable, for the life of the project.

E. Streamlined and Predictable Permitting Process. The cost of delays in the permitting process and challenges brought by project opponents are ultimately borne by the consumers of the power output of the project. Particularly in Alaska, where power costs are already extremely high, a streamlined and consolidated permitting process will generate the most benefits to the state and its citizens in terms of providing cost-effective alternative power supply. A consolidated permit application process with one, early public comment period allows the developer to address local concerns early in the process and avoid costly delays later. A permitting process that provides an exclusive feasibility license authorizing all pre-development activities and providing one consolidated comment period and a reasonable deadline after application for a decision would create a predictable process and significant improvement over the current need to obtain a series of miscellaneous land use permits with a public comment period for each individual permit.

Predictability is essential to a successful wind energy project. As the State considers modifying its legal regime to encourage development of wind energy and other renewable energy sources in the State, it should constantly strive to create predictability in its processes and standards. For example, significant terms that establish benchmarks in the process (i.e., "substantial completion" under the existing regime), should be meaningfully and appropriately defined. Similarly, the actions that may trigger additional state review, such as modifications to the development plan, should be clearly defined so the process is predictable. It is currently unclear what level of change to the development plan triggers the need for additional review. Additionally, changes that reduce project impacts (such as a decrease in the number of turbines) or have equal impacts (moving a turbine location to a similar site) should not trigger additional reviews.

Because renewable energy developers are likely to be new to the State processes, it would be helpful to clarify the review process for required deliverables such as

a bird strike mitigation plan and survey requirements, and how the State's processes interact with federal review procedures.

F. Performance Guarantees. The State's current system requires various performance guarantees, at least some of which are subject to periodic adjustment. The number of potential financial assurance instruments, the timing of when they are needed and when they might be released, and the lack of predictability in the amounts create complexity and challenges for the developers. As described above, the ability to accurately predict project costs through the life of the project is key to ensuring the feasibility of the project and obtaining project financing. The State should provide clarity with respect to what financial assurances might be required, the forms such assurances may take, and at what point in the process they will be required and released.

G. Industry Expertise and Staff Retention. Longroad and AKR understand that the infrastructure development sector continues to evolve with technological and economic advances; large-scale wind farms, now common in many parts of the United States, are yet unprecedented in Alaska. In recognition of the proven nature of mature technologies now in development in Alaska, like wind energy, and commensurate with the significant capital and human resource investment by developers such as AKR and Longroad, the State should take steps to improve retention of staff that gain valuable experience and expertise with these early projects. Consistent staffing across multiple projects helps both the state and the project developer navigate the system. We understand that staff retention is a challenge in Alaska (and elsewhere) and while there are many factors that should be considered, compensation levels should be analyzed and set at levels that encourage staff retention.

Thank you for the opportunity to provide comments as we continue to develop the Projects and navigate the current Alaska regulatory regime. We appreciate your consideration of our comments and welcome the opportunity to further discuss our experience and recommendations to encourage further renewable energy development in the State. Please do not hesitate to contact Chad Allen (chad.allen@longroadenergy.com) or Matthew Perkins (matt@alaskarenewables.com) with any questions or requests for additional information.

Sincerely,

Longroad Energy Alaska Renewables

From: Hugh Devlin
To: DNR Large Scale Renewables Report (DNR sponsored)
Subject: DNR, 2024!
Date: Thursday, June 27, 2024 5:33:37 AM

[You don't often get email from Personal Information . Learn why this is important at https://aka.ms/LearnAboutSenderIdentification]

Suggest consulting with Judges from the Retired group State of Alaska. I.e. Milton Sutor, + other elders who have long histories contributed
Sent from my iPhone

From: David Neubauer
To: DNR Large Scale Renewables Report (DNR sponsored)
Cc: "Alaska Federation of Natives"
Subject: RE: Opportunity to Share your Comments - Alaska DNR Land Use Authorizations for Renewable Energy Development
Date: Friday, June 28, 2024 11:52:56 AM

GeoCHEM, Inc.'s Response to Alaska DNR Land Use Authorizations for Renewable Energy Development Inquiry

Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579

Via email: DNR.RenewablesReport@alaska.gov

Dear Alaska Department of Natural Resources (DNR) Team,

Subject: Submission of Information Regarding Land Use Authorizations for Renewable Energy Development

GeoCHEM, Inc. is writing in response to the Alaska DNR's request for information, as part of the thorough review initiated under Governor Dunleavy's Administrative Order No. 355, dated May 2, 2024. Our company specializes in providing innovative environmental and geotechnical solutions, many of which have direct applications in the renewable energy sector. We believe our products and expertise are well aligned with the goals of fostering renewable energy development within the state of Alaska.

1. Statutes, Regulations, or Policies Changes:
GeoCHEM, Inc. recommends modifications to existing policies that encourage the use of environmentally friendly and sustainable geotechnical products in large-scale renewable energy projects. Specifically, policies facilitating quicker adoption of new technologies in erosion control, soil stabilization, and secondary containment can significantly lower project costs and environmental impacts.

2. Project Investigation and Feasibility Study Needs:
Our range of geosynthetic and environmental products support extensive project investigations and feasibility studies by offering durable and cost-effective solutions for ground stabilization, water filtration, and site protection during initial assessments and construction phases.

3. Authorization Process Hurdles:
Through our experience, we've observed that lengthy authorization processes can delay project implementation. Simplified and clear guidelines for the use of certain geotechnical solutions in

renewable energy projects can expedite this process.

4. Common Hurdles in Other States and Supportive Policies:
GeoCHEM, Inc. notes that one common hurdle in other states is the lack of awareness or acceptance of innovative environmental technologies. States with streamlined processes for technology approval have seen enhanced project development efficiency.

5. Comparison with Other Similar Authorizations:
Based on our dealings with various state and federal entities, we suggest that DNR consider benchmarking its authorization timeframes against those known for their efficiency and effectiveness in supporting renewable energy initiatives.

6. Definition of "Large-Scale" in Renewable Energy:
We believe it is crucial to define "large-scale" not only by the capacity of energy generation but also by considering the environmental footprint of the development. Integrating criteria for sustainability and innovation in materials and methods should be part of this definition.

7. Presentation of Existing Processes:
GeoCHEM, Inc. supports the idea of DNR presenting existing processes at the upcoming forum. This transparency can foster a better understanding and collaboration between industry experts and regulatory bodies.

GeoCHEM, Inc. is committed to supporting Alaska's transition to renewable energy through sustainable and innovative solutions. We are keen to engage in further discussions and collaborate with the DNR and other stakeholders to realize the vision of a renewable energy-powered Alaska.

For more detailed information on our products and their applications in renewable energy projects, please visit geocheminc.com.

Thank you for the opportunity to contribute to this important initiative. We look forward to participating in the development of a sustainable and energy-secure future for Alaska.

Sincerely,

W. D. Neubauer | President | GeoCHEM, Inc.
911 W 8TH Ave Suite 101, Anchorage, AK 99501-3340
Civil Construction & Land Protection Products
P: (907) 206-6858 | Toll Free (800) 490.5320
P: (206) 774.8777 | F: (907) 206-6859
Website: https://www.geocheminc.com

From: Alaska Federation of Natives [mailto:afninfo@nativefederation.org]
Sent: Wednesday, June 26, 2024 12:49 PM
To: david@geocheminc.com
Subject: Opportunity to Share your Comments - Alaska DNR Land Use Authorizations for Renewable Energy Development

Opportunity to Share Your Comments

Alaska DNR Land Use Authorizations for Renewable Energy Development

The Alaska Federation of Natives would like to share the following opportunity to share information with the Alaska Department of Natural Resources (DNR).

The DNR, pursuant to Governor Dunleavy's May 2, 2024, Administrative Order No. 355, is conducting a thorough review of current state statutes and regulations that govern the authorization of the use of state land for large-scale renewable energy project development. The department is seeking information on this matter as described in this notice. We will accept information at any time but encourage you to submit it by Friday, August 16, 2024, to incorporate it into the final report. Please note that any information you provide will be subject to inspection, copying, and distribution as public records under Alaska Statute 40.25.110-40.25.220.

DNR requests information from industry, subject matter experts, and the public regarding the statutes, regulations, and policies for authorizing state land and resources to develop large-scale renewable energy projects. Specifically, DNR invites industry, subject matter experts, and the public to respond to the following prompts:

- What changes to the existing statutes, regulations, or policies that authorize the use of state land for large-scale renewable energy development are needed to foster future development in Alaska?
- Describe current processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects.
- Identify authorization process hurdles currently encountered during large-scale renewable energy project development.

- What common hurdles to large-scale renewable energy project development exist in other states? What policies, statutes, or regulations in other states are supportive?
- Do DNR authorization timeframes (time between initial identification of an area to authorizations issued) align with those of other similar authorizations (e.g., other state, federal, or municipal authorizations)?
- How should we define “large-scale” in the context of renewable energy feasibility assessment and development?
- Would it be useful for DNR to present existing processes at the August forum?

How do I submit information to DNR?

Send information to:

By mail:
Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579

By email: DNR.RenewablesReport@alaska.gov

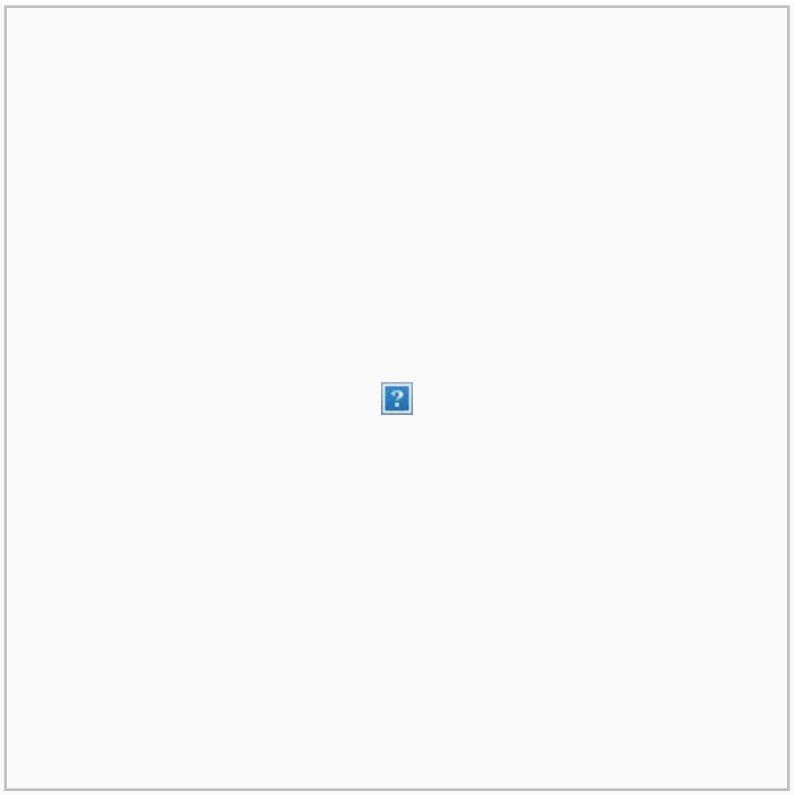
For more information, please visit here.

Other important information:

- **Opportunity for Public Comments by July 23, 2024 –** Endangered Species Act Petition on Gulf of Alaska Chinook Salmon: Gulf of Alaska Chinook Salmon: ESA Status Review Key Points

- **FAQs re: Mulchatna Caribou Intensive Management –** Mulchatna caribou intensive management FAQs (alaska.gov)

- **Application Information for 2020/21 Statewide Salmon Federal Fishery Disaster** (includes 2020 Southeast, 2020 Chignik, 2020/21 Yukon and 2020 Kuskokwim, and 2020 Norton Sound disasters) **–** 2020-21 Statewide Salmon – PSMFC Federal Fishery Disaster Relief
    - Note: Subsistence user applications will be **available by Saturday, June 29, 2024**






ABOUT AFN

The Alaska Federation of Natives (AFN) is the largest statewide Native organization in Alaska. Founded in 1966, AFN celebrated its 50th year in 2016. Its membership includes 177 federally recognized tribes, 154 village corporations, 9 regional corporations, and 10 regional nonprofit and tribal consortiums that contract and compact to run federal and state programs. AFN is governed by a 36-member board, which is elected by its membership at the annual convention held each October. The mission of AFN is to enhance and promote the cultural, economic and political voice of the entire Alaska Native community. *Learn more at www.nativefederation.org.*

Our mailing address is:
3000 A Street, Suite 210, Anchorage, Alaska 99516

From: eagle@eaglesongalaska.com
To: DNR Large Scale Renewables Report (DNR sponsored)
Subject: AO 355 Forum
Date: Sunday, August 4, 2024 8:26:52 AM

I sat in on the Teams meeting held by your office on 6/2/2024. I attended as a non-contributing public observer.

While I appreciate DNR looking ahead on large scale renewable energy development projects I feel a couple key elements are missing from the process. Your panel of experts discussed the processes and hurdles to development of these projects, but I heard nothing regarding the public. These projects analyze economic viability and benefit to the public but there appears to be no evaluation/consideration of the impact on the communities/regions located in the project's vicinity. Many of these projects will be developed in remote locations and often those around the project sites will experience no benefit in the form of improved or lower cost power because they are not connected to the rail belt grid. Therefore, what is the social and economic impact of a project to those that may not experience the positive outcome of such a project to the grid connected public? In other words, is one region or sector of the public sacrificing for the gain of another? How is this inequity evaluated and what are the potential solutions? It appears there is currently no socio-economic mitigation mechanism or process within the State to do so. This comment is more than conjecture. We are currently experiencing this problem in the southern Susitna Valley with the proposed Little Mt. Susitna Wind Farm project.

Secondly, there appears to be no process to weigh pros and cons of a project on the environment. What I mean by that is environmental impact studies must be conducted but are we really weighing the impact on our environment? The State is delving heavily into carbon credits these days. Some thought is given to a projects carbon footprint but what are we losing in current environmental stability to develop these projects? If we deforest an area, build extensive road and transmission corridors or scrape off a mountain top to install wind turbines what do we lose in the name of improving our environment? I see no process that evaluates what we have and will lose against what is proposed…an environmental balance sheet if you will.

Thank you for your time and consideration.

Michael W. Williams

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Anchorage, AK 99503
(907) 521-0034

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youtube.com/eaglesongalaska

KODIAK ELECTRIC ASSOCIATION

KODIAK ELECTRIC ASSOCIATION, INC.

1614 MILL BAY ROAD, KODIAK, AK 99615-6234
(907) 486-7700

August 8, 2024

Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579

RE: Administrative Order 355 Call for Information
State of Alaska Land Use Authorizations for Large-Scale Renewable Energy Development

To whom it may concern,

This letter is in response to Alaska Department of Natural Resources' (DNR) request for information regarding the use of State land for development of large-scale renewable energy projects. Kodiak Electric Association, Inc. (KEA) is a rural electric cooperative located on Kodiak Island that generates, transmits, and distributes electricity to the City of Kodiak and its surrounding communities, including the nation's largest US Coast Guard Base, Bells Flats, Chiniak, Pasagshak, and Port Lions. KEA's electricity is primarily generated from renewable energy resources, many of which are located on land owned by the State of Alaska and authorized under DNR's land lease and easement programs.

The primary hurdle KEA encounters during renewable energy project development on State land is the amount of time consumed by DNR to issue their documents throughout their adjudication process. The number of years it takes for DNR to write, review, sign and issue the Preliminary Decisions, Final Findings, survey instructions, appraisal approvals, and final recorded lease/easement documents is not reasonable. The concern is not over public comment periods or appeal periods because those are relatively brief and defined periods required by statute. The concern is the multi-year delays in DNR's internal document processing. DNR's adjudication delays create risk for renewable energy projects because without written authorization to occupy State land, projects cannot proceed with coordinated plans, contracts or financing.

KEA is encouraged by Administrative Order 355 and the State of Alaska's effort to identify and remove hurdles to renewable energy development. It may be helpful for DNR to review the duration of time taken for current renewable energy projects to achieve written authorization to occupy State land, from the date of application submittal to the date of final lease/easement document recording. It may be startling to see the numbers of years consumed by DNR's administrative processing. This information may bring clarity to the existing hurdles, and assist in improvement efforts. Reducing the duration of DNR's administrative delay would greatly support additional renewable energy project development on State land.

If you have questions or require additional information regarding these comments, please contact me at 907-654-7667 or jking@kodiak.coop.

Sincerely,

Jennifer King
Regulatory Specialist

From:	Palmer, Hillary R.
To:	DNR Large Scale Renewables Report (DNR sponsored)
Subject:	Data Development & Sharing to Incentivize Investment
Date:	Monday, August 12, 2024 2:29:13 PM
Attachments:	image001.png image008.png image003.png image005.png image007.png

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Greetings!

I'd like to submit some recommendations in response to ADNR's Call for Information: State of Alaska Land Use Authorizations for Large-Scale Renewable Energy Development (dated June 20, 2024).

Developers who are considering making an investment in Alaska, regardless of the sector they represent, all begin with questions involving "WHERE".

- Where is the development suitable land?
- Where is the closest community & what is its population?
- Where are the delineated wetlands we'd need permitting for?
- Where is the closest electrical transmission line?
- Where are other hydropower sites that have been studied?
- Where is the nearest port and how far would I need to truck ore?

Development occurs when the firm or their investors can finally understand the anticipated challenges, estimated costs, and forecasted Return on Investment. Alaska doesn't make it very easy for developers to answer their initial questions, so we make it seem like it'll be a headache to do business in our state. Any unknowns in the business world are seen as risks. Risks inflate costs. Too high of an initial cost makes the ROI unfavorable and discourages investors.

Really, the best thing the state could do to entice investment would be to:

1. compile existing geospatial data, developing a mosaic of best available information
2. identify any data gaps and develop new data to fill the gaps
3. share the data in a way that protects sensitive information while sharing broadly enough to inform decisions
4. establish a multi-agency working group to close the loop on data maintenance/improvements at the authoritative sources

List of datasets that should be readily available in a comprehensive, statewide format to help answer developer questions:

(All datasets listed below should be a statewide mosaic of best available data, preventing the need to

hunt around at various agencies & levels of government for information.)

1. Digital elevation model & contours
2. Imagery (mosaic of best available drone, aerial, and satellite imagery)
3. Transportation (local government sometimes have different data than DOT; need a statewide mosaic that's suitable for routing/navigation; road/rail/air/ports…etc.)
4. Hydrography (waterbodies; important to know volume, flooding history, anadromous designation)
5. Vegetation (delineated wetlands too)
6. Soils & Geology
7. Administrative Jurisdiction (land ownership; zoning; covenants & restrictions; permits needed)
8. Census & demographics
9. Critical Utilities (electric, water/wastewater, natural gas, communications, grocery & fuel retail)
10. Renewable energy suitability (wind, hydro, tidal, solar)

Getting all of this information into the public domain, making it easily discoverable on a single website geared specifically toward renewable energy investors, and answering their questions early-on in the process could really help incentivize investment in our state. For more information, please see an article I wrote for the Alaska Business Magazine:
https://digital.akbizmag.com/issue/november-2022/

For full disclosure, yes I am in the mapping business and would stand to profit if the state invests in mapping efforts – but as I am currently paid to compile all this information for dozens of different clients year after year, I also stand to lose business. Either way, these are just things I see that the state could do to really further the mission of diversifying our energy portfolio, lowering utility costs for families, and enticing investors into Alaska to support the economy.

Please let me know if you have any questions about the level of effort required to achieve anything I've discussed. Meanwhile, thank you for considering my comments.

Respectfully,

Hillary Palmer
Program Manager
Geospatial, Mapping, and Survey Services
405 W 36th Avenue, Suite 100
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August 16, 2024

Via email to:
Marcella Dent
Alaska Department of Natural Resources
Division of Mining, Land & Water
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579
DNR.RenewablesReport@alaska.gov

Re: Call for Information, State of Alaska Land Use Authorizations for Large-Scale Renewable Energy Development

Dear Ms. Dent:

Bristol Bay Native Corporation ("BBNC") broadly supports renewable energy development opportunities in Alaska and is writing to provide the Alaska Department of Natural Resources ("DNR") with specific information regarding the statutes, regulations, and policies related to authorizing the use of state land and resources for the development of large-scale renewable energy projects.

BBNC is an Alaska Native Regional Corporation created by Congress to advance the financial, cultural, and subsistence interests of its approximately12,000 shareholders.[1] BBNC owns nearly three million acres of subsurface lands in Bristol Bay and more than 115,000 acres of surface lands, which it manages pursuant to land and resource policies that recognize the value of the region's fisheries and subsistence, reflecting the importance of Bristol Bay's lands to the health of the salmon and people of Bristol Bay.

BBNC's mission is "Enriching our Native way of life."[2] BBNC's vision is "To responsibly steward the land and waters in the Bristol Bay region, celebrate the legacy of its people, and enhance the lives of BBNC shareholders."[3] BBNC's values include "respect[ing] the people, land, and natural resources that are the basis for our culture and way of life" and "responsibly manag[ing] natural resources, prioritizing the cultural and economic value of the Bristol Bay fishery."[4] BBNC's Board of Directors has approved multiple resolutions that evidence the corporation's

[1] *See* Alaska Native Claims Settlement Act, 43 U.S.C. § 1606.
[2] https://www.bbnc.net/about/
[3] *Id*.
[4] *Id*.

land management philosophy. Specifically, BBNC is guided by our Resource Protection Policy,[5] Responsible Resource Development Policy,[6] and Fish First Priority.[7]
With respect to in-region development, BBNC is generally supportive of renewable energy and other sustainable infrastructure projects. BBNC supports the goals of Administrative Order No. 355 ("AO 355") to lower energy costs for Alaskans and increase the state's global competitiveness by investing in Alaska energy projects and fostering an environment that is conducive to renewable energy project development across the state.

As an initial matter and overarching comment, BBNC asks that DNR's recommendations for state land use for renewable energy development maintain the state's current protective framework for lands and anadromous waters. BBNC does not support exempting large-scale renewable energy projects from these protective state laws and regulations.

BBNC looks forward to assisting DNR with its report to the Governor detailing the findings and proposed recommendations that emerge from DNR's call for information process. As such, in the remainder of this letter, BBNC specifically responds to DNR's seven prompts found in the call for information.

1. **What changes to existing statutes, regulations, or policies that authorize the use of state land for large-scale renewable energy development are needed to foster future development in Alaska?**

Many regions across Alaska, including throughout Bristol Bay, consist of DNR-managed state lands that could be ideal for renewable energy projects. However, current regulations, policies, and statutes are often unclear and not user-friendly, discouraging the use of state land for these developments. The following changes are proposed to foster future development:

- **Standardized Land Lease Agreements and Easements**: Develop standardized templates for agreements, ensuring clarity and predictability for developers and creating time efficiencies in lease and easement negotiations. Specific prescriptive recommendations for standardizing land lease agreements and easements include:
    - Template Development: DNR should develop standardized templates for land lease agreements and easements that apply to renewable energy projects. This will provide clarity and predictability for developers, ensuring they understand the rules and requirements from the outset, as well as create time efficiencies by obviating the need to start lease and easement talks from scratch.
    - Clear Terms and Conditions: DNR should ensure that the standardized templates include clear terms and conditions that cover duration, renewal options, termination clauses, and responsibilities of both parties.
    - Transparency: DNR should promote transparency in the lease and easement processes by making templates and guidelines easily accessible to developers and the public.

[5] BBNC Resolution 09-41, "Resource Protection Policy" (Dec. 11, 2009).
[6] BBNC Resolution 11-28, "In Support of Responsible Resource Development" (Dec. 7, 2011).
[7] BBNC Resolution 13-11, "Fish First Priority" (May 17, 2013).

    - Cost: DNR should ensure that the cost of land use agreements encourages renewable energy development, rather than discourages it.

- **Simplification and Streamlining of Authorization Processes**: Establish clear and consistent guidelines for authorization, improve inter-agency coordination, and create a one-stop-shop for permitting and land use issues. Specific prescriptive recommendations for simplification and streamlining of authorization processes include:
    - Unified Application Portal: Create a unified application portal for all types of renewable energy projects to simplify the submission process.
    - Concurrent Reviews: Allow concurrent reviews by different departments to reduce approval times.
    - Clear Guidelines: Establish clear and consistent guidelines for the authorization of the use of state land for renewable energy projects. These guidelines should cover application requirements, evaluation criteria, and approval processes.
    - Coordination Among Agencies: Improve coordination among state agencies involved in the authorization process to avoid duplication of efforts and conflicting requirements.
    - Key Contacts: Create more of a one-stop-shop for permitting and land use issues related to project development, addressing the high turnover of key contacts in individual agencies.
- **State Land Designations in Land Use Planning**: Confirm that large-scale renewable energy projects are explicitly compatible with all state lands designated for General Use, as well as other DNR designations as deemed appropriate in particular planning areas.
- **Environmental and Permitting Considerations**: Simplify the permitting process, incorporate standardized environmental protection measures, ensure mandatory tribal consultations, and establish regulatory timelines for permitting decisions. Specific prescriptive recommendations for environmental and permitting considerations include:
    - Permitting Process: Simplify and streamline the permitting process for the use of state land for renewable energy projects. This includes reducing administrative burdens, expediting timelines, and creating a one-stop-shop for permit applications.
    - Environmental Protection: Incorporate standardized environmental protection standards and measures into land lease agreements and easements, including requirements for environmental impact assessments (EIAs) and mitigation strategies.
    - Tribal Consultation: Ensure that the authorization process respects cultural and historical sites through mandatory consultations with Tribal communities and stakeholders to identify and protect culturally significant areas.
    - Timeline for Land Use Permitting: Establish a timeline in regulations for making determinations on land use, similar to the 30-day turnaround for SHPO.
- **Enhanced Public Participation**: Use digital platforms for public notices and implement interactive feedback mechanisms. Specific prescriptive recommendations for enhanced public participation include:

- Digital Public Notices: Utilize digital platforms for public notices to reach a broader audience.
- Interactive Feedback Mechanisms: Implement interactive feedback mechanisms, such as online forums and virtual public hearings.

- **Community Engagement and Benefit-Sharing**: Implement mandatory community consultation processes and develop mechanisms to ensure local communities benefit economically. Specific prescriptive recommendations for community engagement and benefit-sharing include:
  - Mandatory Community Consultation: Implement mandatory community consultation processes as part of the land use authorization to ensure local communities are informed and have a voice in the development of renewable energy projects.
  - Benefit-Sharing Mechanisms: Develop mechanisms to ensure that local communities benefit from the use of state land for renewable energy projects, including revenue sharing, job creation, and investment in local infrastructure.
- **Supportive Policies and Incentives**: Provide tax incentives and expand grant programs to support project development. Provide reduced rental fees and exemptions for lease costs for use of state land that supports renewable energy projects. Specific prescriptive recommendations for supportive policies and incentives include:
  - Tax Incentives: Provide tax incentives for renewable energy projects to encourage investment. In addition, tax incentives, such as tax credits, should be transferable so that entities generating a credit but unable to utilize such credits can sell the credit at a discount.[8]
  - Grant Programs: Expand grant programs to support feasibility studies, environmental assessments, and early-stage project development.
  - Reduced rental fees and exemptions for lease costs: Provide reduced rental fees and exemptions for lease costs for use of state land that supports renewable energy projects. This could mirror current exemptions in current state law, for example exemptions from rental payments on state land lease for certain LNG storage facilities and for land leased by nonprofit organizations.[9]
- **Coordination Among Agencies**: Establish an inter-agency task force and ensure regular updates and training for staff.

[8] Tax incentives for renewable energy production would further the aims of HB 307, signed into law by Governor Dunleavy on July 31, 2024, to incentivizes new energy development by extending tax-exempt statutes to independent power producers. *See*, https://gov.alaska.gov/governor-mike-dunleavy-signs-alaska-energy-bills/. In addition, the success of utilizing transferable tax credits is exemplified in the state's tax incentives for exploration wells. *See*, AS 43.55.023(b), AS 43.55.025. In addition, at the federal level, there are now transferable credits for renewable energy projects at the federal level, creating a market for buying/selling credits and providing a good incentive for investors to look at projects. Most of the federal credits have prevailing wage, apprentice, and other requirements for increased credit amounts.

[9] AS 38.05.096—.097.

- **Defined Timeframes and Milestones**: Set time-bound approvals and establish progress milestones. Specific prescriptive recommendations for defined timeframes and milestones include:
    - Time-Bound Approvals: Set defined timeframes for each stage of the approval process to ensure timely decisions.
    - Progress Milestones: Establish progress milestones for project developers to ensure continuous advancement and accountability.
- **Access to State Lands**: Simplify access rights processes and provide state support for necessary infrastructure. Specific prescriptive recommendations for access to state lands include:
    - Simplified Access Rights: Simplify the process for obtaining access rights to state lands for renewable energy projects.
    - Infrastructure Development Support: Provide state support for the development of necessary infrastructure, such as roads and transmission lines.
- **Monitoring and Compliance**: Implement regular inspections and require transparent reporting. Specific prescriptive recommendations for monitoring and compliance include:
    - Regular Monitoring & Compliance: Implement monitoring of projects and require reporting from project developers on project progress and compliance with agreements.
- **Risk Management and Dispute Resolution**: Include risk mitigation strategies and develop clear dispute resolution mechanisms. Specific prescriptive recommendations for dispute resolution include:
    - Dispute Resolution Mechanisms: Develop clear dispute resolution mechanisms to address conflicts that may arise between developers, the state, and local communities.
- **Infrastructure and Access Challenges**: Ensure infrastructure development is on par with other extraction-type projects, support necessary infrastructure like roads and transmission lines, and simplify obtaining access rights. Specific prescriptive recommendations for infrastructure and access challenges include:
    - Support Infrastructure: Ensure infrastructure development is on par with other extraction-type projects across the state (mining, oil/gas). Provide support for necessary infrastructure, such as roads and transmission lines, to reduce project costs and logistical difficulties.
    - Access Rights: Simplify the process of obtaining access rights and building necessary infrastructure to overcome significant hurdles.

Finally, many of these recommendations—specifically simplification and streamlining of authorization processes, coordination among agencies, use of digital platforms, and defined timeframes and milestones—might be easily mirrored on the Federal Infrastructure Permitting

Dashboard[10] or the Bureau of Land Management's ("BLM") tracking system for active renewable energy projects on federal public lands.[11]

2. **Describe current processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects.**

Currently, state land is not a primary consideration for many renewable energy projects due to the unclear and cumbersome regulatory environment. The prescriptive recommendations above will help increase certainty for industry seeking to develop large-scale renewable energy projects on state lands.

In addition, developers would benefit from updated state resources to help with project investigation and rural energy needs. In particular, the state should consider re-starting the Alaska Energy Data Gateway as a tool to support large-scale renewable energy project developers throughout the state.[12] The largely-abandoned Alaska Energy Data Gateway was a public resource funded by grants from the Alaska Energy Authority and the federal government to provide the public and project developers with comprehensive energy data and socioeconomic data from across the state so that developers could make informed decisions about energy needs and gaps throughout the state. This resource assisted industry by providing robust, high-level data to help inform projects, including land use and transmission corridors. DNR should work with other agencies and funding sources to update this tool or develop a similar substitute.

3. **Identify authorization process hurdles currently encountered during large-scale renewable energy project development.**

Authorization process hurdles currently encountered include:

- Complex and lengthy permitting processes with multiple stages and agencies.
- Lack of coordination among agencies leading to conflicting requirements.
- Ambiguity in regulations causing confusion and delays.
- Lengthy environmental impact assessments required and a lack of timelines to guide environmental impact assessment completion.
- Insufficient community consultation leading to opposition.
- Infrastructure limitations increasing project costs.

[10] *See* https://www.permits.performance.gov/. The Federal Infrastructure Permitting Dashboard is an online tool for Federal agencies, project developers, and interested members of the public to track the Federal government's environmental review and authorization processes for large or complex infrastructure projects, part of a government-wide effort to improve coordination, transparency, and accountability.
[11] *See* https://www.blm.gov/programs/energy-and-minerals/renewable-energy/active-renewable-projects (website tracking approved renewable energy projects, recent and upcoming lease sales or notices of competitive offers, proposed renewable energy projects in review, projects in NEPA review, and projects in preliminary review).
[12] *See* https://akenergygateway.alaska.edu/.

4. **What common hurdles to large-scale renewable energy project development exist in other states? What policies, statutes, or regulations in other states are supportive?**

Common hurdles in other states include permitting delays, grid connectivity challenges, and land use conflicts. Supportive policies in other states include:

- **Streamlined Permitting**: States like California and Texas have streamlined processes.
- **Incentives**: Tax credits, grants, reduced rental fees, and exemptions for lease costs to support renewable energy projects and are found in new federal regulations governing renewable energy projects on federal public lands.
- **Grid Modernization**: Policies supporting infrastructure upgrades.
- **Renewable Energy Mandates**: Mandates or targets for renewable energy adoption.

For example, in California, recent legislative reforms have significantly streamlined the permitting process for renewable energy projects. Assembly Bill (AB) 205, signed into law in June 2022, allows developers to opt into a streamlined environmental review and approval process managed by the California Energy Commission (CEC).[13] This process applies to large-scale solar and wind projects of over 50 megawatts and energy storage projects capable of storing over 200 megawatt-hours.[14] The CEC has exclusive siting authority, which eliminates the need for multiple local permits, thus reducing delays and costs associated with overlapping regulatory approvals. The new system mandates that the CEC completes its review within 270 days from the submission of a complete application.[15]

California's recent proposals also aim to further cut project timelines by more than three years and save substantial costs by reducing paperwork and expediting judicial reviews of legal challenges. These reforms are part of a broader strategy to invest up to $180 billion over the next decade in clean infrastructure, creating hundreds of thousands of jobs while meeting the state's climate goals.[16]

Finally, supportive policies from the federal government for development of renewable energy projects on federal public lands include provisions found in the Energy Act of 2020.[17] The Act requires the Secretary of the Interior to establish a program to improve interagency cooperation for solar, wind, and geothermal permits on federal land, sets national goals for renewable energy capacity on federal lands by specific dates, and requires Interior to set additional national goals for wind, solar, and geothermal energy production on federal lands. In addition, through BLM, the federal government recently implemented supportive regulations to promote the

[13] https://www.swca.com/news/2022/07/regulatory-alert-california-steps-in-to-streamline-approvals-for-renewable-energy.
[14] *Id*.
[15] https://www.paulhastings.com/insights/client-alerts/the-missing-piece-to-californias-regulatory-puzzle-for-accelerating.
[16] https://www.gov.ca.gov/2023/05/19/governor-newsom-unveils-new-proposals-to-build-californias-clean-future-faster/.
[17] Consolidated Appropriations Act, 2021, P.L. 116-260 (Dec. 27, 2020), Division Z—Energy Act of 2020, Title III, Subtitle B—Natural Resources Provisions, §§ 3101 to 3106 (codified at 43 U.S.C. 3001—3005), *available at*: https://www.congress.gov/116/plaws/publ260/PLAW-116publ260.pdf.

development of solar and wind energy projects on federal public lands. BLM's final Renewable Energy Rule reduces acreage rents and capacity fees, improve the agency's application process, and delivers greater predictability for how BLM administers future solar and wind project authorizations.[18]

5. **Do DNR authorization timeframes (time between initial identification of an area to authorizations issued) align with those of other similar authorizations (e.g., other state, federal, or municipal authorizations)?**

Authorization timeframes can be inconsistent and dependent on the personnel involved. BBNC recommends that DNR:

- Write timelines into state regulations and policies.
- Develop policies with specific timelines and commitments.
- Hold personnel accountable to these timelines.

6. **How should DNR define "large-scale" in the context of renewable energy feasibility assessment and development?**

Defining "large-scale" can vary based on context. For rural communities, a large-scale project might be different compared to urban areas. Example solutions include:

- Total Capacity-Based Definition: Projects generating more than 1 MW of electricity.
- Percentage of Demand Capacity-Based Definition: Projects generating more than 50% of the total community load.
- Acreage-Based Definition: Projects occupying more than 10 acres.
- Investment-Based Definition: Projects with capital costs exceeding $10 million.

7. **Would it be useful for DNR to present existing processes at the August forum?**

Yes, it would be useful for DNR to present existing processes at the August forum. Additionally, creating a workshop to solicit feedback on different processes, regulations, and policies could be beneficial.

We appreciate DNR's effort to promote renewable energy projects on state lands. BBNC is available to further discuss our comments DNR.

Sincerely,

Daniel Cheyette

Daniel L. Cheyette
Sr. Vice President, Lands and External Affairs

[18] Bureau of Land Management, Right-of-Way, Leasing, and Operations for Renewable Energy 89 Fed. Reg. 35,634 (final rule May 1, 2024), *available at*: https://www.govinfo.gov/content/pkg/FR-2024-05-01/pdf/2024-08099.pdf.

HIF Alaska Response to DNR Call for Information

The Alaska DNR is requesting information from the industry, subject matter experts, and the public regarding the statutes, regulations, and policies related to authorizing the use of state land and resources for the development of large-scale renewable-energy projects. Specifically, DNR invites industry, subject matter experts, and the public to respond to the following prompts:

• **DNR Prompt**: What changes to the existing statutes, regulations, or policies that authorize the use of state land for large-scale renewable energy development are needed to foster future development in Alaska?

- **HIF Response**: To foster future development of large-scale renewable-energy projects in Alaska, changes to existing statutes, regulations, and policies authorizing the use of state land should include the following:
  - **Streamlining the Permitting Process**:
    - Simplified and Accelerated Permitting: Implement a streamlined and accelerated permitting process specific to renewable-energy projects to reduce the time and complexity involved in obtaining necessary approvals.
    - "One-Stop Shopping": The recommended streamlined-permitting process should include establishing a single point of contact or a centralized permitting agency to coordinate and expedite the review process across multiple state agencies, similar to what the FERC does with permitting LNG import/export projects.
  - **Clear and Consistent Regulatory Framework**:
    - Standardized Criteria and Guidelines: Develop standardized criteria and guidelines for assessing and approving renewable-energy projects, ensuring clarity, consistency and fairness in the application process.
    - Updated Land Use Policies: Update land use policies to prioritize and designate specific areas for renewable-energy development, ensuring compatibility with other land uses and minimizing conflicts, which would facilitate such development opportunities for Alaska.
  - **Incentives and Financial Support:**
    - Tax Incentives and Credits: Provide tax incentives, credits, and grants to encourage investment in renewable-energy projects.
    - Green Financing Options: Establish state-sponsored green financing programs or "green banks" to provide low-interest loans and other financial products to incentivize renewable-energy developers.
  - **Enhanced Environmental Review Processes:**
    - Programmatic Environmental Impact Statements ("PEIS"): Conduct PEIS for large tracts of state land to in an effort to definitively mitigate potential environmental impacts, which would reduce the burden on individual project developers and expedite development of renewable-energy projects.

- Mitigation Banking: Develop mitigation banking options to streamline compliance with environmental regulations and facilitate offsetting environmental impacts.

- **Improved Grid Infrastructure and Access:**
  - Grid Modernization Initiatives: Invest in timely grid modernization and expansion to support the integration of renewable-energy projects.
  - Interconnection Standards: Establish clear and standardized interconnection standards and procedures to facilitate the connection of renewable-energy projects to the grid.
- **Community and Stakeholder Engagement:**
  - Early and Continuous Engagement: Mandate early and continuous engagement with local communities, Indigenous groups, and other stakeholders to address concerns and build support for projects.
  - Benefit-Sharing Mechanisms: Implement benefit-sharing mechanisms to ensure that local communities and Indigenous groups receive reasonable and fair tangible benefits from renewable-energy projects.
- **Training and Workforce Development:**
  - Renewable-energy Training Programs: Develop and fund training programs to build a skilled in-state workforce for the renewable-energy sector.
  - Partnerships with Educational Institutions: Partner with universities and vocational schools to create curricula and certification programs for renewable-energy technologies and project-development management.
- **Policy and Legislative Support:**
  - **R**enewable Portfolio Standards ("RPS"): Establish or update state-level RPS to target a specific percentage of energy to come from renewable sources within a reasonable period of time.
  - Long-Term Energy Planning: Integrate renewable-energy goals into long-term state energy planning and policy frameworks.

- **<u>Conclusion</u>**

  By implementing the recommended changes to statutes, regulations, and policies, Alaska can create a more favorable environment for large-scale renewable-energy development. Streamlined permitting, financial incentives, updated land use policies, and enhanced community engagement are crucial to attracting investment and fostering sustainable growth in the renewable-energy sector.

- **DNR Prompt:** Describe current processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects.

  - **HIF Response**: The process for investigating, conducting feasibility studies, and developing large-scale renewable-energy projects involves multiple stages (stage gates"). Each developmental stage gate addresses specific industry needs that arise during the development of a project and ensures its viability and sustainability. The key stage gates include:
    - **Project Investigation and Site Selection:**

- Initial Assessment: Identify potential sites based on renewable-resource availability (e.g., wind speed, solar irradiance, etc.), proximity to the grid, and environmentally compatible land availability.
- Preliminary Environmental Review: Conduct preliminary assessments to identify potential environmental and social impacts and possible mitigation scenarios.
- Stakeholder Engagement: Engage with local communities, government agencies, native and tribal organizations and other stakeholders to gather input and address concerns early in the process.

- **Feasibility Study:**
  - Technical Feasibility:
    - Conduct detailed resource assessments (e.g., wind measurement campaigns, solar radiation analysis, tidal, biomass availability, etc.).
    - Evaluate site-specific conditions including, but not limited to topography, soil type, ecology, weather patterns, etc.
  - Economic Feasibility:
    - Perform cost-benefit analysis, including capital expenditure (CapEx) and operational expenditure (OpEx) estimates.
    - Analyze financial models to assess return on investment (ROI), net present value (NPV), and internal rate of return (IRR).
  - Regulatory and Legal Feasibility:
    - Review local, state, and federal regulations.
    - Identify required permits and approvals and define a compliance strategy.
  - Grid Transmission Integration Study:
    - Assess the capacity of the existing grid to integrate the new energy source and identify potential issues.
    - Identify necessary grid upgrades and potential interconnection points and issues.
    - Evaluate potential Power Purchase and Sales Agreements as needed.
  - Environmental Impact Assessment ("EIA"): Conduct comprehensive EIA(s) to evaluate specific environmental impacts and propose mitigation measures.
- **Project Development:**
  - Detailed Planning and Design:
    - Develop detailed engineering designs and project plans.
    - Finalize the selection of technology and equipment.
  - Permitting and Approvals:
    - Submit applications for necessary permits and approvals from relevant authorities.
    - Address any issues raised during the permitting process and make necessary adjustments to the project plan.
  - Financing/Financeability:
    - Secure financing through a mix of equity, debt, and possibly government grants or incentives.
    - Engage with investors, project partners, banks, and other financial institutions.
  - Procurement and Contracts:

        - Issue requests for proposals (RFPs) and select contractors and suppliers.
        - Negotiate and finalize contracts for construction, equipment supply ("EPC"), and operations and maintenance (O&M) agreement(s).
    - Construction and Commissioning:
        - Mobilize resources and commence construction.
        - Monitor construction progress, ensuring compliance with design specifications and timelines.
        - Conduct testing and commissioning of the facility.
    - Operational Readiness:
        - Hire and train staff.
        - Implement O&M plans (including monitoring, reporting systems).
        - Initiate power production/energize grid connections.
- **Summary of Key processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects**:
    - Efficient Permitting Processes: Streamlined and predictable permitting processes to reduce delays and uncertainties.
    - Access to Financing: Availability of financial instruments and incentives to lower the high upfront costs of large-scale projects.
    - Advanced Technology: Continued development and deployment of advanced technologies to improve efficiency and reduce costs.
    - Grid Infrastructure: Investment in grid modernization and expansion to accommodate large-scale renewable-energy integration.
    - Policy/Political/Delegation Support: Clear and supportive policies at the federal, state, and local levels to encourage investment and development.
    - Workforce Development: Training and development programs to build a skilled workforce for the renewable-energy sector.
    - Community Engagement: Effective stakeholder engagement strategies to address local concerns and build community support.
- **<u>Conclusion</u>**

  The process of developing large-scale renewable-energy projects is complex and multifaceted, involving rigorous investigation, feasibility studies, and meticulous planning and execution. Addressing industry needs such as streamlined permitting, access to financing, and advanced technology is crucial for the successful deployment of these projects.

- **DNR Prompt:** What common hurdles to large-scale renewable energy project development exist in other states? What policies, statutes, or regulations in other states are supportive?

❖ **HIF Response**:

- **Common hurdles to large-scale renewable-energy project development in various states include:**

- Regulatory and Permitting Challenges: Lengthy and complex permitting processes can delay projects. Environmental impact assessments, local zoning laws, and other regulatory requirements can add considerable time and cost.
- Grid Integration and Infrastructure: Many regions lack the necessary infrastructure to support large-scale renewable-energy projects. Upgrading transmission lines and integrating new energy sources into the grid can be costly and time-consuming.
- Land Use and Siting: Finding suitable locations for renewable-energy projects can be challenging due to competition for land use, community opposition, and environmental concerns.
- Financial and Investment Barriers: High upfront costs, limited access to financing, and uncertainty in return on investment can deter development.
- Transmission Interconnection Issues: Connecting new renewable-energy sources to the existing grid can be complex, often requiring upgrades and coordination with utilities.
- Policy Uncertainty/Change in Political Landscape: Inconsistent or unclear policies at the state and federal levels can create uncertainty, making it difficult for developers to plan and invest.

- **Supportive policies, statutes, and regulations in other states include which help to mitigate some of the hurdles of development and foster the growth of renewable-energy projects across the United States include:**
  - Renewable Portfolio Standards (RPS): States like California and New York have ambitious RPS mandates, requiring a certain percentage of energy to come from renewable sources, which drives demand for renewable-energy projects.
  - Financial Incentives: States offer various incentives such as tax credits, grants, and low-interest loans. For instance, Massachusetts offers significant tax incentives for renewable-energy projects.
  - The Federal Investment Tax Credits are extremely helpful to incentivize new renewable buildouts as well as DOE funding opportunities.
  - Streamlined Permitting Processes: States like Texas have implemented more streamlined permitting processes to reduce bureaucratic delays and encourage development.
  - Net Metering and Feed-in Tariffs: Policies that allow renewable-energy producers/ IPPs to sell excess power back to the grid at favorable rates can incentivize investment in renewable energy.
  - Green Banks and Financing Programs: States like Connecticut and New York have established green banks to provide financing for clean energy projects, reducing financial barriers.
  - Grid Modernization Initiatives: States are investing in grid modernization to improve infrastructure and accommodate renewable-energy sources, such as California's focus on enhancing its transmission and distribution systems.
  - Community Solar/Wind Programs: Programs that allow multiple customers to share the benefits of a single solar array can broaden access to renewable energy, as seen in states like Colorado.

- **DNR Prompt:** Do DNR authorization timeframes (time between initial identification of an area to authorizations issued) align with those of other similar authorizations (e.g., other state, federal, or municipal authorizations)?

❖ **HIF Response**: When comparing Alaska to other states for Department of Natural Resources (DNR) authorization timeframes for renewable-energy projects, several factors must be considered:

- **Alaska's DNR Authorization Process does not have a "streamlined process specifically for renewable projects."**
  - Complexity and Length: Alaska's DNR processes can be complex due to the unique environmental considerations, remote locations, and the need to address the concerns of native and village issues in communities. Example- Donlin Gold Mine, etc.
  - Environmental Assessments: Significant emphasis on environmental impact assessments and consultations with local stakeholders.
  - Permitting Challenges: The rugged terrain and sensitive ecosystems often lead to extended permitting processes.
- **Other State Comparisons**
  - **California:**
    - Renewable Streamlined Processes: California has made efforts to streamline renewable-energy project permitting through initiatives like the Renewable-energy Action Team ("REAT").
    - Environmental Regulations: Stringent environmental regulations can still lead to lengthy review processes, but the state provides clear guidelines and support for developers.
  - **Texas:** (Most efficient state example)
    - Permitting Efficiency: Texas is known for its relatively efficient permitting processes due to less stringent environmental regulations and dedicated support for energy projects.
    - Infrastructure Support: Existing infrastructure and policies favor rapid development of renewable-energy projects.
  - **New York:**
    - Centralized Permitting: New York has established the Office of Renewable-energy Siting (ORES) to streamline the permitting process.
    - Rigorous Review: Despite efforts to streamline, rigorous environmental and community impact assessments can extend the timeline.

❖ **Federal and Municipal Processes:**

- NEPA Reviews: Federal projects often require National Environmental Policy Act (NEPA) reviews, which can be time-consuming and overly expensive.
- Local Permits: Municipal authorization processes can vary widely, but urban areas often have expedited processes for renewable-energy projects.
- Anchorage has not done any work in this regard yet.

❖ **Timeframes Comparison**

- Alignment with DNR and other authorizations

- Federal Authorizations: Alaska's DNR timeframes align closely with federal authorization timeframes, particularly for projects requiring extensive environmental review.
- State Authorizations: Compared to other states, Alaska's timeframes can be longer due to its unique environmental and logistical challenges.

❖ **DNR Prompt:** How should we define "large-scale" in the context of renewable energy feasibility assessment and development?

❖ **HIF Response**: Defining "large-scale" in the context of renewable-energy feasibility assessment and development typically involves considering several factors:

- Capacity:
  - Wind Projects: Often, a large-scale wind farm is one with a capacity of greater than 100 MW.
  - Solar Projects: Large-scale solar power plants typically have capacities of 10 MW or greater.
- Geographical Footprint: Large-scale projects usually cover extensive land areas. For instance, utility-scale solar farms can spread over hundreds or even thousands of acres.
- Economic Impact: Large-scale projects involve significant capital investment, often in the range of tens to hundreds of millions of dollars.
- Energy Output: The amount of energy generated and supplied to the grid is another defining characteristic. Large-scale projects generally aim to produce substantial amounts of energy sufficient to power thousands of homes or more.
- Project Scope and Complexity: These projects usually involve complex logistics, advanced technology, substantial infrastructure, and often require coordinated efforts across multiple stakeholders, including government entities, utilities, and private companies.

Traditionally, a "large-scale" renewable-energy project can be defined as one that has significant capacity (e.g., 10 MW or greater for solar, 100 MW or greater for wind), covers a large geographical area, involves considerable financial investment, and produces substantial energy output with complex planning and implementation processes.

❖ **DNR Prompt:** Would it be useful for DNR to present existing processes at the August forum?

❖ **HIF Response**: Yes, it would be extremely helpful for DNR to present and have other agencies present at the August forum.

General comments for eFuels Projects

There is a global energy transition happening and Alaska has the resources to not only compete but be a major global provider of carbon-neutral eFuels. For decades, Alaska has looked underground for its natural resources; with the global energy transition, Alaska can now look above ground for its energy resource opportunities.

There are three key inputs to carbon-neutral fuels:

1. Renewable Power
    a. Wind, biomass, solar, geothermal, and tidal are major renewable sources.
2. Biogenic CO2
    a. This is carbon dioxide from a non-fossil fuel source. This can be a biogenic source like wood waste or direct air/ocean capture.
    b. For CO2 from wood waste, the wood waste has to be certified as actual waste, it cannot be live trees cut down to grind into woodchips.
3. Water
    a. Water can be from any source but does have to be purified prior to the electrolysis process.

Alaska has significant wind resources that can be harnessed for the critical power component in eFuels production. Unfortunately, much of the good wind resource is over land that is designated as a park, preserve, or sanctuary of some sort, similarly for the sources of biomass.

The State can play an expediting role developing its renewable resources; the following actions could be considered:

1. Power
    a. State land to be used as land for windfarms.
        i. Unlike resource extraction projects, windfarms can be considered “temporary” in that they can be removed after a 20-to-30-year life.
        ii. The State could accelerate permitting efforts by commencing or helping shepherd the permitting of windfarms on State land.
    b. To obtain project financing for wind projects, two-years of MET tower data is needed at the proposed windfarm site. The State could accelerate windfarm development by commencing MET tower data collection efforts.
    c. Similarly for solar resource which can augment the reduced wind during summer periods.
    d. Unifying the electric transmission grid under AEA would reduce the commercial/economic barriers to enable geographically diverse renewable power projects to be aggregated seamlessly.
    e. Allowing the electric utilities to sell their renewable power component to eFuels projects and replace the power with the gas-fired units during times of low wind. (Utilities have a goal of renewable power, but the eFuels export project must have renewable power or their product will not qualify for the renewable credits available worldwide.)

2. Biogenic CO2
    a. Wood waste can be an excellent source of biogenic CO2. Collecting wood waste from the forests can significantly improve the health of the forests and reduce the incidents of forest fires.
    b. The State can greatly assist in the biomass collection effort on State lands.
    c. With a large eFuels export project, the State can harvest biomass from State lands and use the road, rail, and waterways to transport the biomass to a central collection point for conversion to renewable power and biogenic CO2.
    d. Excess biogenic CO2 can be sequestered and traded into a "book and claim" system for use by global eFuels projects that have industrial CO2 that they would like to trade for biogenic CO2.
        i. The State should seek primacy in the authority to permit the disposal wells needed to sequester CO2.
        ii. The State should claim authority over the pore space needed to store and sequester the CO2, both in depleted reservoirs and aquifers.
        iii. The pore space in depleted reservoirs should not go to the resource extraction companies that have already received the benefit of their bargain through resource extraction.
3. Water
    a. Sufficient water is needed for the electrolysis process to extract hydrogen from water. The State should ensure adequate and expedited permitting for water resource.

Copper Valley ELECTRIC
A Touchstone Energy® Cooperative

August 15, 2024

From: Jaime Matthews, Chief Executive Officer
JMatthews@cvea.org

SUBJECT: Comments to Alaska Department of Natural Resources
Due Thursday, August 15

What information is DNR requesting?

DNR is requesting information from the industry, subject matter experts, and the public regarding the statutes, regulations, and policies related to authorizing the use of state land and resources for the development of large-scale renewable energy projects. Specifically, we invite industry, subject matter experts, and the public to respond to the following prompts:

Q: What changes to the existing statutes, regulations, or policies that authorize the use of state land for large-scale renewable energy development are needed to foster future development in Alaska?

A: A specific process and timeline for utilities. Need someone to communicate with the utilities about their projects. Clear guidelines on just what is needed from the start with a realistic timeline. A course of action utilities can take when timelines are not being met by DNR.

Q: Describe current processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects.

A: Land use is a majority of our issues. DNR has repeatedly shown they are unable to process routine permits in a reasonable time. We would be extremely concerned if we had to process a large-scale projects.

Q: Identify authorization process hurdles currently encountered during large-scale renewable energy project development.

A: An example is CVEA's access permit for our Allison Creek Hydroelectric Project. This draft entry authorization was issued in 2013. We currently received another extension, and a majority of the reasons have been:

- Shortage of DNR staff
- Turnover and different people reviewing the permits with no handoff between them

Another example is where the transmission line for the Allison Creek project was built. This

was bult on a large cliff to avoid the Alaska DNR process because of timing. Now CVEA has a very difficult line to maintain on the side of the mountain.

Dayville road project; we are in a three-year period of working with DNR. Last year the person we were communicating with quit, and all communications stopped. We have experienced this multiple times.

The permit process is made worse by the absence of communications from DNR staff. They are unresponsive to emails and require multiple phone calls to keep them progressing on a task.

Q: What common hurdles to large-scale renewable energy project development exist in other states? What policies, statutes, or regulations in other states are supportive?

A: Lack of response from DNR

Q: Do DNR authorization timeframes (time between initial identification of an area to authorizations issued) align with those of other similar authorizations (e.g., other state, federal, or municipal authorizations)?

A: The DNR timeframes are longer by years. It is unbelievable how slow and unresponsive the DNR is.

Q: How should we define "large-scale" in the context of renewable energy feasibility assessment and development?

Q: Would it be useful for DNR to present existing processes at the August forum?

A: Yes, absolutely as it does not seem clear and is not consistent. We are interested in not only their existing process and timeline but what the accountability is to hold them to this timeline.

August 16, 2024

VIA email: DNR.RenewablesReport@alaska.gov

Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
Attn: Marcella Dent
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579

RE: Alaska Department of National Resources Call for Information pursuant to Administrative Order 355: Large-Scale Renewable Energy Process Review

Dear Ms. Dent,

In 2022, with funding from the State of Alaska, the Alaska Center for Energy and Power (ACEP) at the University of Alaska Fairbanks formed the Cook Inlet Tidal Energy Working Group. This working group sought to characterize and discuss the opportunities for harnessing tidal energy from Cook Inlet, and was composed of tidal energy leaders; federal agencies and regulators; state and local regulatory agencies; local utilities; tidal energy scientists from Alaska universities and national labs; as well as local consultants and non-profit organizations. ACEP intends to issue summary reports of the working group topic areas. However, considering the Alaska Department of Natural Resources (ADNR) Call for Information under Administrative Order 355, the Permitting and Regulatory Landscape section of the report has been issued in advance to coincide with current state agency discussions. This section, as provided, should address many of the questions as posed in the aforementioned Call for Information.

The Permitting and Regulatory Landscape Report intends to highlight the authorizations and processes required to develop tidal energy projects in Cook Inlet. Whereas this document was intended to explore tidal energy within Cook Inlet, key processes and recommendations described in this document can be applied to other offshore- and land-based renewable technologies and energy infrastructure development in other parts of Alaska. Understanding the complex web of regulatory and permitting requirements and how they interact, overlap, and in some cases conflict, is critical for the success of Alaska renewable energy development.

We and the authors of this report appreciate the opportunity to provide comments and support ADNR's efforts to review current state statutes and regulations and propose recommendations to facilitate large-scale renewable energy project development. If ADNR has any questions or concerns, please do not hesitate to contact me.

Sincerely,

Ben Loeffler
Pacific Marine Energy Center Co-Director
Alaska Center for Energy and Power
University of Alaska Fairbanks

Permitting and Regulatory Landscape for the Development of Cook Inlet Tidal Energy

Input to the Cook Inlet Tidal Energy Working Group

Lead Organizations:
Cook Inlet Tidal Energy Working Group
Alaska Center for Energy and Power, University of Alaska, Fairbanks

Technical Writing:
Julieanna Potter, Rivers Edge Consulting
Jonathan Colby, Streamwise Development

With contributions from the Cook Inlet Tidal Energy Working Group, facilitated by the Alaska Center for Energy and Power at the University of Alaska Fairbanks

Technical Report
UAF/ACEP/TP-03-0002
August 2024

Suggested Citation:
J. Potter, J. Colby. "Permitting and Regulatory Landscape for the Development of Cook Inlet Tidal Energy: Input to the Cook Inlet Tidal Energy Working Group," Alaska Center for Energy and Power, University of Alaska, Fairbanks, 2024. UAF/ACP/TP-03-0002. DOI: 10.5281/zenodo.13333150

Notice

Acknowledgements and Funding

The authors wish to thank Levi Kilcher and Katie Peterson from the National Renewable Energy Laboratory and members of the Cook Inlet Tidal Energy Working Group for their contributions leading to the publication of this report. Additionally, final report reviews and technical edits were provided by Ben Loeffler, Emilia Hernandez, Amanda Byrd, and LJ Evans from the University of Alaska Fairbanks.

Information and recommendations presented in this report are the authors' alone. The reviewers provided ongoing feedback throughout the project but the views in the report are solely those of the authors and do not represent the views of reviewers or their employers. Information presented in this report is for informational purposes only and should not be taken as legal or professional regulatory advice.

ACEP's facilitation of the Cook Inlet Tidal Energy Working Group was funded by State of Alaska FY23 economic development capital funding. The working group also funded technical input from the National Renewable Energy Lab and Pacific Northwest National Lab and benefitted specifically from in-kind contributions of staff time supported by Rivers Edge Consulting.

Glossary of Abbreviations and Acronyms

ACEP	Alaska Center for Energy and Power
ACHP	Advisory Council on Historic Preservation
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
ADNR	Alaska Department of Natural Resources
ATEP	American Tidal Energy Project
APDES	Alaska Pollution Discharge Elimination System
AR	Allocation Round
BOEM	Bureau of Ocean Energy Management
CE	Categorical Exclusion
CfD	Contract for Difference
CFR	Code of Federal Regulations
CIRI	Cook Inlet Region, Inc.
CWA	Clean Water Act
DEH	Division of Environmental Health
DMLW	Division of Mining, Land, and Water
DOE	Department of Energy
DOG	Division of Oil and Gas
DOW	Division of Water
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EFH	Essential Fish Habitat
ES	Environmental Statement
ESA	Endangered Species Act
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
FERC	Federal Energy Regulatory Commission
FWCA	Fish and Wildlife Coordination Act
GWh/yr	gigawatt hours per year
HPMP	Historic Properties Management Plan

IEA-OES	International Energy Agency-Ocean Energy Systems
IHA	Incidental Harassment Authorization
KPB	Kenai Peninsula Borough
KRC	Kenai River Center
LOA	Letter of Authorization
MDZ	Maritime Defense Zone
MMPA	Marine Mammal Protection Act
MOA	Memorandum of Agreement
MRE	Marine Renewable Energy
MW	megawatts
MWh	megawatts per hour
NEPA	National Environmental Policy Act
NHPA	National Historic Properties Act
NMFS	National Marine Fisheries Service
NOI	Notice of Intent
NWP-5	Nationwide Permit 5
NWP-52	Nationwide Permit 52
NY	New York
OHA	Office of History and Archaeology
OPMP	Office of Project Management and Permitting
ORPC	Ocean Renewable Power Systems
PA	Programmatic Agreement
PATON	Private Aids to Navigation
PCN	Pre-Construction Notification
PEA	Programmatic Environmental Assessment
PEIS	Programmatic Environmental Impact Statement
RCA	Regulatory Commission of Alaska
RITE	Roosevelt Island Tidal Energy Project
ROD	Record of Decision
R-STEP	Renewable Energy Siting through Technical Engagement Planning
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
TWh	terawatt hour
WOTUS	Waters of the United States

WPTO	Water Power Technologies Office
UK	United Kingdom
USACE	U.S. Army Corps of Engineers
USCBP	U.S. Customs and Border Protection
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service

Executive Summary

Introduction

Cook Inlet, recognized as the most important tidal energy resource in the nation, holds approximately one-third of the United States' technically recoverable tidal energy resources.[1] Its immediate proximity to Alaska's primary electricity grid – the Alaska Railbelt – which serves 65% of the state's population, makes it an ideal candidate for tidal energy development.

In 2022, with funding from the State of Alaska, the Alaska Center for Energy and Power (ACEP) at the University of Alaska Fairbanks formed the *Cook Inlet Tidal Energy Working Group*. The working group sought to characterize and discuss the opportunities for harnessing tidal energy from Cook Inlet and was composed of tidal energy leaders; federal agencies and regulators; state and local regulatory agencies; local utilities; tidal energy scientists from Alaska universities and national labs; as well as local consultants and non-profit organizations. The working group proposed an aggressive goal: to install 100 megawatts (MW) of tidal energy capacity by 2035. Achieving this goal would require rapid increases in investments in tidal energy demonstration projects. Six working group meetings were held from December 2022 through May 2023 with the objective of discussing and documenting concerns, challenges, and opportunities in the areas of data needs and gaps, permitting and regulatory challenges, resource assessments, and cost projections. ACEP intends to issue summary reports on all working group topic areas. However, due to the time-sensitive nature of this content, this Permitting and Regulatory Landscape report has been issued in advance to coincide with current state agency discussions.

Permitting and Regulatory Landscape

This Permitting and Regulatory Landscape Report intends to highlight the authorizations and processes required to develop tidal energy projects in Cook Inlet. The goal of this report is to support knowledge and information-sharing while providing context, recommendations, and opportunities for permitting and regulatory processes. This report explores the regulatory and permitting landscape for tidal energy in Cook Inlet and can serve as a reference in energy planning and legislation development. Key aspects include:

- **Regulatory Framework:** The process of obtaining permits, authorizations, and licenses for tidal energy infrastructure installations in Cook Inlet will involve extensive coordination with a variety of government regulatory agencies and stakeholders. Understanding how these regulations interact is vital for project advancement.

- **Permitting Process:** The permitting process can be broadly divided into two main categories: "Grid-Connected" and "Non-Grid Connected" installations, each offering several pathways depending on the project specifics such as type, size, and intent of the proposed device(s) and location and duration of deployment. To meet the working group goal of 100 MW of tidal energy by 2035, permitting efforts are likely to include multiple pathways under both categories occurring concurrently.

- **State-Level Coordination:** Within Alaska waters, project developers will need to navigate a detailed set of state and local regulations, policies, and procedures. A major infrastructure project may require coordination with upwards of ten state regulatory divisions positioned within three departments. Additionally, the project's potential cable routes and onshore infrastructure may cross a myriad of surface landowners within the Kenai Peninsula Borough (KPB), including private landowners, state and federal agencies, Alaska Native Corporations, or village corporations. Importantly, and justifiably, each of these entities has its own

[1]Kilcher, Levi, Michelle Fogarty, and Michael Lawson. 2021. Marine Energy in the United States: An Overview of Opportunities. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5700-78773. https://www.nrel.gov/docs/fy21osti/78773.pdf.

objectives and missions, which may align with or oppose the swift development of tidal energy.

- **Strategic Collaboration:** Regardless of installation type, permitting tidal energy infrastructure will involve many of the key regulatory agencies and stakeholders and necessitate compliance with the National Environmental Policy Act (NEPA)[2], underscoring the importance of a collaborative and strategic approach to permitting. This approach is essential to reduce cost, avoid duplicated efforts and project delays, and effectively manage agency workloads.

Path Forward

Whereas this document was intended to explore tidal energy within Cook Inlet, key processes and recommendations described in this document can be applied to other offshore- and land-based renewable technologies and energy infrastructure development in other parts of Alaska. Understanding the intricate network of regulatory and permitting requirements, along with their interactions, overlaps, and occasional conflicts, is essential for the success of renewable energy development in Alaska. This document highlights key areas that can accelerate the commercialization of tidal energy win Cook Inlet, fostering innovation and potentially expanding tidal energy deployments across Alaska. A complete list of recommendations for the State of Alaska and/or project developers is detailed in Section 7.0 and summarized below:

- Promote collaborative state and federal permitting processes through programs such as the Office of Project Management and Permitting (OPMP).
- Use a flexible and responsible management approach for project permitting to accommodate evolving project needs and insights.
- Initiate a comprehensive state-funded assessment to gather and process information pertinent to tidal energy development in Cook Inlet, culminating in a published report that will act as a central resource for all relevant stakeholders.
- Consider offering state funding support to meet the obligatory cost-sharing stipulations commonly associated with Federal grants, aimed specifically at supporting projects and innovations within Alaska.
- Establish a state-directed collaborative to apply for the Department of Energy (DOE) Renewable Energy Siting through Technical Engagement Planning (R-STEP) program.
- Consider state-level legislation and/or revenue mechanisms to enable the development of tidal energy in Cook Inlet and potentially across Alaska.

[2] NEPA compliance is required for all activities authorized by federal permits or supported by federal funds.

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1 Introduction

Cook Inlet is the most important tidal energy resource in the United States, containing approximately one-third of the country's theoretically and technically recoverable tidal energy resources. Extending to Anchorage, Cook Inlet offers immediate proximity to the state's primary transmission corridor, the Railbelt, which supplies electricity to 65% of Alaska's population.[3] Currently, fossil fuels generate approximately 80% of the Railbelt's power, which the Alaska Department of Natural Resources (ADNR) forecasts will no longer meet local demand by 2027.[4]

Tidal energy resources can be quantified as theoretical, technical, or practical. The theoretical potential of Cook Inlet, which assumes idealized technology and unlimited deployment, is estimated at 160,000 terawatt hours (TWh) per year[5]. However, considering the limitations of current technologies and practical deployment limits, the technically recoverable energy is estimated at 80,000 TWh annually[6]. This amount represents a substantial 15-fold increase over the Railbelt's electricity consumption of approximately 5.2 TWh per year[7,8]. The immense potential of Cook Inlet's tidal power has been recognized for decades, but it is only within the past twenty years that dam-free technologies for capturing this energy have been developed and tested. This advancement offers significant opportunities for Alaska and energy developers to leverage the substantial tidal forces of Cook Inlet to meet the Railbelt electricity demand. Additionally, the surplus energy generated could be used in the production of hydrogen or other valuable commodities. The development of tidal energy in Cook Inlet promises to enhance Alaska's energy system by leveraging local resources to bolster resilience, independence, and security, while positioning Alaska as a global leader in tidal energy innovation.

To harness Cook Inlet's significant energy resource, regulators and tidal energy developers must consider the economic, cultural, and environmental context of the region. Encircling Alaska's most densely populated area, Cook Inlet provides critical access to the Port of Alaska, a vital hub processing approximately half of the state's inbound cargo. Located within Cook Inlet Region, Inc. (CIRI) lands, the inlet is not only a center of geological activity, marked by active volcanoes and oil and gas platforms, but also a region rich in cultural heritage. It is home to five federally recognized Alaska Native tribes and several protected areas including national parks and wildlife refuges. Its waters are teeming with life, supporting seven marine mammal species – including the endangered beluga whale, Steller sea lion, and northern sea otter – and a diverse fish population that includes salmon, herring, smelt, cod, sablefish, rockfish, and halibut. These fisheries are a cornerstone of local commerce, subsistence, and recreation, deeply woven into the state's economic and cultural identity. Moreover, Cook Inlet presents formidable operational challenges – including fast currents, extreme and abrasive sediment loads, constantly shifting seabeds, and severe icing in the winter – creating a particularly harsh environment for deploying and maintaining offshore energy infrastructure. Despite these challenges, the complex and dynamic environment of Cook Inlet represents an ideal location for advancing tidal

[3] Renewable Portfolio Standard Assessment for Alaska's Railbelt | NREL
[4] State of Alaska, Department of Natural Resources, Division of Oil and Gas 2022-cook-inlet-gas-forecast-report.pdf
[5]Haas et al., Assessment of Energy Production Potential from Tidal Streams in the United States (Georgia Tech Research Corporation 2011).
[6] Kilcher, Levi, Michelle Fogarty, and Michael Lawson. 2021. Marine Energy in the United States: An Overview of Opportunities. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5700-78773. https://www.nrel.gov/docs/fy21osti/78773.pdf.
[7] U.S. Energy Information Administration. 2023. "Alaska State Energy Profile." Accessed May 25, 2023. https://www.eia.gov/state/print.php?sid=AK.
[8] Readers are encouraged to review Schwarz, Marty, Ben McGilton, Levi Kilcher, Kelly Gjestvang, and Greg Stark. 2024. Evaluating the Impact of Tidal Energy in the Cook Inlet on Alaska's Railbelt Electrical Grid. Golden, CO: National Renewable Energy Laboratory. NREL/TP-5700-85943. https://www.nrel.gov/docs/fy24osti/85943.pdf.

energy. The premise is that if tidal energy can economically be produced in Cook Inlet in an environmentally safe manner, it could theoretically be successful anywhere in the country.

This Permitting and Regulatory Landscape Report intends to highlight the key authorizations and processes required for the installation of a tidal energy device(s) and/or any associated monitoring equipment in Cook Inlet. The goal of this report is to support knowledge and information sharing while providing context, recommendations, and opportunities for permitting and regulatory processes.

2 Key Regulatory Agencies

The strongest currents in Cook Inlet are found within a natural restriction formed by two opposing peninsulas, the East and West Forelands, see Figure 1. This area, also known as Upper Cook Inlet, is located within state waters and has been the primary focus for tidal development due to its renowned currents and proximity to existing infrastructure. It represents the most populated watershed in Alaska, with shoreline bordered by the Municipality of Anchorage, Kenai Peninsula Borough, and Matanuska-Susitna Borough.

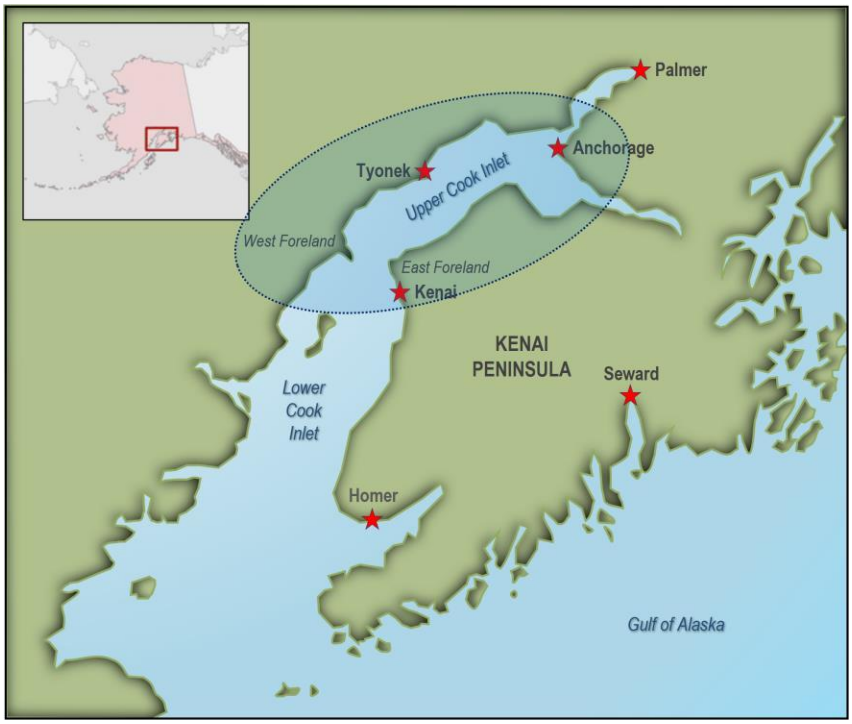

Figure 1: Upper Cook Inlet Vicinity Map

Permitting and regulatory requirements for each phase of tidal development in Cook Inlet (i.e. feasibility, testing, construction, operation, etc.) may vary widely; however, key agencies likely to be involved are provided in Figure 2. Note this list is not intended to be exhaustive nor represent every potential tidal development project. Alaska-based construction, specifically within the dynamic Cook Inlet waters, presents myriad operational and logistical hurdles that each require their own permitting and regulatory review. Moreover, this report is focused on tidal development in Upper Cook Inlet, which is located within state waters. For projects located within federal waters, developers must also engage with the Bureau of Ocean Energy Management (BOEM). The intricate network of activities, diverse

wildlife, and overlapping jurisdictions within Upper Cook Inlet requires continuous and effective collaboration with various regulatory agencies at the federal, state, and local level.

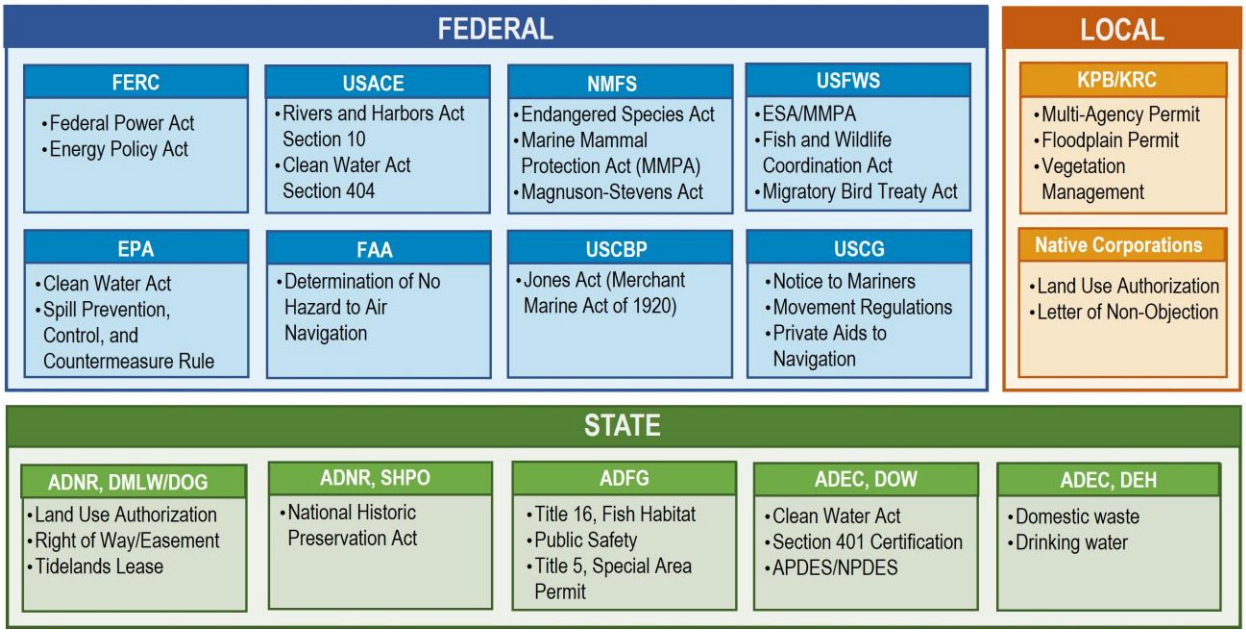

Figure 2: Agencies that may be involved in permitting Upper Cook Inlet tidal energy devices and projects.

3 National Environmental Policy Act (NEPA)

The development of tidal energy in Cook Inlet, including any early research, data collection, or feasibility studies, will require compliance with the National Environmental Policy Act (NEPA). Under NEPA, federal agencies must evaluate the environmental impacts of their proposed activities prior to decision-making. The NEPA process is triggered by activities that either (1) occur within federal lands/waters, (2) require the issuance of a federal permit, or (3) use federal funds. Because the Upper Cook Inlet is located within state waters, compliance with the NEPA process would likely be initiated by the issuance of a federal permit, preliminary license, or distribution of federal funds. This report aims to describe the general NEPA process as it applies to Cook Inlet tidal development. Additional information regarding NEPA can be found within the *Citizen's Guide to NEPA* on the Council on Environmental Quality (CEQ) website: https://ceq.doe.gov/.

3.1 Lead Agency and Consultations

Under NEPA, a designated lead agency oversees the preparation of environmental analyses and documentation to ensure compliance with the Act. In scenarios involving multiple federal agencies, which is likely to be the case in Cook Inlet tidal development, the lead agency is selected based on expertise, regulatory authority, and capacity to manage the process effectively. This role is essential for orchestrating the environmental review process and guaranteeing comprehensive consideration of all environmental impacts. The lead agency must consult other agencies, governments, and private persons when their involvement is reasonably foreseeable. For the development of tidal energy in Cook Inlet, the U.S. Army Corps of Engineers (USACE), Federal Energy Regulatory Commission (FERC), or Department of Energy (DOE) are likely candidates to assume the lead role in the NEPA process. It is crucial to identify and engage the project's lead agency early in the process to ensure compliance with NEPA and meet project timelines. Consultations and corresponding authorizations likely to be required for tidal energy activities in Cook Inlet are detailed in Figure 3.

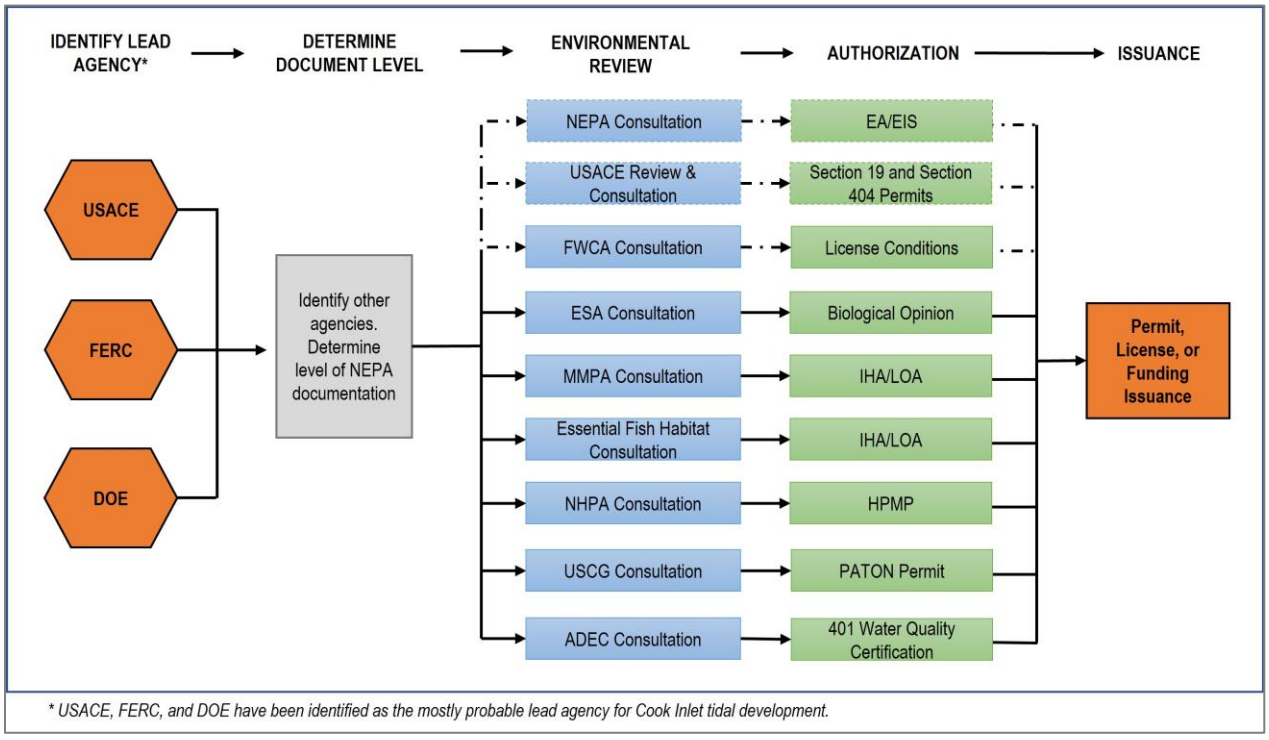

Figure 3: Consultations and corresponding authorizations likely to be required during the NEPA process.

The NEPA process requires a collaborative approach involving multiple federal and state agencies. These agencies will likely request further details from the developer to facilitate their environmental review, including, but not limited to, archeological/cultural assessments and acoustic impact studies. Considering the expenses, logistical demands, and time required for data gathering and analysis within the confined geographic area of Cook Inlet, adopting a cooperative and preemptive strategy could prove beneficial and is discussed further in Section 7.0.

3.2 NEPA Assessment Levels

There are three levels of analysis a lead agency may use under NEPA: Categorical Exclusion (CE), Environmental Assessment (EA), and Environmental Impact Statement (EIS). Key decisions for determining which level of analysis required are shown in Figure 4.

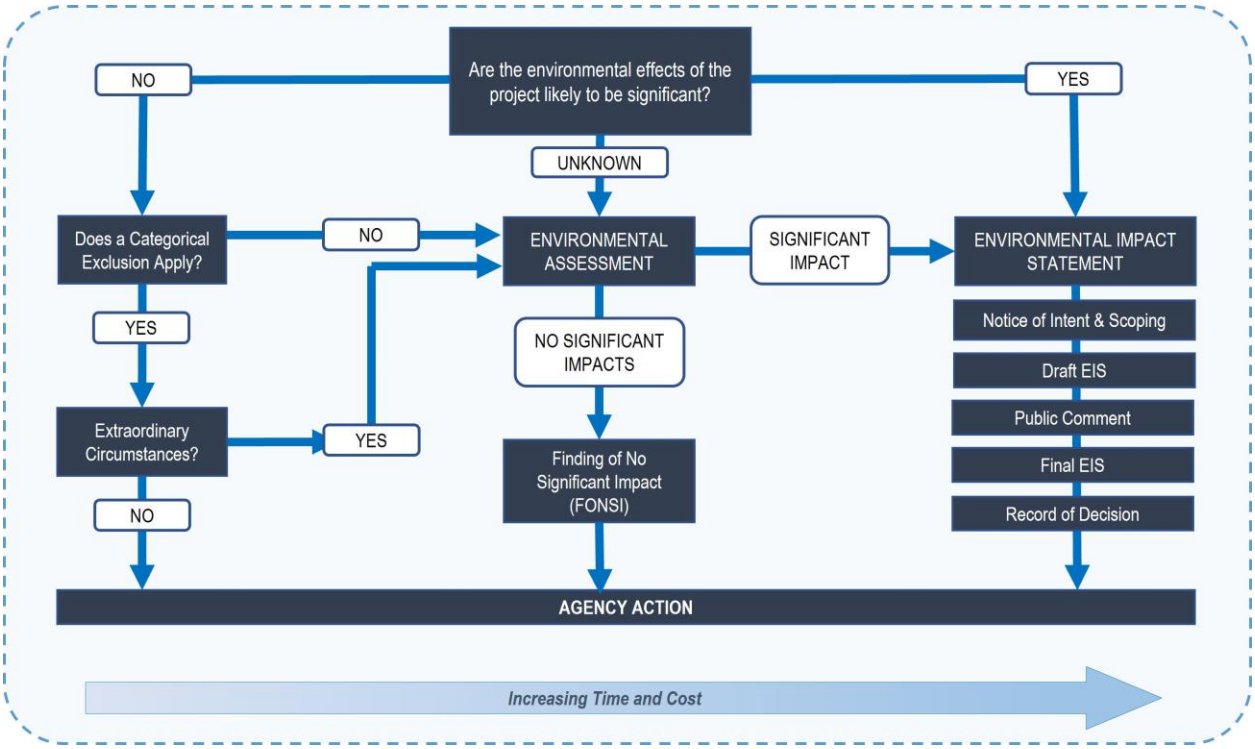

Figure 4: Overview of the NEPA Process.

3.2.1 Categorical Exclusions

The most expedited process under NEPA is the application of a CE, as outlined in Appendix B to Subpart D of 10 Code of Federal Regulations (CFR) Part 1021. Each federal agency has its own specific CEs. However, should the lead agency lack a CE for a proposed project, it can adopt one from another federal agency. This adoption must adhere to the adopting agency's guidelines, which typically involve confirming the CE's relevance, soliciting public feedback, and formally documenting the adoption. Documentation must include a determination that the proposed action is substantially the same as those covered by the original CE and that no extraordinary circumstances exist that would require a more detailed EA or EIS. This process was recently streamlined under the Fiscal Responsibility Act of 2023 and represents a significant opportunity for tidal development permitting in Cook Inlet.

Notably, the DOE's CE B5.25, which pertains to small-scale renewable energy research, development, and pilot

projects in aquatic environments, is accessible to developers.[9] However, its use is designated for temporary installations and is prohibited within areas of high biological sensitivity without explicit permission from the lead agency. While CE B5.25 could potentially apply to initial tidal development efforts in Cook Inlet, its use is limited and contingent upon approval from the project's lead agency and consultation with National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). It is important to note that no CE exists that fully supports large-scale tidal energy projects; to meet the ambitious goal of generating 10 MW of tidal energy by 2035, an EA or EIS would be required.

3.2.2 Environmental Assessment

An EA is a concise document that includes the purpose and need of the proposal, proposed alternatives, and a brief review of the environmental impacts. The assessment culminates in either a Finding of No Significant Impact (FONSI), which indicates minimal environmental consequences, or, if substantial environmental impacts are anticipated, the initiation of an EIS. Under the Fiscal Responsibility Act of 2023, the EA process must be completed within a one-year timeframe, starting from the date the agency decides to undertake an EA and concluding with the publication of an EA/FONSI.

3.2.3 Environmental Impact Statement

Federal agencies prepare an Environmental Impact Statement (EIS) if the environmental impacts of a proposed action are likely to be significant. The EIS process includes several key steps: the issuance of a Notice of Intent (NOI) to prepare an EIS, releasing a Draft EIS for public comment, finalizing a Record of Decision (ROD), and making a final agency decision. An EIS is more detailed than an EA and includes a thorough examination of viable alternatives and evaluates the cumulative effects of the proposed action in conjunction with all other current and anticipated developments within the project's vicinity. In areas like Cook Inlet, where there is a convergence of oil and gas exploration, commercial fishing, tourism, and maritime industries, distinguishing between an EA and EIS is crucial. According to the Fiscal Responsibility Act of 2023, the EIS must be completed within a two-year timeframe, starting from the release of the NOI to the signing of the ROD. Typically, the groundwork for an EIS is set into motion well before the NOI is published. This early phase requires extensive preparation and could result in a timeline for the developers that exceeds two years.

[9] https://www.energy.gov/nepa/articles/10-cfr-1021-national-environmental-policy-act-implementing-procedures-doe-2024 [Accessed 8/2024]

4 Permitting Categories and Pathways

Federal permits required for tidal energy development in Cook Inlet can be broadly divided into two categories: "Grid-Connected Installations" and "Non-Grid Connected Installations." Both categories allow for multiple permitting pathways depending on the type, size, location, and intent of the proposed device(s). Figure 5 provides a simplified overview of the two categories and their associated permitting pathways, displaying a gradient of increasing time and cost as the complexity of the permitted work increases. The *Marine Energy Environmental Toolkit for Permitting and Licensing* is an additional tool for project developers to access, review, and compile relevant regulation, information, and available literature.[10] To achieve the goal of 100 MW of tidal energy by 2035, permitting efforts are likely to include multiple pathways under both categories occurring simultaneously. These pathways share many of the key regulatory agencies and will each require evaluation under NEPA, making the need for a collaborative and thoughtful permitting approach critical to reduce cost, avoid duplicated efforts and project delays, and minimize agency workloads.

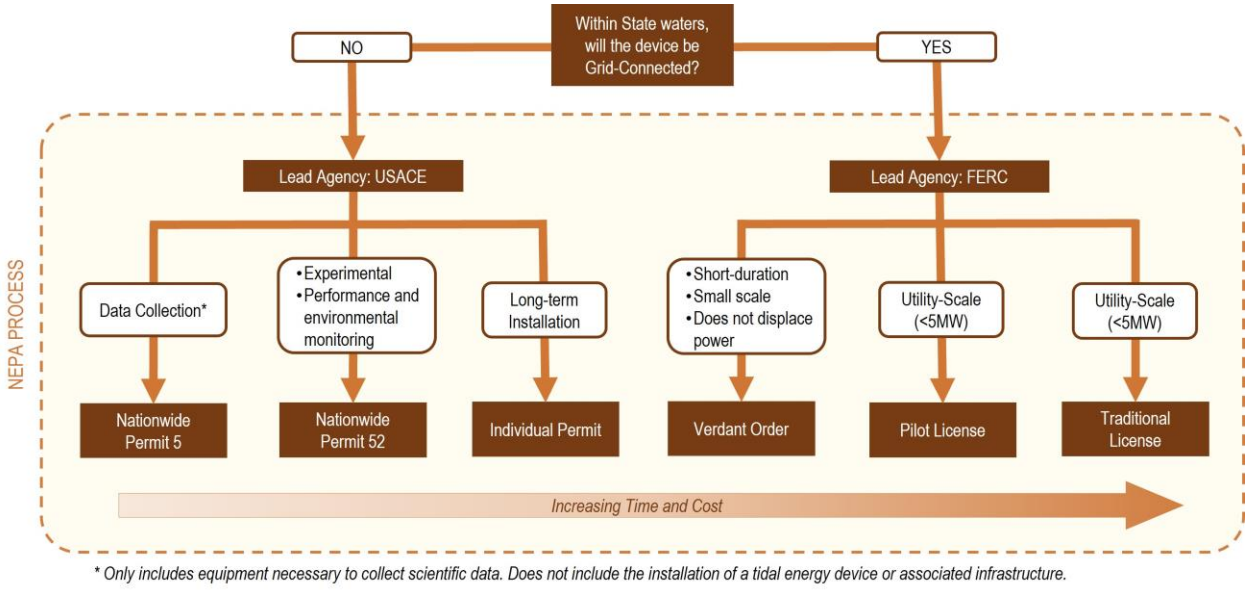

Figure 5: Theoretical State-Water Permitting Pathways.

4.1 Non-Grid Connected Installations

Although located in state waters, Upper Cook Inlet is a navigable Water of the United Status (WOTUS) under the Clean Water Act (CWA), requiring USACE engagement and permitting under Section 10 of the Rivers and Harbors Act. USACE typically serves as the lead agency for NEPA permitting for any non-grid connected projects in state waters within Cook Inlet. However, as discussed in Section 3.1, the lead agency may vary based on the type and funding associated with a particular project.

Regardless of lead agency, the classification of Cook Inlet as a navigable WOTUS requires USACE permitting and authorization for most tidal energy development activities. USACE authorizations likely to be applicable to tidal development in Cook Inlet include Nationwide Permit 5 (NWP 5), Nationwide Permit 52 (NWP 52), and Individual Permits.

[10] https://marineenergy.app.

4.1.1 Nationwide Permit 5

The collection of baseline resource assessment data (i.e. velocity, turbidity, turbulence, ice floes, etc.) is critical for developers to assess, scope, and establish the feasibility of a project. In general, the use of monitoring equipment is eligible for the USACE NWP 5: Scientific Monitoring Devices. In many areas of the U.S., NWPs can significantly streamline federal permitting efforts; however, because Cook Inlet is critical habitat for select endangered species, the environmental impact of this type of data collection should not be underestimated. Nationwide Permit General Condition 18 stipulates "…no activity is authorized under any NWP which 'may affect' a listed species or critical habitat, unless ESA section 7 consultation addressing the consequences of the proposed activity on the listed species or critical habitat has been completed." In Cook Inlet, the use of certain scientific monitoring devices[11] or deployment methods[12] may trigger additional authorizations and/or mitigation measures under NMFS and USFWS. Non-federal permittees must submit a pre-construction notification (PCN) to USACE and consult with NMFS and USFWS to ensure compliance with the requirements of the ESA. Federal permittees must follow their internal procedures for consultation under NEPA. This added layer of complexity demonstrates the finer intricacies of Cook Inlet permitting and the need for experienced permitters in order to avoid lengthy and potentially costly delays.

4.1.2 Nationwide Permit 52

Non-grid connected projects in state waters that are "experimental" and used "to collect information on their performance and environmental effects" can benefit from the use of NWP 52: Water-Based Renewable Energy. NWP 52 is a relatively new permit, that includes the construction, expansion, modification, or removal of water-based wind, water-based solar, wave energy, or hydrokinetic renewable energy generation pilot projects and their attendant features. Notably, attendant features include land-based collection and distribution facilities, control facilities, roads, parking lots, and stormwater management facilities. NWP 52 is likely to be a useful permitting mechanism in Cook Inlet to quickly begin testing tidal devices, however, structures authorized under NWP 52 must be removed at project completion unless they are authorized by a separate USACE authorization. As with NWP 5, NWP 52 would require consultation with NMFS and USFWS.

4.1.3 Individual Permit

Long-term tidal device installation for consumption by an end-user and not connected to a utility (interstate) grid, or the conversion of a pilot project to a long-term non-grid connected installation, would require authorization under a traditional USACE Individual Permit. Individual permits differ from NWPs in that they require a full public interest review of an individual application. The public notice, usually lasting 30 days, is distributed to all known interested stakeholders and guides the permit decision. The Individual Permit process requires a full NEPA review for the proposed project and consultation with other federal and state agencies. Under EPA's CWA 404(b)(1) Guidelines, USACE may only permit the least environmentally damaging practicable alternative proposed by the applicant, making the consultation and mitigation negotiations critical for permit issuance and project success. Early stakeholder engagement may be crucial to establish practicable alternatives that can garner public support.

4.2 Grid-Connected Installations

Any grid-connected project will require coordination and permitting through FERC who will serve as the lead-agency for the NEPA process. The required authorizations and timeline for receiving authorization under FERC will differ based on project scope and may include the Verdant Order, Pilot License, or Traditional License. Importantly, grid-connected tidal energy research and development in Cook Inlet, a navigable WOTUS, is likely to still require permitting and authorization under USACE in addition to FERC licensing.

[11] For example, the auditory range of marine mammals can span 10 Hz to 200 kHz. Instruments operating within this range require more detailed review during permitting.

[12] Some examples: Buoy lines may present entanglement risk. Surface presence may impact navigation. Vessel operations for deployment and retrieval will need marine life avoidance procedures.

4.2.1 Verdant Order

For short-duration, small-scale projects within state waters that connect to the utility grid but do not displace power from the grid, the FERC Verdant Order is an important viable path to encourage initial tidal energy device deployments within Cook Inlet. As succinctly summarized by Stoel Rives LLP in 2008, "Under the 2005 'Verdant Order,' a developer does not need a FERC license for a project if (a) it is testing an experimental technology for a short period of time for the purpose of conducting studies and (b) any power generated from the test facility is not transmitted into, and does not displace power from, the national energy grid. These test projects must still obtain other federal and state approvals, as necessary, such as CWA Section 404 discharge permits, Section 401 water quality certifications, and Endangered Species Act ("ESA") Section 7 consultations, among others."[13] It should be noted that these projects may connect to the utility grid as required for the individual technology to function. However, precautions at the point of electrical interconnection must be included to ensure that no electrical energy flows into the grid and instead flows entirely to an end-user or other load bank.

4.2.2 Pilot License

For grid-connected, utility-scale (< 5 MW) projects within State of Alaska waters that are intended to be deployed for shorter durations (nominally five years with the ability to request up to 10 years), the FERC Pilot Project License process is appropriate and is an important option to pursue to advance the goals of tidal energy deployments in the Cook Inlet. While this FERC Pilot Project License process generally follows the traditional NEPA permitting process described in the Traditional License section below, the limited size and duration of the proposed project results in the commensurate reduction in time and cost for the three application stages and generally results in less onerous license requirements regarding environmental monitoring, et al. Further, the results of a successful tidal energy project operated under a Pilot Project License can be used for the subsequent submission of a traditional FERC license application. As such, the project developer can defer the time and cost of a traditional license over a longer period of time while increasing regulator and stakeholder confidence by successfully executing a smaller project within the Pilot Project License framework.

4.2.3 Traditional License

For grid-connected, utility-scale (> 5 MW) projects within State of Alaska waters to proceed, developers must follow the traditional NEPA permitting process. The Traditional License process consists of three application "stages" that require different amounts and kinds of information at each stage. The first stage, known as the Preliminary License Application[14], reserves an area for future development to allow developers to perform site characterization and collect baseline data. Developers should engage with appropriate agencies before the Preliminary License Application is submitted. Following this stage, developers move to the Draft License Application stage and then to the Final License Application. Developers must include draft proposals for environmental and recreational monitoring plans, safeguard plans, inspection and maintenance plans, and fuel and hazardous substance plans, among others, in their Draft License Application. Following agency and stakeholder commenting periods and subsequent negotiations, the developer submits the Final License Application to FERC. From the filing of the first stage Preliminary License Application to the issuance of a FERC License is a multi-year process.

[13] https://www.stoel.com/ferc-licensing-process-for-in-stream-hydrokinetic-projects [Accessed 8/2023]

[14] There are currently three preliminary licenses for tidal energy in Cook Inlet: P-15109 (Tidal Energy Corporation), P-15110 (Littoral Power Systems), and P-15166 (ORPC)

5 State and Local Permitting

The State of Alaska's environmental permitting process is a comprehensive system involving multiple departments and divisions, each with specific roles and responsibilities to ensure the conservation, improvement, and protection of Alaska's natural resources and environment. This multi-layered approach to environmental permitting ensures infrastructure development is carried out responsibly, with due consideration for the state's unique environmental and social contexts. A brief overview of state agencies, divisions, and offices that may be involved in a major Cook Inlet tidal development project are highlighted below.

5.1 Alaska Department of Environmental Conservation[15]

The Alaska Department of Environmental Conservation (ADEC) is dedicated to conserving, improving, and protecting Alaska's natural resources and environment. Its mission is to enhance the health, safety, economic, and social well-being of Alaskans. The following Divisions within the ADEC have been identified as being potentially involved in a major Cook Inlet Tidal Development project:

- **Division of Water (DOW):** ADEC-DOW manages the Alaska Pollutant Discharge Elimination System (APDES) permits for discharges to surface waters, domestic, municipal, and industrial wastewater, stormwater, and small suction dredge operations. Project developers could be regulated under ADEC-DOW for activities including, but not limited to, horizontal directional drilling, section 401 certifications, storm water pollution prevention plans (SWPPP), and excavation dewatering.
- **Division of Air Quality (AQ):** ADEC-AQ regulates air emissions and provides air quality permits to ensure compliance with state and federal standards. Project developers could be regulated under this agency for activities including, but not limited to, changes to exiting permitted sources, installation of emission sources, and the construction of buildings that will hold future emission sources.
- **Division of Environmental Health (EH):** ADEC-EH focuses on the environmental health aspects, including the safety of food and drinking water. Project developers could be regulated under this agency for activities including, but not limited to, the installation of a temporary or permanent camp, construction of a sanitary waste management system, and installation of a drinking water source for project personnel.
- **Spill Prevention and Response Division (SPAR):** ADEC-SPAR ensures facilities have adequate spill prevention and response plans for oil and hazardous substances. Project developers could be regulated under this agency for activities including, but not limited to, the bulk storage of oil or hazardous substances or onshore construction through or near an existing contaminated site.

5.2 Alaska Department of Natural Resources[16]

The Alaska Department of Natural Resources (DNR) has a multifaceted mission to develop, conserve, and maximize the use of Alaska's natural resources in the public interest. It manages state-owned land, water, and natural resources, excluding fish and game, and is organized into several divisions, each with specific responsibilities.

Notably, the **Office of Project Management and Permitting (OPMP)** supports private industry, regulators, and the public by leading multi-agency permit coordination. Project developers have access to this program, which is designed to synchronize project timelines with statutory, regulatory, and various permitting processes as closely as possible, in accordance with project objectives and milestones. Additional divisions within the DNR that may be involved with a major Cook Inlet tidal energy project are briefly summarized below.

- **Division of Mining, Land, and Water (DMLW):** ADNR-DMLW manages state land holdings and

[15] https://dec.alaska.gov/
[16] https://dnr.alaska.gov/

resources, including mineral (excluding oil and gas) and water resources. Work within the state waters of Upper Cook Inlet will require authorization under ADNR-DMLW. Additionally, project developers could be regulated under this agency for other activities such as excavation dewatering.

- **Division of Oil and Gas (DOG):** ADNR-DOG develops and manages oil and gas leasing programs and oversees pipeline systems. Project developers could be regulated under this agency if they are an oil and gas developer operating within an existing oil and gas lease or if they are a project developer using existing infrastructure regulated by the ADNR-DOG. Notably, Upper Cook Inlet contains seventeen oil and gas platforms and multiple pipelines. Development of Cook Inlet tidal energy is likely to intersect with the local oil and gas industry, presenting an interesting overlap in potential jurisdictions for ADNR-DMLW and ADNR-DOG.
- **Division of Parks and Outdoor Recreation:** The Division of Parks and Outdoor Recreation manages state parks and recreational programs. Project developers could be regulated under this agency if they overlap with any of the state parks or recreational programs in Cook Inlet.
- **Office of History and Archeology (OHA):** OHA is dedicated to preserving and interpreting Alaska's past and serves as Alaska's State Historic Preservation Office (SHPO) pursuant to the National Historic Preservation Act (NHPA) of 1966. A Section 106 review, mandated by NHPA, requires federal agencies to consider the impact of their projects on historic sites. This review is administrated by the ADNR-OHA.

5.3 Alaska Department of Fish and Game[17]

The Alaska Department of Fish and Game (ADFG) is dedicated to protecting, maintaining, and improving the state's fish, game, and aquatic plant resources. Their mission encompasses managing these resources in a way that benefits the economy and the well-being of Alaskans, adhering to the principle of sustainability. The following divisions and sections within ADFG have been identified as being potentially involved with a major Cook Inlet tidal energy development project.

- **Habitat Section:** The Habitat Section maintains sustainable fish and wildlife populations and has a statutory responsibility to protect freshwater habitat and ensure free passage for anadromous fish[18]. Project developers could be regulated under this agency for activities including, but not limited to, installation within anadromous waters or work within designated state refuges, critical habitat areas, and sanctuaries known collectively as Special Areas.
- **Division of Wildlife Conservation:** This division maintains and enhances opportunities to hunt, trap, and view wildlife. They also issue State Public Safety Permits which are required before a person can kill, destroy, relocate, or haze wild animals creating a nuisance or a threat to public safety. At minimum, project developers should consider collaboration with this Division to obtain a Public Safety Permit when undertaking tasks that could pose a wildlife-related hazard to worker safety.
- **Division of Sport Fisheries:** The Division of Sport Fisheries manages fish hatcheries and oversees the state's aquatic resource permit program. Project developers could be regulated under this agency for any activity within a sport fishery.
- **Division of Commercial Fisheries:** This division manages commercial, subsistence, and personal use fisheries within the jurisdiction of the State of Alaska. Project developers could be regulated under this agency for any activity within a commercial fishery.

5.4 Regulatory Commission of Alaska[19]

The Regulatory Commission of Alaska (RCA) plays a crucial role in overseeing public utilities within the state. Its primary purpose is to certify qualified providers of public utility and pipeline services, ensuring that these services are safe, adequate, and available at just and reasonable rates, terms, and conditions. Whereas the RCA works directly with

[17] https://www.adfg.alaska.gov/
[18] Cook Inlet anadromous species include pacific salmon (chinook, sockeye, coho, pink, and chum), steelhead, and dolly varden.
[19] https://rca.alaska.gov/RCAWeb/Home.aspx

local utilities, the RCA's statutes and regulations on energy conservation and net metering standards could provide the framework for monitoring ongoing tidal operations to include reporting, inspections, and audits.

5.5 Local Agencies/Stakeholders

The Kenai Peninsula Borough (KPB) [20] encompasses areas on both the east and west sides of Cook Inlet and holds regulatory authority over infrastructure projects through its Code of Ordinances and permit process. For example, development projects within the Habitat Protection District or adjacent to water bodies may require a Kenai River Center (KRC)[21] Multi-Agency Permit. The Borough's ordinances are categorized by topic, with each category providing detailed regulations that could impact infrastructure projects. Therefore, it is crucial for project planners to engage with the KRC early on to ensure adherence to all relevant regulations and to secure the required permits before starting any construction activities.

Additionally, infrastructure associated with the project, encompassing both land-based and maritime components, has the potential to extend across various properties and easements. This could require coordination with the existing network of utility cables and pipelines, potentially requiring non-objection certificates or new surface use agreements.

6 Permitting Strategies

Undoubtedly, the regulatory processes at the federal, state, and local level are complex and require careful coordination. Developers, regulators, and policy makers can facilitate a streamlined permitting process for Cook Inlet tidal energy development using one or more proven permitting strategies as described below.

6.1 Stakeholder Engagement

The development of a tidal energy project in Cook Inlet is likely to involve a diverse range of landowners and stakeholders, including private individuals, state and federal entities, Alaska Native Corporations, and village corporations. Notably, the impact Cook Inlet tidal development would have on the Railbelt and Alaskan economy lends itself to an expansive and diverse set of stakeholders. The initial list of stakeholders identified by the working group included over ninety stakeholders, listed in Figure 6, spanning across various industries, agencies, and communities, emphasizing the need for proactive, sustained, and consistent outreach and messaging.

Engaging with stakeholder groups across a variety of sectors is essential to ensure communities' and stakeholders' needs and concerns are addressed throughout the project lifetime. Opportunities for public engagement are embedded within NEPA and many of the regulatory agency processes. For any permitting effort, it is crucial to engage with agencies before submitting applications and to continue this engagement throughout the application process. If permits are successfully issued, engagement continues before and during project deployment, execution, and decommissioning. Given the duration and complexity of engagement, a unified stakeholder outreach program for Cook Inlet tidal energy, to include the hosting and maintenance of a database of relevant stakeholders and agencies, could significantly improve the success of individual project developers.

[20] https://www.kpb.us/
[21] https://www.kpb.us/river-center

Figure 6: Stakeholders for consideration in the permitting process (alphabetical, not exhaustive).

6.2 Collaborative Environmental Reviews

As noted previously, Cook Inlet is home to seven species of marine mammals, of which three (beluga whale, Steller sea lion, and northern sea otter) are considered endangered under the ESA. Other marine mammals in the Cook Inlet protected by the MMPA include killer whale, harbor porpoise, harbor seal, and California sea lion. Threats to the local Beluga population – considered the most endangered population in the nation – are likely to be perceived as the most significant potential negative environmental impact for the installation of a tidal device. In addition to marine mammals, subsistence, commercial, and recreational fisheries, and Essential Fish Habitat (EFH) for various species including salmon, sablefish, flounder, rockfish, sole, and cod can be found throughout Cook Inlet. Project reviews and mitigation measures aimed to reduce potential impacts should be developed in partnership with USFWS and NMFS.

Additionally, a Section 106 review, mandated by the NHPA, requires federal agencies to consider the impact of their projects on historic sites. The review process involves identifying potential effects on historic properties and consulting with various stakeholders, including State Historic Preservation Office (SHPO) and tribal preservation officers, the public, and the Advisory Council on Historic Preservation (ACHP). The goal is to assess any adverse effects and find ways to avoid, minimize, or mitigate them. This may result in a Memorandum of Agreement (MOA) or a Programmatic Agreement (PA), which are legally binding documents that record the outcome of the consultation and ensure compliance with Section 106. The process not only protects the historical integrity of sites but also allows the public to have a say in the preservation of their cultural heritage. Section 106 is triggered in Cook Inlet, or any other location, when a project involves a federal action, such as funding, licensing, or permitting, that has the potential to affect properties listed in or eligible for the National Register of Historic Places.

Ongoing informal and formal consultations with NMFS, USFWS, ADFG, SHPO, and tribal preservation offices will be required to identify and develop effective mitigation, monitoring, and reporting strategies for any tidal energy

development. Given the cost, logistics, and time associated with these types of efforts, a collaborative and proactive state-funded review could significantly reduce the time and fiduciary burden on individual developers.

6.3 Adaptive Management

It is the authors' opinion that the collection of extensive baseline environmental data prior to the installation of a tidal device is unlikely to be effective in reducing environmental impacts. Most environmental monitoring data can vary by location, season, year, or even in some cases, by day, making the future correlations with a tidal device's impact nearly impossible. Alternatively, adaptive management is a systematic and iterative process designed to enable robust decision-making in the face of uncertainty.

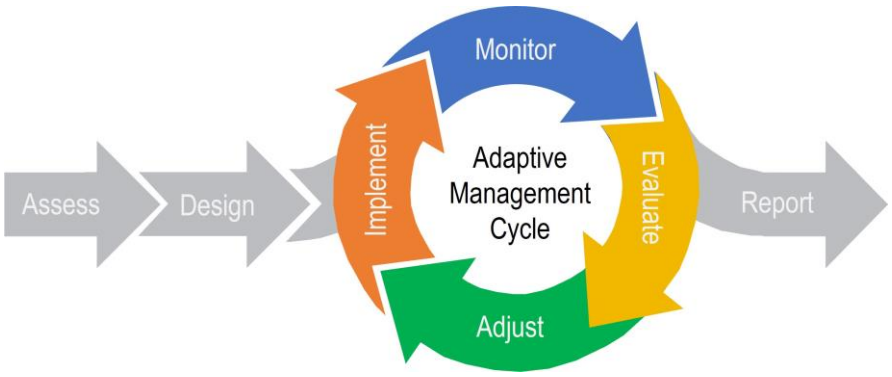

Figure 7: Adaptive Management Cycle

Adaptive management is a structured approach that monitors and responds to a device's impact in real-time balancing the need for immediate action with the goal of long-term sustainability. See Figure 7 for a basic workflow diagram. Its goal is to reduce uncertainty through ongoing strategic monitoring and adjusting operational strategies based on outcomes. This approach enhances long-term management by adapting to new information and changing conditions, making it particularly useful in environmental management and conservation. Establishing adaptive management plans alongside monitoring plans allows developers to adjust protocols as results are obtained without having to change the language in the permit, authorization, or license. This dynamic process uses the best available science to inform actions, monitor outcomes, and adjust strategies. It requires flexibility and a willingness by regulatory agencies and stakeholders to change course as new information emerges. By fostering a culture of learning and adaptation, agencies can better respond to changing conditions and improve system resilience. Incorporating adaptive management practices into permitting efforts for tidal energy projects is likely to reduce environmental impact, cost, and the time to commercialization.

6.4 Programmatic NEPA Review

A Programmatic Environmental Assessment (PEA) or Programmatic Environmental Impact Statement (PEIS) can precede any site- or project-specific decisions, providing information and analyses that can be referenced in future NEPA reviews. In theory, this approach could allow federal agencies to review the common components of tidal development, enabling individual developers to focus their tiered NEPA review on unique aspects of their projects. Tiering a NEPA helps streamline and expedite the preparation of the project-specific NEPA reviews. An approved Programmatic NEPA Review could be effective in the long-term if widespread development was anticipated for 10+ developers. However, in the short term it is the authors' opinion that the use of a Programmatic NEPA Review has the potential to stall, or unnecessarily complicate, initial technology demonstrations in Cook Inlet. Programmatic NEPA Reviews can be expensive, time-intensive, and must be triggered by a proposed Federal action such as (1) adopting official federal policy; (2) adopting formal federal plans; (3) adopting federal agency programs; and/or (4) approving multiple federal actions. Because much of the tidal resource and proposed development in Cook Inlet is

within State waters, a collaborative and mutually beneficial strategy for the use of a Programmatic Review under NEPA would need to be coordinated with the Federal Government.

6.5 State-Funded Assessment

As an alternative to a formal Programmatic NEPA Review, a state-funded evaluation similar to the *Cook Inlet Areawide Oil and Gas Lease Sale Best Interest Findings*[22] could be used to gather and process existing information related to tidal development in Cook Inlet. This published document could serve as a repository for Cook Inlet data and serve as an easily accessible resource for developers during their individual NEPA evaluations.

As part of the State-Funded Assessment, additional funding to create and maintain robust data collection, monitoring, and stakeholder engagement efforts could further streamline future permitting efforts. Geographic data collection to support archeological/cultural assessments and coordination with NMFS, USFWS, and ADFG could significantly ease the permitting burden on individual developers. Any state-funded data collection should build on existing industry research. Notably, the OES *State of the Science Report*[23] is a comprehensive document summarizing current information from around the globe regarding the environmental effects of marine renewable energy (MRE) development. It provides an update on the interactions between MRE devices, the marine environment, and the wildlife that inhabits it. The report is part of an ongoing effort to support responsible and sustainable MRE development and is used by researchers, policymakers, and industry stakeholders to inform decisions and monitoring strategies. When supplemented with site-specific information, this report can help streamline the installation of tidal energy devices in Cook Inlet.

6.6 Contracts for Difference

Contracts for Difference (CfDs) are increasingly seen as the method of choice for incentivizing investment in clean energy technologies. Available in the UK, CfDs provide a guaranteed sale price, generally above market value, for certain forms of low carbon electricity delivery, including from tidal energy. In each Allocation Round (AR), a maximum "strike" price is provided and qualified applicants proposing to produce renewable energy competitively bid for the final "clearing" price below the strike price. At present, tidal energy in the UK has a dedicated portion of the total AR budget, known as "ringfenced" funding – in 2024 this was £15M dedicated to tidal energy allocations. These financial contracts provide revenue stability to low-carbon energy projects by paying the difference between the market price and a pre-agreed strike price. If the market price is lower than the pre-agreed price, the government pays the project developer the difference; if higher, the developer pays back the excess. To date, nearly 100 MW of tidal energy have been awarded a CfD for energy delivery and this guaranteed revenue stream is a critical driver of tidal energy project development in the UK. In AR4, the clearing price was 178.54 £/MWh (2012 prices) while in AR5 the clearing price was 198 £/MWh (2012 prices). Adjusted for inflation and converted to US dollars, these values are approximately $312/MWh and $346/MWh in 2023. The results for AR6 should be released in 4Q 2024.

6.7 Phase Large-Scale Projects

To increase the likelihood of regulatory approval and stakeholder support, the developers of tidal energy projects should consider the phased build-out of technology to reach the proposed installed capacity in a stepwise manner from a relatively small scale to the full project scale. The size and number of phases will be dependent on the proposed total installed capacity. Multiple examples, either proposed or approved, can be seen globally, and are summarized below.

6.7.1 Roosevelt Island Tidal Energy Project (RITE), New York[24]

Using the FERC Pilot Project License process, Verdant Power received the first FERC license for tidal energy in the

[22] https://dog.dnr.alaska.gov/LeaseSale/SaleArea/Cook%20Inlet [Accessed 8/2023]
[23] Copping, A.E. and Hemery, L.G., editors. 2020. OES-Environmental 2020 State of the Science Report: Environmental Effects of Marine Renewable Energy Development Around the World. Report for Ocean Energy Systems (OES). doi:10.2172/1632878
[24] https://www.verdantpower.com/rite/ [Accessed 8/2023]

United States in 2012 for the RITE Project located in the East Channel, East River, New York, NY. The total project installed capacity as approved was 1.05 MW with three unique phases proposed: Phase 1 included 105 kW total installed capacity (10% of project capacity); Phase 2 included 420 kW total installed capacity (40% of project capacity); Phase 3 included 1.05 MW total installed capacity (100% of project capacity). Environmental monitoring protocols were designed for each phase and an adaptive management framework was used during the project lifetime. The project was decommissioned in 2021 following the successful completion of Phase 1. This project went on to obtain a full FERC license delivering more than 350 MWh of tidal energy to the utility grid. Additional information is available via the FERC Docket using FERC No. P-12611.

6.7.2 MeyGen Project, Scotland, UK[25]

MeyGen received approval from The Crown Estate for the MeyGen tidal energy project between the northern coast of Scotland and the Island of Stroma, in the United Kingdom in 2010. The total project installed capacity as approved is 398 MW with four unique phases proposed: Phase 1 includes 6 MW total installed capacity (1.5% of project capacity); Phase 2 includes 34 MW total installed capacity (8.5% of project capacity); Phase 3 includes 86 MW total installed capacity (21.6% of project capacity); Phase 4 includes 398 MW total installed capacity (100% of project capacity). Phase 1 is currently operating and consenting is complete through Phase 3. Phase 4 is currently in planning. More than 50 GWh of energy has been delivered to the utility grid. This project has been further supported by the CfD revenue mechanism available in the UK.

6.7.3 East Foreland Tidal Energy Project, Alaska, USA[26]

ORPC submitted a Preliminary Permit Application to the FERC in April 2021 for the East Foreland Tidal Energy Project offshore of the East Foreland in the Upper Cook Inlet, Alaska, US. The FERC issued the Preliminary Permit on July 26, 2021. The application proposes an initial 5 MW pilot project (5% of proposed project capacity) with outcomes and results supporting the planning of a phased build-out of up to 100 MW (100% of proposed project capacity). Additional information is available via the FERC Docket using FERC No. P-15116. Prior work is also available under preliminary permits FERC No. P-12679 and FERC No. P-13821.

DOE-Funded Tidal Energy Demonstration

In May 2023, DOE's Water Power Technologies Office (WPTO) released the first large-scale investment ($35 million) opportunity for a tidal energy research, development, and demonstration site in the United States, DE-FOA-0002845, Topic Area 1. ORPC's East Foreland Tidal Energy Project, dubbed the "American Tidal Energy Project" (ATEP) was selected as one of two marine energy projects[27] to receive the first phase of funding for a combined $6 million.

The first year of this DOE award is competitive. These two projects will evaluate their proposed sites and create plans for licensing, environmental monitoring, site health and safety, site commercialization, stakeholder engagement, community benefits, supply chain procurement, and technology selection and qualification. This phase will culminate in the projects submitting the necessary license and/or permit applications to regulators. At the conclusion of the first phase, DOE will select one project to proceed through the remaining four phases and receive up to an additional $29 million, concluding with testing and operation of the tidal energy device(s). This award is a significant achievement for ORPC and represents an important opportunity for Alaska to promote its position as a leader in renewable energy.

6.8 Rochdale Envelope Model

An alternative approach to conducting environmental impact assessments is the Rochdale Envelope model. "The adoption of the Rochdale Envelope approach allows a meaningful [Environmental Impact Assessment] EIA to take

[25] https://saerenewables.com/tidal-stream/meygen/ [Accessed 8/2023]
[26] https://elibrary.ferc.gov/eLibrary/search [Accessed 8/2023; Search P-15116 from 1/1/21 – 8/1/23]
[27] https://www.opalco.com/quick-fact-opalco-tidal-energy-pilot-project/2022/11/

place by defining a 'realistic worst case' scenario that decision makers can consider in determining the acceptability, or otherwise, of the environmental impacts of a project. As long as a project's technical and engineering parameters fall within the limits of the envelope and the EIA process has considered the impacts of that envelope and provides robust and justifiable conclusions, then flexibility within those parameters is deemed to be permissible within the terms of any consent granted, i.e., if consent is granted on the assessed maximum parameters of a development, any parameters equal to or less than those assessed is permitted to be constructed."[28] While this approach originated from the land-based construction industry in the UK, it has been successfully applied for the consenting of both on-shore and off-shore wind farms and it is now being applied in the consenting of marine energy projects within UK waters.

In particular, the Morlais Project, in northwest Wales, under development by Menter Môn, utilized the Rochdale Envelope approach to secure consent in December 2021 for a 240 MW tidal energy project. The project is sub-divided into eight berths and each berth is preauthorized for a technology archetype (bottom-mounted only; surface-mounted only; bottom-mounted or surface-mounted) while remaining technology developer- (aka device) agnostic. As a part of the consenting process, from the Morlais Project Environmental Statement (ES), Chapter 4: Project Description, Volume I, Oct. 2019, "Dependent on the type of tidal device, full deployment to 240 MW could comprise up to a maximum of 6201 tidal devices, supporting up to 1,648 TECs and up to 740 inter-array cables within the Maritime Defense Zone (MDZ). This represents the worst-case scenario…." The documentation also states that "A phased approach to deployment of the project may be taken, with scale and timeframe of phasing determined by assessments and consideration of mitigation and management undertaken within the ES." In the consenting process, the "Morlais Project Draft Marine License Conditions" include more than 50 conditions that require compliance during all stages of the project lifecycle. Details regarding the application of the Rochdale Envelope and the consenting process for the Morlais Project are publicly available online.[29] The first surface-mounted tidal energy devices (5.62 MW installed capacity) are expected to be deployed in 2025/2026 with additional devices following in subsequent years.

6.9 DOE R-STEP Program

In August 2023, the DOE launched the Renewable Energy Siting through Technical Engagement and Planning (R-STEP) program[30] to support states and local communities plan and evaluate large renewable energy projects. This program supports the creation of new, or the expansion of existing, state-based initiatives to improve renewable energy planning and siting. Five to seven state-based collaboratives are awarded between $1-$2 million each. Eligible collaboratives include, but are not limited to, state energy offices, Governor's offices, extension offices, universities, non-governmental organizations, community-based organizations, and other organizations. DOE highly encourages state energy offices (or equivalent state agencies) to participate or lead applications. R-STEP funds could be used to:

- Engage local governments and communities to identify renewable energy siting and planning priorities,
- Hire and subcontract to expand technical capacity and leverage experts in the region or state,
- Develop state-specific resources that could improve siting practices and outcomes for local communities and the renewable energy industry, and
- Conduct training and workshops with local governments to improve technical understanding of renewable energy siting.

The R-STEP Program is a competitive grant opportunity that is expected to open regularly. As announced in March 2024, six state-based collaboratives will receive a combined $10M as well as technical assistance under Round 1[31]. Round 2 applications were due in June 2024 and are anticipated to be announced this fall.

[28] https://marine.gov.scot/sites/default/files/chapter_6_-_the_approach_to_eia.pdf
[29] https://www.morlaisenergy.com
[30] https://www.energy.gov/eere/renewable-energy-siting-through-technical-engagement-and-planning
[31] https://www.energy.gov/eere/renewable-energy-siting-through-technical-engagement-and-planning

7 Recommendations

Tidal energy development in Cook Inlet presents a significant opportunity with unique challenges for Alaska. Key recommendations are summarized below.

Table 1: Summary of key recommendations for tidal energy development in Cook Inlet.

Challenge	Recommendations for State of Alaska and/or for developers
Permitting timelines can be long	▪ Promote and support streamlined permitting processes among all federal, state, and local agencies. ▪ Provide state funding for a Cook Inlet "Best Interest Finding" for Tidal Energy to include data collection, processing, and a repository for archeological/cultural assessments, marine mammals, and fisheries. ▪ Consider establishing a collaborative under R-STEP Program to finance portions of Alaska's renewable goals.
Costs to developers can be significant	▪ Provide matching funds for DOE and other federal awards and investments in technology Research, Development, Demonstration, and Deployment relevant to marine energy. ▪ Provide state funding to create and support a unified stakeholder outreach program for tidal energy. ▪ Host and maintain a database of relevant stakeholders and agencies through state-funding.
Tidal energy installations can cross regulatory boundaries	▪ Establish a single division within the Alaska Department of Natural Resources to review and authorize renewable energy projects. ▪ Ensure planning efforts and stakeholder outreach consider the potential impact of project development in federal waters.
Potential impact to endangered species, essential fish habitat, and/or other environmental, historical, recreational, and commercial uses	▪ Provide state funding to develop and implement a proactive, comprehensive strategy for evaluating and responding to potential risks to fisheries, marine mammals, and/or other environmental, historical, recreational, and commercial uses to attract and promote tidal energy development in Cook Inlet. ▪ Use IEA-OES State of the Science reports, and other scientific literature, to inform and educate regulatory agencies and stakeholders.
Monitoring requirements can be significant and costly	▪ Avoid pursuing multi-year baseline environmental monitoring efforts. Instead, implement adaptive management practices with clear pathways to reductions in monitoring once risks are retired or evidence suggests impacts are minimal. ▪ Establish state permitting policies to promote monitoring requirements proportional to the risk (deployment size, rotation rate, etc.) and appropriate for the flow scale (micro, meso, macro) of interest.
Reporting requirements can be significant	▪ Establish a common reporting template and timelines for state agencies and promote continuity of these templates and timelines among federal and local agencies. ▪ Establish agency reporting frequency requirements proportional to the project size and/or risk.

August 16, 2024

Alaska Department of Natural Resources Commissioner John Boyle
Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579

Dear Commissioner Boyle,

The American Clean Power Association (ACP) recently learned of the Alaska Department of Natural Resources' (DNR) request for information regarding *AO355 Large-Scale Renewable Energy Process Review*. We appreciate the opportunity to respond to the call for information.

ACP is the leading voice of today's multi-tech clean energy industry, representing utility-scale energy storage, wind power, solar power, clean hydrogen and transmission companies. ACP is committed to meeting America's national security, economic and climate goals with fast-growing, low-cost, and reliable domestic power.

Based on our experience working with other states and on policies advancing the clean energy industry in the contiguous U.S., we have responded to some of the prompts/questions posed by the DNR's call for information. Moving forward, we would be happy to continue working with the DNR and relevant state agencies to provide additional technical expertise and input on the wide range of issues regarding deployment of clean energy in Alaska.

- **What changes to the existing statutes, regulations, or policies that authorize the use of state land for large-scale renewable energy development are needed to foster future development in Alaska?**
    - The major capital investments necessary to develop renewable energy projects require a high degree of confidence in the expediency, procedural reliability, and fairness of the permitting process. Confidence can be developed through transparency and predictability of the review process, and certainty that recommended conservation measures are both well-supported and reasonable. Adoption of presumptive timelines for key steps in the application, review, and decision-making processes is helpful too. Reliability can be assured by a permitting process restricting changes late in the process only to those deemed necessary, well-reasoned, and justified by science or other publicly available evidence in the record.

- **Describe current processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects.**
    - Renewable energy developers evaluate the viability of a potential site by assessing the available renewable energy resources at the site (e.g., wind and / or solar abundance) access to transmission, potential environmental impacts, local, state, and federal policies and laws, and community support.
    - Landscape-scale studies and planning efforts may support project siting and permitting efforts if they result in economic or procedural incentives for siting in certain areas. However, landscape-scale planning efforts that result in avoidance or exclusion areas are detrimental to renewable energy development as they often rule out promising areas for development even if potential impacts can be mitigated.
    - Although there is a perception there are enough "low-impact" areas available for development such that development in areas with higher conflict is not necessary, essential siting factors - such as interconnection access and available transmission capacity, topography, injection capacity, proximity to markets, and competing land uses, among others – often make seemingly "low-impact" areas infeasible for development. Further, areas that are identified as low-impact based on a map may find resources of concern when doing actual site-specific on-the-ground evaluations. Given the amount of misinformation regarding renewable energy development, areas many deem low-impact for certain resources may prove impossible to develop due to local concerns. Flexibility is important for development.
    - Because transmission capacity and interconnection access are fundamental requirements for renewable energy development, Alaska should ensure a workable process for authorizing the use of state lands to support transmission projects.
    - In 2021, the Department of Energy released a guidance document for large scale renewable energy: *Developing Renewable Energy Projects Larger Than 10 MWs at Federal Facilities, A Practical Guide to Getting Large-Scale Renewable Energy Projects Financed with Private Capital*, which may be an additional resource for the DNR given much of Alaska is federally managed lands. This guidance document is intended to be a general resource to help federal agencies and staff understand the project developer's operating environment and the private sector's awareness and understanding of the federal processes.

- **Identify authorization process hurdles currently encountered during large-scale renewable energy project development.**
    - Successfully deploying wind, solar, energy storage and transmission projects requires a predictable, timely, and cost-effective framework. Codified time limits can help set boundaries that support the timely completion of environmental reviews and project permitting decisions.
- **What common hurdles to large-scale renewable energy project development exist in other states? What policies, statutes, or regulations in other states are supportive?**
    - The clean energy industry is facing significant local opposition, which threatens states from reaching their clean energy goals. The Sabin Center for Climate Change Law publishes a report yearly that tracks opposition and restrictive regulations across the U.S., Opposition to Renewable Energy Facilities in the United States: May 2023 Edition. According to the report, "In nearly every state, local governments have enacted laws and regulations to block or restrict renewable energy facilities, and/or local opposition has resulted in the delay or cancelation of particular projects."

      In addition to the Sabin Center report, in February 2024, the USA Today published a nationwide analysis that shows local governments are banning clean energy projects faster than they are constructed. Renewable energy: Why US counties often ban solar and wind power plants.

      State agencies like Alaska DNR are well positioned to provide technical assistance to local communities, as well as function as a trusted voice on industries like renewable energy.
    - Additional resources for how projects are sited in other states include the recently published report *Siting Clean Energy: An Inventory of State Policies and Permitting Authorities | Energy Markets & Policy*, and interactive map *Siting of Large-Scale Renewable Energy Projects | Department of Energy*. These resources provide a description of renewable energy siting and permitting regulations and processes across the United States, profiling all 50 states plus Puerto Rico.
    - Michigan and Illinois law supports large scale siting. Colorado law also provides a template.

- The Association of Fish and Wildlife Agencies (AFWA) has produced two reports compiling state policies that require, allow for, or encourage consultation with state wildlife agencies during decision-making related to wind and solar projects:
  - Wind Siting Consultation Policies Report
  - Solar Siting Consultation Policies Report
- ACP and AFWA collaborated to develop guides for early and iterative communication between renewable energy project proponents and state fish and wildlife agencies:
  - Wind Communication Framework
  - Solar Communication Framework

- **How should we define "large-scale" in the context of renewable energy feasibility assessment and development?**
  - In discussions and workgroups with the AFWA Energy and Wildlife Policy Committee membership, ACP and AFWA have commonly defined "large-scale" or "utility-scale" as facilities with a rated capacity of at least 20MWac, which for solar facilities requires a panel area of 100 acres or greater.

ACP looks forward to further engagement with DNR and other state agencies and appreciates the opportunity to provide input into this important consideration by the State of Alaska.

Sincerely,

/s/ Bo Downen, ACP Director, Western State Affairs
/s/ Hilary Clark, ACP Senior Director, Siting & Permitting, Social Licensing

August 16, 2024

Marcella Dent
Alaska Department of Natural Resources
Division of Mining, Land & Water
Program Support Section
550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579

REAP's Response to Alaska DNR's Review of State Land Use Authorizations for Large-Scale Renewable Energy Development Pursuant to Governor Dunleavy's Administrative Order No. 355

Dear Ms. Dent:

Renewable Energy Alaska Project (REAP) is a non-profit, member-based organization that promotes renewable energy and energy efficiency in Alaska. Our members include utilities, renewable energy project developers, labor groups, non-profits, and educational groups, among others. Renewable energy development is critical to put the state on a more cost-effective and resilient energy path that keeps our hard-earned energy dollars in the state's economy. Thank you for leading this important and timely effort to reduce barriers to realizing that future.

Background: The Need for Urgency

REAP believes that the public's interest in the development of State lands for renewable energy development requires moving with all deliberate haste. As you are aware, economic and commercial dynamics in the Cook Inlet basin have resulted in the need to import liquified natural gas (LNG) by 2028, if not sooner. Meanwhile, a recent U.S. Department of Energy-funded study by the National Renewable Energy Laboratory (NREL) found that, in the face of looming LNG imports, the least-cost path forward for consumers in Alaska's Railbelt will be for the region's utilities to generate 76% of their electricity from wind and solar power by 2040. NREL estimates that doing so would save consumers $100 million a year, in today's dollars.

Fortunately, under provisions of the Inflation Reduction Act, the Federal government stands ready to underwrite a significant proportion of the capital cost of managing this economic transition. Tax credits of 40 percent of project costs are available for utility-scale, renewable energy generation systems placed in operation by the end of 2032. These credits are available even for systems owned by non-profit electric cooperatives and Alaska Native entities whose income is otherwise not taxable. These generous subsidies require no further grants or Congressional appropriation.

However, by law these remarkable federal incentives expire in 2032. The State of Alaska must do everything it can to facilitate construction of renewable energy projects now. The Department of Natural Resources' current efforts are critical to facilitate those developments.

REAP takes no strong position as to whether necessary reform can be accomplished by regulation or statute. In general, the regulatory process is preferable - it saves the time and uncertainty associated with new legislation. However, if the Department determines that legislation is necessary, REAP hopes that its recommendations can be included in any legislative recommendations that the Department makes.

Key Barriers that Must be Addressed

1. **Provide a transparent process by which a developer can convert an *option* to develop renewable energy on State lands to a *lease***

Most renewable energy projects are developed by independent power producers (IPPs). An IPP seeking to develop a project needs DNR permission to access the land to first determine whether the renewable resource is adequate to support a project. If the resource is adequate, the developer will ultimately need to convert its permissive access for exploration and assessment into a conveyance that gives it exclusive right to the resource for a period of time. DNR needs to create a transparent, expeditious commercial mechanism by which the IPP's exploration and assessment rights can be transparently converted into a lease without risk.

Unlike the standard oil and gas developer, who has potentially large margins to win and a generally fully-liquid market in which to sell its commodity, an IPP's commercial viability depends on striking long-term, take-or-pay contracts with a monopoly utility. Those contracts (typically known as power purchase agreements, or PPAs) specify prices. After eliminating price risk, the IPP can then adequately minimize or eliminate any other risks and use the PPA to secure the financial backing necessary to support the large up-front capital costs of a project.

Financing cannot be secured if there is uncertainty as to whether, when, and at what cost the developer will be able to secure access to land. Without absolute certain access to land for the developer, there is no PPA, and no mechanism by which the financier can be repaid. Without clarity as to when access can be secured, financing is delayed. And without clarity as to lease costs, the financier cannot determine whether the IPP's contract with a utility will provide revenues that are adequate to support financing.

Meanwhile, the cost of money also depends on general economic conditions. The terms a financier might offer an IPP today might very well not be applicable a year from now. And, because the IPP's cost of capital directly affects what it can afford to sell its power for, final contracting with the utility is only possible once land access is secured. The bottom line is that uncertainty and slowness surrounding DNR's conversion of *access* rights to land to *lease* rights to land function as a real bottleneck to renewable energy project development.

2. **DNR Must Establish Transparent, Readily-Executable Commercial Terms for Land Conveyance Primarily To Benefit Consumers**

The Department has a general stance, informed in part by existing language in the Lands Act, to secure at least "fair market value" for lands to which the State provides a lease. Determining a fair price for the disposition of lands used for renewable energy projects that serve in-state consumers is, however, an abstract exercise that slows negotiations with developers and inhibits project development. Developers and the State have little time to waste in protracted negotiations over what is "fair market value." Instead, the Department should establish transparent, and financially minimal, lease terms for State lands used to develop renewable energy.

Article VIII, Section 1 of the State Constitution states:

It is the policy of the State to encourage the settlement of its land and the development of its resources by making them available for maximum use consistent with the public interest.

When conveying State land for oil and gas, timber, or mineral development the Department properly recognizes that the public interest is best served when the State can reasonably maximize revenue. DNR properly seeks "fair market value" for the private use of State lands to ensure that the public interest does not suffer at the expense of the private interests of developers. "Fair market value" in the context of these natural resources is the residual from the expected market value of the commodity produced from that land, less other production costs. The commodity market value is itself set by competitive supply and demand conditions.

The conveyance of State lands for renewable electricity generation, if the off-taker is a local utility, involves entirely different economic considerations. Alaska's utilities, who are typically the power purchasers, are regulated monopolies. Their electricity prices are governed not by supply and demand within a world economy but, rather, by the local cost of producing that electricity (including a reasonable return on capital). The Regulatory Commission of Alaska (RCA) has the legal obligation to review power purchase agreements, or utility project costs, to ensure that electricity prices do not provide undue profits to the developer. Anything that adds to costs of production is reflected, one-for-one, in prices paid by end-use customers.

Even before the RCA gets involved, renewable energy project margins are squeezed by the monopsony buying power of electric utilities. An independent power project developer has no ability to force an incumbent utility to purchase power from its project. The utility has all of the bargaining power because utilities can – and do – refuse to contract for power that is uneconomic in light of available alternatives. Meanwhile, competitive RFP processes winnow the best projects for consideration. Prices are specified in contract, and do not vary with subsequent external energy markets. Unlike oil and gas, there is no 'high side' of prices or profits for the State to try to capture.

Because the contracts for sale of renewable energy establish prices on a cost-plus basis, rather than as the outcome of supply and demand conditions, *DNR's fees for leases and rentals flow directly to end-use customers*. Essentially no portion of those charges are absorbed by the renewable energy producer. Accordingly, the "fair market value" for land used to produce renewable energy for in-state, end-use consumers *cannot* be thought of as the residual of reasonable profits after other costs have been accounted for. It is, instead, merely an additional cost to Alaska's electric consumers established by regulatory fiat.

In this context, the provisions of Article VIII, Section 1 should direct the Department to establish truly minimal fees for conveying necessary rights to renewable energy developers. Article VIII's recognition of the potential tension between making state lands available to private interests, and the public interest, is in this case wholly absent. Unlike with lands used to develop oil and gas, timber, or minerals, in this cost-plus environment the costs that the DNR imposes on the renewable energy developer (the private interest) are fully handed-off to the public in the form of higher energy costs. Any DNR costs imposed on a renewable energy project cut directly against the public interest, not the developer's private interest.

Last session the Legislature passed, and the Governor signed into law, a statute that established that renewable energy projects will no longer be subject to *ad valorem* or state income taxes. The DNR should follow in that direction, which is also the direction that Article VIII, Section 1 points. And, that direction is consistent with the state's Renewable Energy Fund administered by the Alaska Energy Authority which grants state funds for renewable energy development. The State needs to remove and reduce uncertainty for renewable energy developers and their financiers to capture the substantial federal subsidies before they expire in 2032.

3. Establish Hard Timelines for Issuing Permits and Conveyances

In general, the project execution stage of even large renewable energy projects can be completed in three or four years. Accordingly, early project development for projects that wish to capture generous federal tax credits must be completed by 2028 or 2029 in order to be operational by 2032. This leaves only the next four to five years for any new project not yet initiated to perform the full suite of project development activities. These include a utility issuing a request for proposals, proposal evaluation and selection, and initial negotiation with developers. Initial development also includes the need for developers to conduct energy resource assessments and then to better define the project based on those assessments. If those assessments are done on State land, permits must be acquired from Department of Natural Resources (DNR). Developers and utilities must then negotiate the terms of, and perform, system integration studies. Developers must then secure financing but, to do so, they must first secure clear lease and easement rights to any State land that their project requires. Only then can the developer negotiate the final terms of a PPA with the utility buying the power.

The normal pace of State action on permits and land conveyance extends project timelines at multiple phases of project development. The current way of doing business will all but prevent any renewable energy project that is not already in the DNR pipeline from providing benefit to Alaska consumers before federal tax credits expire. If that happens, Alaskans will pay hundreds of millions of dollars more than they otherwise should for their electricity. There is therefore essentially no time to waste on implementing necessary reforms to State processes.

REAP does not believe that there is need to short-circuit DNR's usual process of engaging the public through notice and providing an opportunity to be heard. However, REAP does believe that the DNR should establish, and then be held to, hard timelines for issuing permits and conveyances once those public processes are complete.

The requirements on agency decisions under which the RCA operates provide useful guidance. Depending upon the nature of a utility's request or petition, by statute the RCA must issue final decisions within six, nine, or 15 months from the date of a request. For any given matter, the RCA has a one-time, 90-day option to extend, and it must file annual reports to the Legislature for each matter for which it exercises this option. *If the RCA fails to render a decision within the required timelines the request is automatically granted*. This process has been in effect for more than two decades. It ensures that the agency acts in a timely manner.

REAP believes that a framework similar to what the RCA operates under is appropriate for DNR with regard to renewable energy projects on State lands.

Conclusion

The subject of this proceeding is of vital importance to the State's economy. There is no time to waste. We hope that you will implement needed reforms with the urgency that circumstances demand. Thank you very much for considering these comments.

Sincerely,

Chris Rose
Founder & Executive Director, REAP

Chickaloon Village Traditional Council

(Nay'dini'aa Na' Kayax)

VIA EMAIL

August 07, 2024

Alaska Department of Natural Resources
Division of Mining, Land & Water
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550 W. 7th Avenue, Suite 1070
Anchorage, AK 99501-3579
Email: DNR.RenewablesReport@alaska.gov

Re: Alaska DNR Land Use Authorizations for Renewable Energy Development

Ugheli Dzaen (Good Day)

Chickaloon Native Village (CNV) is a federally recognized Ahtna Dene Tribe in southcentral Alaska, governed by Chickaloon Village Tribal Council (CVTC). CNV's ancestral territory and traditional area of influence include trading trails that span from the Beaufort Sea to the Copper River Delta. This territory also encompasses much of southcentral Alaska, Upper Cook Inlet, the Copper River Region, the Alaska Range, the Matanuska watershed, and the Susitna River watershed. We acknowledge that this region overlaps neighboring Dene and other Tribal traditional customary use areas.

Actions that occur within Dene traditional ancestral territory and customary area of use (as noted above) may impact the environment, Dene cultural resources, and the health of Tribal citizens and community members. To mitigate these impacts, CVTC employs a Tribal Historic Preservation Officer working to identify, protect and preserve cultural sites and artifacts.

CVTC has reviewed the promoted question and has the following comments:

What changes to the existing statutes, regulations, or policies that authorize the use of state land for large-scale renewable energy development are needed to foster future development in Alaska?

- There should be a requirement to consult with tribes prior to any mining or infrastructure development. Tribes know the land and environment throughout time far better than companies and the State. Additionally, it is crucial to conduct more thorough and up-to-date studies, not only by state agencies but also by involving community input. Many studies are 10+ years old if not decades old and considered still valid information, many lower 48 Tribes will not accept a study over 10 years old and demand a new study with Tribal input.

Describe current processes and industry needs for project investigation, feasibility study, and development of large-scale renewable energy projects.

PO BOX 1105 Chickaloon, Alaska 99674 **Phone (907) 745-0749 Fax (907) 745-0709**
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- Feasibility studies for large-scale renewable energy projects need to be redefined to go beyond merely assessing the potential for resource extraction. The focus should now be on understanding the broader impacts of the project, including the environmental and social costs associated with resource utilization. It's essential to evaluate not just how efficiently resources can be harnessed, but also what may be lost or negatively impacted in the process. This shift ensures a more comprehensive assessment that balances energy production with sustainability and community well-being.

Identify authorization process hurdles currently encountered during large-scale renewable energy project development.

- Our concern is streamlining, it removes the safeguards of consultation and working with the stakeholders to less the destruction of cultural resources.

What common hurdles to large-scale renewable energy project development exist in other states? What policies, statutes, or regulations in other states are supportive?

- When the federal government gives funding to the State of Alaska to conduct their own work, Tribes often lose the federal hook of required consultation, meaning Section 106 regulations. Allowing the State to do bare minimum consultation if any at all and move forward with their project despite Tribal concerns.

Do DNR authorization timeframes (time between initial identification of an area to authorizations issued) align with those of other similar authorizations (e.g., other state, federal, or municipal authorizations)?

- We do not have enough information to comment on whether DNR authorization timeframes align with those of other similar authorizations (e.g., state, federal, or municipal).

How should we define "large-scale" in the context of renewable energy feasibility assessment and development?

- "Large-scale" in the context of renewable energy feasibility assessment and development should be defined using a composite index that considers both the acreage used by the project and the anticipated energy output, as well as cumulative effects.

Would it be useful for DNR to present existing processes at the August forum?

- Yes, it would be useful for DNR to present the existing processes at the August forum. We are currently unfamiliar with the process, and it may not be clear whether certain permitting is required for the Tribe. However, the forum should focus on involving the Tribes in shaping the processes rather than just explaining them.

To be frank, the State of Alaska is an extractive state and has been since Russian control. Alaska has been used since colonization for its resources in an extractive way, from fur hunting, sport hunting and fishing, commercial fishing, mining, oil, and forestry. All these extractive activities have been conducted with little to no consultation with the Tribes of Alaska, streamlining the process regarding non-renewable or renewable energy and resources will ultimately be destructive and mismanaged by the State as we have seen time and time again. CVTC does not recommend or condone streamlining renewable energy resources but supports the development of sustainable energy that does not negatively impact future generations.

CVTC appreciates the opportunity to share our information with DNR. We look forward to working with you, if you have any questions please contact Angela Wade, Tribal

Historic Preservation Officer at alwade@chickaloon-nsn.gov and THPO@Chickaloon-nsn.gov.

May Nek'eltaeni (Creator) Guide our Footsteps,

Chief Gary Harrison

Chief Gary Harrison (Aug 23, 2024 17:48 AKDT)

Traditional Chief Gary Harrison, Chairman
Chickaloon Village Traditional Council

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Alaska DNR Land Use Authorizations for Renewable Energy Development

Final Audit Report 2024-08-24

Created:	2024-08-23
By:	Norma Johnson (nmjohnson@chickaloon-nsn.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAOBY1kg4-qUamN4fun6yUpqsKMltTOBwe

"Alaska DNR Land Use Authorizations for Renewable Energy Development" History

Document created by Norma Johnson (nmjohnson@chickaloon-nsn.gov)
2024-08-23 - 8:02:37 PM GMT

Document emailed to chiefgaryharrison@chickaloon-nsn.gov for signature
2024-08-23 - 8:02:42 PM GMT

Email viewed by chiefgaryharrison@chickaloon-nsn.gov
2024-08-24 - 1:39:01 AM GMT

Signer chiefgaryharrison@chickaloon-nsn.gov entered name at signing as Chief Gary Harrison
2024-08-24 - 1:48:50 AM GMT

Document e-signed by Chief Gary Harrison (chiefgaryharrison@chickaloon-nsn.gov)
Signature Date: 2024-08-24 - 1:48:52 AM GMT - Time Source: server

Agreement completed.
2024-08-24 - 1:48:52 AM GMT