

Port of Juneau

City & Borough of Juneau • Docks & Harbors 155 S. Seward Street • Juneau, AK 99801 (907) 586-0292 Phone • (907) 586-0295 Fax

July 11th, 2021

The Honorable Pete Buttigieg

Secretary of the U.S. Department of Transportation Office of the Secretary of Transportation 1200 New Jersey Ave, SE Washington, DC 20590

RE: 2021 RAISE Transportation Discretionary Grant | Port of Juneau Dock Electrification Grant

Dear Secretary Buttigieg:

The City and Borough of Juneau – Docks & Harbors Department is seeking Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant funding to provide the shoreside power connection which will allow large cruise ships to shift to clean hydropower-generated electricity when in port. Once constructed, this project will reduce greenhouse gases and provide a cleaner local environment ensuring Juneau remains a highly desirable port-of-call for the Alaskan cruise ship itineraries.

Docks & Harbor is committed to seeing this project through and providing necessary infrastructure to support the local community and the cruise ship industry. Tourism is now the largest private economic industry in Southeast Alaska and in 2019 Juneau welcomed 1.3M passengers. We are optimistic our grant application fully meets the Administration's vision outlined in the NOFO to address climate change. In May, my Port Engineer and I were privileged to have the opportunity to brief Ms. Lucinda Lessely, the Acting MARAD Administrator, on the infrastructure concerns challenging the 49th State, including the Juneau needs contained in this application.

As Alaska's capital city, Juneau is known primarily as a government town. Unfortunately, over the past decades this has led to a neglected waterfront and economic opportunities afforded to well-managed, diversified ports and harbors have largely gone unfulfilled. The aphorism that *a rising tide floats all boats* cannot be truer in Juneau. Since 2012, Docks & Harbors has invested nearly \$136 million in infrastructure improvements, recapitalizing half-century old port and harbor facilities.

Though much has been accomplished, the vision to create and leverage economic diversity through smart, sustainable and expanded marine infrastructure requires funding sources outside what Juneau, with its 32,000 residents, can provide.

Of the \$136 million recapitalization efforts, less than 8 percent has been from federal grants or federal partnerships. This includes \$10 million from the USACE to conduct statutory maintenance dredging in Douglas Harbor, Harris Harbor and Aurora Harbor; \$3 million through a Sport Fish grant for the recently opened \$12 million Statter Harbor Launch Ramp; and \$175,000 for cruise ship security improvements under two FEMA Port Security Grants.

2021 RAISE Grant: Port of Juneau Dock Electrification Grant July 11th, 2021 Page 2 of 2

In addition, in testament to the investment and pride Docks & Harbors takes in our facilities, we have received numerous awards since 2012. This includes:

- Five Juneau Branch American Society of Civil Engineers (ASCE) Project-of-the-Year Awards
- Two Juneau Branch ASCE Engineer-of-the-Year Awards
- Pile Driving Contractors Association (PDCA) National Project-of-the-Year Award
- Precast Concrete Institute (PCI) Award
- Anchorage (AK) Engineers Week Project of the Year Award
- Two Engineering News-Record (ENR) Project-of-the-Year Regional Awards
- ENR Innovation Award for the new cruise ship berths project
- States Organization for Boating Access (SOBA) National Project-of-the-Year Award for the Statter Harbor Launch Ramp

To ensure local support of our initiatives, Docks & Harbors conducts comprehensive community involvement to engage the public throughout our visionary efforts. In 2017, we completed the expansion of the downtown cruise ship docks which was identified in the 2004 Long Range Waterfront Plan. In 2018, Docks & Harbors completed a plan linking the new cruise ship berths to the downtown shopping areas. This \$15M uplands development plan was fulfilled with a ribbon cutting ceremony this May. Cruise ship dock electrification studies have been completed in 2016 and 2021 which follows the Assembly adopted *Juneau Climate Action & Implementation Plan* from 2011. The Juneau community is in full support of advancing the infrastructure to provide access for visiting cruise ships to use locally generated, clean energy for their dockside use.

The City and Borough of Juneau Docks & Harbors respectfully requests consideration of our application to expand our marine services facilities at our cruise ship docks to provide electrical shore tie. We have a proven track record, a plan to expand economic opportunity and the ambition to make our port and harbors a world-class destination.

Sincerely,

Carl Q Uchytil Carl Uchytil, P.E.

Carl Uchytil, P.E. Port Director

APPLICATION FOR 2021 RAISE TRANSPORTATION DISCRETIONARY GRANT

Juneau Cruise Ship Dock Electrification

City and Borough of Juneau, Alaska Docks and Harbors

TYPE

Port & Marine Infrastructure Investments

\$20.05 MILLION REQUESTED

LOCATION

City & Borough of Juneau (CBJ) Alaska 1st Congressional District Alaska Rural Area

CONTACT

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- A Benefit Cost Analysis Technical Memo
- B Benefit Cost Analysis Spreadsheet
- C RAISE 2021 Project Information Form
- D Letters of Support (31)
- E City and Borough of Juneau Match Resolution





I. Project Description

Juneau Alaska is a premier cruise ship destination. The Juneau Cruise Ship Dock Electrification Project will enable cruise ships visiting the community to plug into renewable shore power, thereby allowing the ships to operate without onboard fuelfired generators and reduce carbon gas emissions in Juneau's port. The dock electrification project includes two new power connection floats, cable positioning devices, submarine cables, a shared electrical substation, and upgrades to existing electrical systems. Juneau's two city-owned cruise ship berths sit in the heart of downtown Juneau. Completed in 2017, the berths provide moorage for neopanamax cruise ships. The project will connect cruise ships moored at these docks with electricity generated by the utility's hydroelectric power plants, providing a critically important reduction of vessel emissions in downtown Juneau and provide an alternative to vessel power generation while in port.

Project Need

The primary purpose of the Juneau Cruise Ship Dock Electrification Project is to replace diesel used for cruise ship hoteling - when docked ships provide power, heat, air conditioning, and hot water for with shore-based hydroelectric power while visiting the community. Over a 20year period, the installation of shore power at the two City and Borough of Juneau (CBJ) docks would eliminate cruise ship emissions of 46,314 metric tons of CO_2 , 1,681 metric tons of NO_x , 1,337 metric tons of SO_x, and 130 metric tons of PM_{2.5}. that now occur when cruise ships run auxiliary engines for hoteling while in port at those berths. This will allow the community to realize the

Project Goals

THE JUNEAU CRUISE SHIP DOCK ELECTRIFICATION PROJECT WILL:

- 1. Displace 4.6 million gallons of diesel with hydroelectric shore power over a 20-year period.
- 2. Reduce air emissions in Juneau by nearly 50,000 metric tons of combined CO₂, NO_x, SO_x, PM_{2.5} over a 20-year period.
- 3. Support 3,390 jobs, \$100 million in wages, and \$300 million in tourism spending, annually.
- Provide a monetary benefit of \$76 million, more than 3 times higher than the requested investment costs.

benefits of a successful, sustainable visitor industry while remediating environmental impacts associated with visiting cruise ships.

Transportation Challenges Addressed

The predominant benefit of the Juneau Cruise Ship Dock Electrification Project is the reduction of vessel greenhouse gas emissions by providing shore tie power from clean hydroelectricity.

Emission Reduction

Cruise ships are "floating communities" which generate their own electrical and propulsion power, and heat using combustion equipment installed on-board the vessels. While docked in Juneau the ships operate in hotel mode and are a source of air pollution. Juneau hosts a significant number of cruise ships; 644 large cruise ship voyages are expected in 2022, so the emissions created during hoteling status add up.

Electrification of the two cruise ship berths would displace the following emissions over the next 20 years: 46,314 metric tons of CO_2 , 1,681 metric tons of NO_x , 1,337 metric tons of SO_x , and 130 metric tons of $PM_{2.5}$. The value of this emission reduction, based on damage costs provided by the US Department of Transportation, is projected to be \$78 million. The reduction of these pollutants would also be part of a greater effort to address and reduce climate change.

Remote Community Transportation Services

Juneau is surrounded by water, mountains, ice fields, and glaciers. Access into Juneau is only by water or air, as there are no roads extending beyond the immediate area.

Unlike most of the country, the electrical grid supporting the community is not connected to an outside grid or intertie. All electrical energy is generated by resources within the Juneau region. The effect is a "soft grid" that requires sensitive power plant control to respond to load changes. Cruise ships demand a large amount of power when connected. This requires additional control features to ensure smooth power transfers.

Environmental Justice Discussion

According to the Environmental Protection Agency EJSCREEN, Juneau has a relatively low environmental justice (EJ) index. However, dock electrification will decrease environmental impacts on the entire downtown business district and nearby residential neighborhoods, with the reductions in air emissions and reduced negative health impacts further benefiting Juneau's efforts to provide environmental justice to the elderly, minorities and children residing in the downtown Juneau port area. The Juneau population is 19% Alaska Native, and Juneau's youth population is 25% Alaska Native.

Project History

In 2001, the world's first cruise ship shore power facility was installed in Juneau, and has been an incredible success story. It was installed as a collaborative project by Princess Cruise Lines and Alaska Electric Light and Power (AEL&P), the local utility. This facility has been in operation since then, providing electricity to the cruise ships moored at the Franklin Dock from Juneau's renewable resource, hydroelectric generating plants. The result has been a reduction of consumption of fossil fuels powering the onboard generators, and thereby a reduction of carbon gas emissions.

Hydroelectric power generation supports 100 percent of the firm electrical needs of the Juneau community, except in the rare case of electrical outages. With the hydro facilities, excess energy is delivered to "non-firm" loads which have alternative generation resources. The cruise ships that use the Franklin Dock have been afforded this opportunity for 20 years. The Juneau Cruise Ship Dock Electrification Project will build on the community's success in offering renewable hydropower as a value to additional ships.

Hydroelectric Generation in Juneau

The Juneau mining industry pioneered world-class development of hydropower in the early 1900's. Originally hydropower was developed to provide energy to support mining and mills to extract gold from low-grade ore bearing rock. The early hydroelectric facilities, Annex Creek, Salmon Creek, and Gold Creek Power Plants, are continuously maintained and upgraded so that more than 100 years later they continue to provide Juneau with renewable energy. Hydropower development has continued since the days of hardrock gold mining in Juneau with construction of the Snettisham Plant including taps into Long and Crater Lakes and the construction of the first phase of the Dorothy Lake project. These two plants presently provide the bulk of the electrical energy consumed by Juneau customers.

Technical Engineering: Project Components

The primary hydroelectric power plants are connected to Juneau with two 69KV transmission lines routed into the town through the uplands above the new CBJ docks. Electricity will be fed from one of these transmission lines to the water-side facility and will include several components. These are defined in sequence leading from the transmission line to the power connectors for the ships.

New AEL&P Substation

A new substation will be located on the hillside above the new docks. This site is located adjacent to the two existing 69KV transmission lines. The substation will consist of 69KV switchgear and protective relays, transformer(s), and secondary circuit breakers and protective relays. The substation will be adequately sized to power two cruise ships with two separate transformers. The transformer(s) will be rated for the ships, 10 to 15 MVA each, producing output voltage of 11.2KV and 6.6KV.

15KV feeder to South Franklin Street

For each ship electrical deployment facility, this portion of the system will include four 6-inch diameter conduit (8 total) and one 2-inch diameter conduit (2 total) installed above ground on structural stands, or potentially installed below ground where possible. The conduits will include 15KV rated cables for power and fiberoptic cables for instrumentation and control. The conduits will terminate into a new vault at South Franklin Street on the uphill side.

15KV Feeder from South Franklin Street to Shore

Twelve 6-inch diameter conduits are presently installed below grade from the location of the proposed new vault on the uphill side of South Franklin Street to an existing vault near the shore adjacent to the Juneau Tram. Twelve more conduits extend from this vault beneath the shore and open under water at approximately -5 feet Mean Low-Low Water. This system of conduits and vaults provide allowance to install cables to power two ships. The 15KV cables identified earlier will extend to the existing vault at the shore where they will be terminated to a junction inside the vault. The fiber optic cable(s) will extend to this same vault and onto the shore power deployment float.

15KV Submarine Cable to the Power Floats

Submarine cables specifically designed for underwater application will be routed from the vault on shore underwater to shore power deployment floating docks. They will be connected to the shore cables on 15KV terminals inside the vault. These cables will be suspended to the float and supported on a structure specifically designed to support their weight. The cables will terminate in a 15KV switch located on the floating dock.

Switchgear

The switchgear on the floats will be enclosed in a cabinet mounted to the float near the cable deployment equipment. The cabinet and enclosed equipment will be suitable for the corrosive marine environment. The switchgear will include a disconnect switch and ground switch, combined to isolate and ground the cables to the ship when they are being handled. The switch will be collaboratively controlled by the ship crew and AEL&P operators.

15KV Feeder to the Ship

Durable cables rated for mining and marine applications will be routed from the switchgear to the ship via a cable deployment device. The cables are quite flexible and include connectors on the ship's end. The cables will be installed in covered cable trays from the switchgear or junction to the deployment device. The cable deployment device will support and move the cables to and from the ship as required to connect and disconnect shore power. This type of system mounted to a floating dock will ease cable hand-off and reduce the need for cable attendance typical with tidal changes.

Floating Docks

The shore power system will be supported by floating dock structures that will be accessed from aluminum gangways mounted to the nearby catwalks and approach dock. The floating dock will be fabricated with concrete pontoons or steel pipe construction and will be anchored in place with steel pipe piles and pile frames. The floating docks will offer cruise vessels a consistent level relative to the ships' electrical connection portals providing for improved handoff and retrieval of the shore power cables. The cable positioning/deployment devices will move along the face of the floating docks and they will have extendable booms capable of providing an extensive range of reach and ability to accommodate vessels with varying portal configurations.



Figure 1. Aerial view of the two cruise ship berths that will be connected to hydroelectric shore power.

Low voltage power will be provided from the shore electrical facilities for the cable positioning device and power float lighting. This will involve a separate 480volt feeder with user voltage panels on the floating docks.

Existing AEL&P Franklin Dock Substation

With the addition of a substation to support the CBJ docks, the existing transformer serving the Franklin Dock will have to be replaced. In order to synchronize the cruise ships to the system, voltage produced by the substation transformer must match the voltage generated onboard the cruise ship. With a single cruise ship connected to the system, AEL&P has been able to adjust the system voltage enough to make the connection. However, with additional ships connected to the system, it will be difficult if not impossible. The solution is to replace the existing transformer with one that includes a load tap changing (LTC) feature, thus adjusting voltage to the ship with reduced impact to the utility system.

Broader Infrastructure Investment Context

Through public and private collaborations and partnerships, significant investments have been made into Juneau's port and hydroelectric generation.

AEL&P has been instrumental in initiating programs to utilize as much of their available renewable resources as possible, thereby minimizing the community's carbon footprint. Juneau is one of the greenest cities in the world when it comes to electricity. The electrical utility provides "100% hydropower 99% of the time." Few places in the world have such environmentally-sound, cost-effective, and reliable electricity sources. The community has also invested heavily into the port of Juneau. The project would build upon benefits from the first electrified cruise ship dock in the world, just a few hundred yards south, at the South Franklin dock that went into operation 20 years ago. Since 2012, the City has invested nearly \$120 million (92% local, 8% federal) into its harbor and port infrastructure to modernize operations, facilitate economic diversity, and establish better management practices.

A more environmentally-sustainable cruise ship industry will also attract more private economic development, helping make Juneau and the region more economically competitive. According to the Southeast Alaska Business Climate Survey 2020, more than \$74 million in private dollars was invested into the regional tourism sector in 2019, with significant increases in private investment expected in future years.

Benefits to Communities in Rural Areas

Juneau is a remote, rural community with access to important maritime resources. Since the community is not connected by the road system to the rest of the state, marine infrastructure is critical to the economy and to support and expand tourism in the community. The Juneau Cruise Ship Dock Electrification project is a key factor in accomplishing this and preserving and expanding jobs in the tourism industry.

Statement of Work

The Juneau Cruise Ship Dock Electrification Project is a straightforward dock electrical infrastructure project primarily oriented toward reducing harmful hydrocarbon emissions in the community, while continuing to support the local economy. It will provide added utility to the existing docks constructed in 2016 and 2017.

II. Project Location

The project is situated at the CBJ North and South Berths adjacent to historic downtown Juneau. The cruise ship onshore electrical deployment system will include a connection to the existing electrical transmission lines into downtown with a substation and feeders as narrated in the project description above.

Downtown Juneau is located near the head end of Gastineau Channel. The town sits in the fjord on a delta formed by Gold Creek at the base of Mount Juneau and Mount Roberts. A deep water harbor at the port affords access for large ships. The North and South Berths are located along the shore at the base of Mount Roberts.

The 69KV transmission lines are routed near the project site at approximately 130 feet above sea level at the base of Mount Roberts. Each line is situated parallel to shore and mounted on separate support structures. The new substation will be positioned on a land bench adjacent to the lower transmission line. The feeders routed down to the onshore deployment floats will be 900-feet long to the South Berth and 1,350 feet to the North Berth.



Figure 2 Project Location Map: Juneau is surrounded by mountains, some covered with ice fields and glaciers, forming numerous lakes. The port is situated at the base of Mount Roberts.



Connection to Existing Infrastructure

The electrical system supporting Juneau and its surrounding area is composed of a network of power plants, transmission lines, substations, and distribution lines. The project map (Figure 3) illustrates the locations of the components involved in the electrical deployment system to both CBJ cruise ship berths.

The primary source of electrical energy is generated by AEL&P's hydroelectric power plants. The existing plants are detailed in Table 1:

Table 1	Iuneau	Hydroe	lectric	Capacity
iuvie i	Janeaa	ily aloc	i c c ci i c	Cupacity

Hydroelectric Plant	Peak Capacity (MW)	Typical Annual Energy Production (MWH)
Snettisham (Crater & Long Lakes)	78.2	295,000
Lake Dorothy, Phase I	14.3	75,000
Salmon Creek	5	31,000
Annex Creek	3.6	24,000
Gold Creek	1.6	5,000
Totals	102.7	430,000

AEL&P maintains fuel-fired standby generators to support Juneau when there is a loss of electrical connection to the larger power sources. The largest source is considered to be the combination of the Snettisham and Lake Dorothy power plants. They are connected to Juneau via a single transmission line. The standby power plants include those at Lemon Creek, Gold Creek, Industrial Boulevard, and Auke Bay. Their total capacity is 107 MW.

The Snettisham and Lake Dorothy power plants are connected by transmission line to the Thane Substation. This transmission line operates at 138 Kilovolts (KV) with much of it configured with aerial lines supported on towers. A segment of the line is routed along the bottom of the Taku River with oil-cooled submarine cables. Annex Creek is also connected to the Thane Substation with a 23KV transmission line routed from the Annex Creek Power Plant over Powerline Ridge to the Sheep Creek Valley and subsequently the Thane Substation. The Thane Substation converts the voltages



Figure 3 Project Map: The location of the substation designated for this project is identified. This illustrates the locations of the components involved in the electrical deployment system to both CBJ cruise ship berths.



lmage © 2021 Maxar Technologie:

from these power plants to 69KV with two transmission lines routed from there into Juneau proper.

69KV Line No. 1 is routed to feed power to the Second Street Substation on Gastineau Avenue, the Capital Avenue Substation, and the Lower Salmon Creek Substation. This power line is configured with aerial lines supported by wooden structures. It has a short segment of underground cable routed across the avalanche zone on Thane Road.

69KV Line No. 2 is routed parallel to Line No. 1 from the Thane Substation to the Lower Salmon Creek Substation with some exceptions in Juneau proper. This line feeds the Franklin Dock Substation and continues to the Lower Salmon Creek Substation.

The substations on either of the 69KV transmission lines can be switched to the alternate line when required to deenergize one line or to balance their loads. The entire line is configured with aerial conductors supported by wooden structures.

From the Lower Salmon Creek Substation, a single 69KV transmission line is routed to serve power to the standby power plant and substation at Lemon Creek, the Airport Substation, the Mendenhall Loop Substation, the Lena Loop Substation, standby power plant and substation at Industrial Boulevard, and the power plant and substation at Auke Bay.

Area of Persistent Poverty

Juneau is not considered to be in persistent poverty. Persistent poverty is defined as a borough in which 20 percent or more of its population has lived in poverty over the past 30 years.

Designated Urbanized Area

With a 2020 population of 31,773, Juneau is not considered an Urbanized Area, as it does not have at least 50,000 residents. It is designated as an Urban Cluster (2,500 to 49,999 residents.)



III. Grant Funds, Sources, and Uses of All Project Funding

Project Cost

\$24,951,856

Funding Sources and Amounts

If awarded, RAISE grant funds will make up 80.3% of the funding for the project components.

Non-Federal Funding Commitments

The City has approved \$4.9 in funding for this project because of the importance to the community to begin this project. The City has in the past funded many cruiserelated infrastructure projects with fees related to dockage and passenger arrivals. It has funded utility conduits crossing roadways and parking lots for this electrification project.

Non-Federal Funds

Juneau is a rural area under the RAISE grant definition and the Juneau Cruise

Ship Electrification project is eligible for greater than 80% RAISE grant funding. The CBJ requests that the US DOT increase its share of the grant funding for this project. The 20% matching portion equals \$4.99 million of the total project cost estimate. CBJ is very aware of the competitive nature of the RAISE program and the importance of local match, if available. The City has approved \$4.9 in match even though the city has suffered severe losses to its cruise-related revenues from the COVID-19 pandemic that halted all cruise ship travel for more than a year.

How Each Funding Source Will be Spent

The tables below outline the total allocation of funds by project component and show detailed cost estimates for each component. The cost estimates are based on similar, recent pubic project experience in Southeast Alaska. If awarded, RAISE grant funds and local matching funds would be the sources of funding for all project components, as identified in the grant award agreement.

Total Project Budget

JUNEAU CRUISE BERTH ELECTRIFICATION PROJECT BUDGET					
Use of Funds	Eligible Project Costs	Percentage of Total Funds			
North Berth Power Connection	\$9,877,200	39.6%			
Contingency (15%)	\$1,481,580	5.9%			
Environmental Permitting	\$200,000	0.8%			
Final Design and Contract Documents (10%)	\$1,135,878	4.6%			
Construction Administration and Inspection (10%)	\$1,135,878	4.6%			
South Berth Power Connection	\$7,914,000	31.7%			
Contingency (15%)	\$1,187,100	4.8%			
Environmental Permitting	\$200,000	0.8%			
Final Design and Contract Documents (10%)	\$910,110	3.6%			
Construction Administration and Inspection (10%)	\$910,110	3.6%			
Total Project Costs	\$24,951,856	100%			

Table 2 Total Project Budget

North Berth Electrification Costs

Table 3 North Berth Project Budget

Port of Juneau Cruise Ship Electrification Shore Power Connection Study Budget Level						
ESTIMATE - NORTH BERTH						
ltem	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1	Mobilization	LS	All Req'd	20%	\$1,646,200	
2702.1	Construction Surveying	LS	All Req'd	\$75,000	\$75,000	
2894.1	100-ft Aluminum Gangway with Pontoon Mounting Assemblies	LS	All Req'd	\$400,000	\$400,000	
2895.1	Floating Dock, 36' x 66'	SF	2,376	\$500	\$1,188,000	
2896.1	Furnish 36-Inch dia. Steel Pipe Pile	LF	1,200	\$350	\$420,000	
2896.2	Install 36 -Inch dia. Steel Pipe Vertical Pile	EA	4	\$30,000	\$120,000	
2896.3	Install 36 -Inch dia. Steel Pipe Batter Pile	EA	2	\$40,000	\$80,000	
2896.4	Furnish and Install Pile Frames	LS	All Req'd	\$250,000	\$250,000	
2897.1	Transition Plates	LS	All Req'd	\$75,000	\$75,000	
2899.1	Supply and Install Pile Anodes	LS	All Req'd	\$75,000	\$75,000	
5120.1	Electrical Support Assemblies	LS	All Req'd	\$50,000	\$50,000	
11000.1	Cable Positioning Device	LS	All Req'd	\$1,000,000	\$1,000,000	
16000.1	Electrical Substation	LS	All Req'd	\$3,193,000	\$3,193,000	
16000.2	Feeder to Shore	LS	All Req'd	\$500,000	\$500,000	
16000.3	Submarine Cable & Support Structure	LS	All Req'd	\$660,000	\$660,000	
16000.4	Power on Float	LS	All Req'd	\$145,000	\$145,000	
Estimated Construction Bid Price					\$9,877,200	
Contingency (15%)					\$1,481,580	
Environmental Permitting					\$200,000	
	Final Design and Contract Documents (10%)			\$1,135,878	
Construction Administration and Inspection (10%)					\$1,135,878	
Total Recommended Project Budget					\$13,830,536	

South Berth Electrification Costs

Table 4 South Berth Project Budget

Port of Juneau Cruise Ship Electrification Shore Power Connection Study Budget Level Estimate -						
SOUTH BERTH						
ltem	Item Description	Units	Quantity	Unit Cost	Amount	
1505.1	Mobilization	LS	All Req'd	20%	\$1,319,000	
2702.1	Construction Surveying	LS	All Req'd	\$75,000	\$75,000	
2894.1	50-ft Aluminum Gangway	LS	All Req'd	\$100,000	\$100,000	
2895.1	Floating Dock, 36'x66'	SF	2,376	\$500	\$1,188,000	
2896.1	Furnish 36-Inch dia. Steel Pipe Pile	LF	1,200	\$350	\$420,000	
2896.2	Install 36 -Inch dia. Steel Pipe Vertical Pile	EA	4	\$30,000	\$120,000	
2896.3	Install 36 -Inch dia. Steel Pipe Batter Pile	EA	2	\$40,000	\$80,000	
2896.4	Furnish and Install Pile Frames	LS	All Req'd	\$250,000	\$250,000	
2897.1	Transition Plates	LS	All Req'd	\$75,000	\$75,000	
2898.1	Approach Dock Addition with Gangway Mounting Assemblies	LS	All Req'd	\$350,000	\$350,000	
2899.1	Supply and Install Pile Anodes	LS	All Req'd	\$75,000	\$75,000	
5120.1	Electrical Support Assemblies	LS	All Req'd	\$50,000	\$50,000	
11000.1	Cable Positioning Device	LS	All Req'd	\$1,000,000	\$1,000,000	
16000.1	Electrical Substation	LS	All Req'd	\$1,855,000	\$1,855,000	
16000.2	Feeder to Shore	LS	All Req'd	\$482,000	\$482,000	
16000.3	Submarine Cable & Support Structure	LS	All Req'd	\$310,000	\$310,000	
16000.4	Power on Float	LS	All Req'd	\$165,000	\$165,000	
Estimated Construction Bid Price						
Contingency (15%)						
Environmental Permitting					\$200,000	
Final Design and Contract Documents (10%)					\$910,110	
Construction Administration and Inspection (10%)						
Total Recommended Project Budget						

IV. Selection Criteria

The Juneau Cruise Ship Dock Electrification project will provide necessary infrastructure for cruise ships to connect to renewable hydroelectric shore power while at the CBJ cruise ship berths, significantly reducing the level of air pollution, and helping make the Juneau tourism sector more sustainable to support the overall economy. Due to emissions reductions, this project has an incredibly strong benefit cost ratio of 3.75 when discounted at 7%. Project benefits are detailed in the attached BCA, located in Appendix A.

Primary Merit Criteria

Safety

Safety comprises a significant benefit to the project. Cruise ships contribute to Alaska's mobile-source emission inventories. In aggregate, reductions of emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and fine particulate matter (PM2.5) prevent premature deaths and relieve respiratory symptoms. Monetized health-related benefits related to emissions reductions are estimated in the BCA (Attachment A).

Environmental Sustainability

In Juneau, environmental sustainability translates into economic sustainability. The City and Borough of Juneau (CBJ) has identified dock electrification as contributing to Juneau's sustainability, climate action, and renewable energy goals in several planning efforts and documents over the past decade. Significant sustainability benefits are achieved and optimized by displacing onboard fossil fuel electrical generation with clean, zero-emission, hydropowergenerated shore power for cruise ships berthed at Juneau's publicly-owned docks.

Dock electrification eliminates greenhouse gas (GHG) emissions, particulates and pollution while cruise ships are in port, reducing the cruise industry's carbon footprint while improving Juneau's air and water quality. These benefits ameliorate the impacts of cruise ship tourism in the community and contribute to Juneau's efforts to be a global leader in cruise port sustainability. The related electrical infrastructure upgrades required for dock electrification additionally support cruise ship-related tourism.

Incorporation of electrification infrastructure: Dock electrification provides the infrastructure needed to enable cruise ships' use of safe, cleaner shore power.

Avoidance of adverse environmental impacts: Dock electrification improves the air quality of Juneau for residents and visitors alike, providing an inviting downtown area. Dock electrification eliminates adverse environmental impacts to air quality and climate by reducing Clean Air Act criteria pollutants, including NOX, SO2, PM, and VOC, as well as CO2 and other greenhouse gases. These benefits are described in more detail and quantified in the BCA, Appendix A.

Noise reduction from replacing the use of auxiliary engines with quiet renewable electricity will benefit the quality of life of downtown residents, businesses, and workers, as well as the quality of the cruise ship visitor experience.

Finally, dock electrification will reduce threats to public health in downtown Juneau by reducing emissions while cruise ships are in port. Much of Juneau's core downtown area is located within several hundred yards of the CBJ's cruise ship port, and is bounded by mountains that result in a confined settlement area next to the port. Downtown Juneau and the port area are periodically subject to air inversions that trap emissions in the area as well as to light winds that can bring cruise ship emissions up Gastineau Channel and concentrate them against the mountains.

Long-Term Community and Regional Planning

The role of dock electrification for economic and environmental reasons has been the focus of several recent significant planning efforts with robust public input.

Southeast Alaska 2025 Economic Plan:

The recently completed regional economic Comprehensive Economic Development Strategy prioritizes beneficial electrification as the #4 economic priority for the region, specifically including dock electrification.¹

Blueprint Downtown: The City and Borough of Juneau's 2021 planning effort known as "Blueprint Downtown" focused on dock electrification as part of its final report, as well as the plan's vision statement: "Juneau has the opportunity to showcase best sustainable practices, focusing on a transition from fossil fuels to renewable hydroelectricity for heating and transportation. Mitigating cruise industry impacts, with steps such as increased shore-side power, is a key element of this shared focus on enhancing renewable energy."²

Visitor Industry Task Force: The 2020 Juneau Mayor's Visitor Industry Task Force final report mentions dock electrification specifically, and electrification of transportation generally, in eight places and recommends maximizing use of shore power by all cruise lines by requiring assignment of shore power configured ships to electrified docks.³

Juneau Renewable Energy Strategy:

The CBJ adopted the Juneau Renewable Energy Strategy (JRES) in 2018. It establishes a goal to have renewable energy provide 80% of Juneau's energy by 2045. Dock electrification is identified as an action contributing to the goals.⁴

Juneau's Climate Action Plan: Dock electrification directly supports the goals and recommendations of the City and Borough of Juneau's climate action plan. The CBJ adopted the Juneau Climate Action & Implementation Plan (JCAIP) in 2011. The JCAIP provides an energy and GHG emission inventory and sets a goal of reducing GHG emissions by 25% by 2032. Juneau dock electrification is specifically identified in the plan as significantly assisting Juneau in meeting this goal.⁵

¹ Southeast Alaska 2025 Economic Plan <u>https://www.seconference.org/publication/southeast-alaska-2025-economic-plan/</u>

² Blueprint Downtown https://chstm2y9cx63tv84u2p8shc3-wpengine.netdna-ssl.com/wp-content/uploads/ 2019/07/Final-Blueprint-Downtown-Report-w-Appendix-6.18.19-1.pdf

³ Visitor Industry Task Force Report <u>https://juneau.org/assembly/visitor-industry-task-force</u>

⁴ Juneau Renewable Energy Strategy <u>https://renewablejuneau.org/policies-for-renewables/cbj-renewable-energy-strategy/</u>

⁵ Juneau's Climate Action Plan <u>https://juneau.org/index.php?gf-download=2019%2F03%2F2011-Climate-</u> <u>Action-Plan.pdf&form-id=22&field-</u>

id=11&hash=32c8805f269ce4bd156cb5cd0bdfd2917fbac831e531c75d02d84a2e17e4405c



Figure 6. Image shows a cruise ship docking in Juneau in 2019.

Juneau dock electrification also supports and encourages cruise industry climate goals. The Cruise Line Industry Association (CLIA) has committed to a fleet-wide reduction in carbon emissions by 40% by 2030 compared to 2008 levels and notes the use of shore power as an implementation strategy. Dock electrification appears to be one of the more cost-effective near-term strategies for meeting industry carbon reduction goals.

Quality of Life

Electrification of the City and Borough of Juneau's two docks will make a significant contribution to the quality of life of Juneau residents and visitors. As the number and size of cruise ships visiting Juneau have increased, public concerns about the impacts of the visitor industry have grown concurrently. Quality of life benefits of dock electrification include reduced noise in the downtown Juneau waterfront and business district when auxiliary engine operations are replaced by quiet shore power, and improved air quality in Juneau.

Emissions Reduction

The air quality enjoyed by residents in the community is at times degraded by cruise ship stack emissions. The most visible emissions from ships are when they are approaching Juneau in its mountainous, fjord-like setting, while entering and departing the Juneau harbor, and during the hours docked in port. On occasion, there is a haze of emissions from cruise ships in the downtown and harbor areas.

Reduced Noise

Elimination of ship noise at Juneau waterfront and business district when ship use "quiet" hydropower instead of auxiliary engines.



Figure 7 The Juneau Economy

Economic Competitiveness

An environmentally sustainable cruise ship sector is not only good for the environment, it is also important for the economy. In recent years, the Juneau economy has been devastated by a pair of economic losses. Jobs in state government, historically the cornerstone of the local economic base, fell 20% over the past eight years. On top of this, Juneau was particularly impacted by the pandemic crisis, losing 19% of all jobs in the first six months of COVID-19.

As state government jobs are cut, the community is increasingly turning to tourism to help support the local economy. Most visitors, 94% of all Juneau tourists, come to the community by cruise ship. In 2019, the Juneau cruise ship focused tourism sector directly supported 3,390 yearround equivalent jobs and \$100 million in associated wages, making it the largest private sector industry in the community, both in terms of jobs and wages. In 2022, Juneau tourists are expected to spend \$305 million in the community. Approximately one-fifth of all local sales tax dollars are spent by tourists.

Figure 8: Juneau Tourist by





Figure 9 Annual Juneau Cruise Ship Passenger Arrivals

The number of cruise passengers to Juneau has been increasing – from just under a million in 2013, to 1.33 million in 2019, to a projected 1.58 million in 2022. In 2022, 664 large cruise ship voyages are planned for Juneau.

State of Good Repair

The two city-owned berths called the Alaska Steamship Wharf (north berth) and the Cruise Ship Terminal (south berth) are in excellent structural condition and are among the newest facilities in the world, having been constructed in 2016 and 2017. An in-depth planning and design process lead to the decision to install concrete floating berths, galvanized steel structures with sacrificial zinc pile anodes to construct a facility with a minimum service life of 50 years. The City is committed to ensuring the shore tie power systems are kept in a state of good repair, in line with its demonstrated history of maintaining its assets.

Secondary Selection Criteria

Partnership

CBJ Docks & Harbors is the project proponent and owner. It operates and manages multiple waterfront facilities and properties throughout Juneau. These include the two CBJ-owned cruise ship docks, several small boat harbors and small boat floats, six launch ramps, two commercial loading facilities, two boat yards, and several hundred acres of tidelands and waterfront properties under lease.

There are multiple longstanding partnerships focused on the Cruise Ship Dock Electrification Project. First is with Alaska Electric Light & Power (AEL&P), the electrical utility providing all of Juneau's clean hydro power for more than 125 years. AEL&P is committed to meeting Juneau's current and future power needs at some of the lowest rates in the state of Alaska. AEL&P has also partnered with the owners of the Franklin Dock to build the first electrified cruise dock in the world.

Cruise Line Agencies of Alaska is another partner. It represents the major cruise operators and organizes the yearly berthing schedule for Juneau. Their technical expertise in orchestrating the yearly ballet of transiting huge ships through narrow fjords and their support of environmental regulations provide the understanding to schedule ships to fully utilize available shore tie power

The Franklin Dock is a direct partner as they would receive some important infrastructure upgrades to provide AEL&P improved grid controls to alleviate system wide fluctuations.

Alaska Department of Environmental Conservation are partners as they are required to monitor and report emissions violations and provide monitoring.

CBJ has nearly three dozen letters of support for this project, including from several Alaska Native Regional Corporations and Alaska Native Brotherhood, the oldest known indigenous persons' civil rights organization in the world. The full list of letters of support can be found in Attachment D.

Innovation

Innovative Technologies

The sections above describe the configuration of the system to deploy electrical energy to the cruise ships. Much of the system will be engineered using conventional technology used in utilities and a corrosive marine environment. However, some components will be unique to this system.

Substation Transformers: There will be a single transformer designated to each deployment system. Some of the ships utilize power plants with 6.6KV generation and main distribution while others use 11.2KV generation. To facilitate ships with differing voltages at each berth, separate transformers are necessary. The secondary windings in the transformers will be configured to provide both 6.6 and 11.2KV power. They will utilize interlocked circuit breakers to provide the desired voltage, but they can only provide one or the other. The transformers will include "Load Tap Changing" windings and control to accomplish refined voltage matching between the ship and the utility during power transfers to and from the utility. This feature will aid in minimizing voltage and power fluctuations to the overall grid.

Submarine Cables: The North and South Berths are located offshore with approach docks and ramps connecting them to shore. The deployment floating docks will also be positioned offshore so that they are adjacent to the ship when it is moored. They will not be close to the main floating docks. This situation promotes use of submarine cables routed from the vaults on shore to the deployment float. The cables will be suspended from the deployment float and laid on the sea floor in a circular manner to allow their movement with tide changes. This is unique to onshore power deployment systems in that the ships are moored to floating docks positioned slightly offshore.

Deployment System: The first onshore power deployment system for cruise ships

was installed in Juneau in 2001. It involved a festooning system mounted to a structure located at the end of the Franklin Dock, a fixed dock constructed close to shore. Although the system has provided good service since its installation, it requires constant management during onshore power connections due to tidal changes. More recent deployment systems at other ports involve fixed cranes with extendable booms supporting the connecting cables. Recent installations now include movable cranes with extendable booms to support the cables. These allow for a much greater range of service allowing connection to a larger variety of ships. The deployment systems for the North and South Berths will involve a movable device with extendable boom crane. Its design will be unique to these berths. They will be mounted to a floating versus fixed docks. They will include reels mounted to the equipment to store or deploy cables. The reels will lay cables on the deployment float as it travels away from the switch located on the float and gather cables as it travels back toward the switch.

Innovative Project Delivery

CBJ has a robust understanding of Design, Bid, Build project delivery methods, but it also has a charter amendment to allow for alternative procurement processes. This flexibility gives CBJ the latitude to maintain federal procurement requirements while capitalizing on possible proprietary technologies which would strengthen infrastructure resiliency, efficiency and reliability.

Innovative Financing

Maritime infrastructure projects do not have the same funding avenues as other transportation modes such as highways and rail. Financing for this project would be through more traditional methods.

Demonstrated Project Readiness

The project will involve three primary components: construction of the substation, construction of the upland feeders to the deployment docks, and construction of the deployment dock. Alaska Electric Light & Power (AEL&P) will be responsible for the substation and contractors will be used to construct the feeders and deployment dock. Engineers and contractors with a strong background of installations of this type are locally available, and they are supported with additional resources from other locations in Alaska as needed to meet project schedules.

Technical Capacity

Juneau Alaska was the first place in the world to create the technology to allow cruise ships to plug into shore power and is ready to expand on that capacity.

Juneau has local engineers and contractors with experience throughout Alaska with strong backgrounds with marine structural and medium voltage electrical systems as required for this project. All are well versed with local climatic conditions, technical application, and resource acquisition. Local engineers and contractors worked alongside AEL&P to construct the world's first cruise ship onshore power deployment system here in Juneau.

Financial Capacity

While CBJ Docks & Harbors has a reserve account, all of that funding, and much more, is needed to provide the capital cost of this important infrastructure project. State passenger fees were levied for the new berth construction and those fees continue to pay off the financing package. The principal source of funds for the Docks enterprise account within CBJ Docks & Harbors is the cruise ship berthing charges and a \$3 per visitor fee for Port Development. The COVID-19 pandemic completely devastated the 2020 and 2021 cruise seasons and revenue to the Docks enterprise has fallen to zero. A reasonably-sized fund balance has allowed regular maintenance and security staff to remain intact, but this fund is shrinking as CBJ awaits the restart of Alaska cruises. The Juneau Cruise Dock Electrification Project cannot proceed absent the requested RAISE grant funding.

V. Environmental Risk

As this project has been a part of the original port development plan, there is minimal environmental risk associated with completing the dock electrification.

Table 5 Environmental Permits and Reviews

	ENVIRONMENTAL PERMITS AND REVIEWS			
NEPA Status	No NEPA has been conducted for this project. It will be developed as part of the required environmental reviews during the design process.			
Reviews, Approvals and Permits by Other Agencies	Non-local agencies with permitting responsibilities include the U.S. Army Corps of Engineers (USACE). A USACE permit will be required for all work below the high tide line. An individual Section 10/404 permit will be necessary from the USACE and includes a purpose and need statement, detailed project description, mitigation statement, practicable alternatives analysis, essential fish habitat assessment, biological assessment for formal endangered species act consultation. While these permitting steps can be tedious, we expect little difficulty in achieving the permit. CBJ Docks & Harbors has a long and effective history of permitting significant in- water and tidelands projects and past experience tells us that this project will easily clear permitting requirements. The immediate area has already been highly developed with very similar infrastructure, and there are no known habitat issues like eel grass beds or salmon spawning streams in the project area.			
Environmental Studies or Other Documents	From the National Marine Fisheries Service, an Incidental Harassment Authorization (IHA) along with a Marine Mammal Monitoring Plan are anticipated to be necessary to complete this project. The CBJ has had extensive past experience and success in acquiring and monitoring for these authorizations.			
DOT&PF Coordination	Right of way and utility permit coordination has not yet been conducted with the local DOT, but the City has a close working relationship with them. We have worked with them on numerous transportation projects and do not anticipate any issues with obtaining local DOT reviews or approvals.			
Public involvement	Over the last decade, this project has been through a comprehensive public involvement process which has included extensive coordination with the Cruise Line Agencies of Alaska and the input of Juneau stakeholders and residents during community workshops, open house events, harbor board presentations, integrated design charrettes and stakeholder meetings.			
	STATE AND LOCAL APPROVALS			
The Juneau Cruise Ship Berth Electrification project has become a demonstrated community value supported by CBJ Assembly (CBJ Resolution 2958) as well as in both the CBJ Juneau Climate Action Plan (CBJ Resolution 2593) and the CBJ Juneau Renewable Energy Strategy (CBJ Resolution 2808).				
FEDERAL TRANSPORTATION REQUIREMENTS AFFECTING STATE & LOCAL PLANNING				
As stated above, this proje Resolution 2958) as well as	ct has become a demonstrated community value supported by CBJ Assembly (CBJ s in both the CBJ Juneau Climate Action Plan (CBJ Resolution 2593) and the CBJ			

Juneau Renewable Energy Strategy (CBJ Resolution 2808).

During the first phase of uplands work, conduits and vaults were installed for future power conductors. During the installation of the floating berths there were no issues. The City has received multiple environmental permits and approvals for recent projects in the vicinity. The immediate area has already been highly developed and there are no habitat issues such as eel grass beds, salmon spawning streams or marine mammal haul outs in the project area.

Required Approvals

Due to the extensive planning and public involvement process that has already been performed, we expect the final permitting and approval process to be straight forward and relatively brief. The CBJ has extensive experience in acquiring environmental permits and local approvals for projects of a similar nature and will draw upon that experience to navigate through and acquire all required approvals and permits in a timely manner as needed to meet the milestones described in the project schedule. The table below further discusses the specific reviews and approvals required for this project.

Project Schedule

The anticipated schedule for this project spans a 36-month timeframe, with time intervals measured from the date of RAISE Grant awards. This schedule will easily accommodate the June 30, 2024 U.S. DOT fund obligation deadline, and includes contingency to account for any unexpected delays so that funds are not at risk of expiring prior to being obligated. Project completion will be achieved well in advance of the September 30, 2029 deadline for funding expenditure.



Project Schedule

Figure 10 Project Schedule

Assessment of Project Risks and Mitigation Strategies

Risk

The largest project risk is associated with the total availability of hydropower on Juneau's island grid. Juneau is situated in a rainforest with significant precipitation to provide excess power. Critical to the assumptions behind this grant application is the reasonable assertion that additional hydropower will be available to power the docks by 2038.

Most of the materials and supplies can be sourced domestically but several cable handling systems are produced by nondomestic companies. The City and Borough may pursue a waver for relevant domestic preference laws, if a suitable cable handling system cannot be produced domestically. CBJ has taken steps to identify several cable handling device manufacturers to locate domestically sourced options.

Another risk is a catastrophic event that precipitates a substantial downturn in the cruise market, which was the temporary case with COVID-19.

Mitigation Strategy

Juneau has three potential hydroelectric projects that are in the planning stages and may be constructed to provide additional energy. These include Sheep Creek (Chas'heeni), Lake Dorothy Phase II, and Sweetheart Lake.

To mediate risks to the cruise industry, Juneau continues to collaborate with the industry, state and federal regulators and other partners in the environmental protection and security sectors to provide improved protocols to protect the passengers, crew and communities visited by over 1.5 million passengers each year.



V. Benefit Cost Analysis

The Benefit-Cost ratio fore this project is incredibly strong at 3.75, meaning that in 20 years the project will provide nearly four times the value of the original investment. The BCA was conducted under the guidelines of the U.S. DOT for a Discretionary Grant Application to identify, estimate and quantify the expected benefits of the Juneau Cruise Ship Electrification Project compared to the baseline condition.

The largest calculated benefit of the Juneau Cruise Ship Dock Electrification Project is the monetized value of emission reductions. A growing number of cruise ships are traveling to Juneau, Alaska. Ships primarily use diesel to power all onboard cruise ship operations while visiting the Juneau port. Electrification of two municipally-owned cruise ship berths will allow two additional ships to plug into hydroelectrical power when they are docked in Juneau, thus eliminating a significant level of carbon-based emissions associated with cruise ship hoteling.

Electrification of the two cruise ship berths would displace the following emissions over the next 20 years: 46,314 metric tons of CO₂, 1,681 metric tons of NO_x, 1,504 metric tons of SO_x, and 149 metric tons of PM_{2.5}. The associated value of this emission reduction, based on damage costs provided by the US Department of Transportation, would be \$78 million.

The impact summary table is on the following page, and the complete BCA can be found in Appendix A.

Project Benefits by the Numbers

46 million gallons of diesel

displaced

50,000 metric tons of CO₂, NO_x, SO_x, PM_{2.5 3} air emissions

CO₂, NO_x, SO_x, PM_{2.5 3} air emissions reduced

\$76 million in project

benefits

3.75 benefit/cost ratio

Annual support for

3,390 jobs **\$100** million in wages

\$300 million in local tourism spending

Table 6 Impact Summary

IMPACT SUMMARY						
CURRENT STATUS/BASELINE & PROBLEM TO BE ADDRESSED	CHANGE TO BASELINE	TYPE OF IMPACTS	POPULATION AFFECTED BY IMPACTS	ECONOMIC BENEFIT	SUMMARY OF RESULTS	PAGE REFERENCE IN BSA
An increasing number of cruise ships are visiting Juneau, Alaska, with 664 large	Emissions Reduction Benefits	City and Borough of Juneau (CBJ)	The value of this emission reduction is projected to be \$78 million.	Electrification of the two cruise ship berths would displace the following emissions over the next 20 years: 46,314 metric tons of CO ₂ , 1,681 metric tons of NO _x , 1,337 metric tons of SO _x , and 130 metric tons of PM _{2.5} .	Page 7-14 BCA Tabs 1,2,5-8	
 However, high levels of ship- generated emissions are also increasing. By electrifying two municipally- owned docks, cruise ships can plug into green hydroelectric shore power while visiting Juneau, reducing the level of air pollutants. 	Lise visits cruise ship berths would eliminate cruise ship berths would eliminate cruise ship emissions, vels of ship- enerated nissions are so increasing. velectrifying ro municipally- vned docks, uise ships can ug into green docks, uise ships can ug into green droelectric ore power hile visiting neau, ducing the vel of air olitication of the ships run auxiliary engines for hoteling while in port. cruise ship the solution of air of the ships run auxiliary engines for hoteling while in port. cruise ship the solution of the ships run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise ship run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling run auxiliary engines for hoteling while in port. cruise run auxiliary engines for hoteling run auxiliary eng	residents and visitors. The Juneau 2020 population was 31,773. Juneau's Alaska Native population is 19%. 1.68 million tourists are expect in Juneau in 2022.	Growth of the tourism sector contingent upon the economic benefits of cruise ship tourism outweighing environmental costs.	94% of Juneau's tourists arrive on cruise ships. The tourism sector directly supports 3,390 year-round equivalent jobs and \$100 million in associated wages, annually. Tourists are expect to spend \$304 million in Juneau in 2022.	Pages 15-16	
		Other Impacts: Local Tax Revenue		CBJ will collect sales tax dollars from cruise ships on electricity.	\$434,000 over 20 years	Pages 16-17
		Other Impacts: Safety Benefits		Health safety will improve due to reduced emissions.	Included in emissions reductions estimates above.	Page 17

July 11th, 2021

Benefit-Cost Analysis of the Juneau Cruise Ship Dock Electrification Project

Rain Coast Data was hired by Haight & Associates, on behalf of City and Borough Docks and Harbors, to develop a Benefit-Cost Analysis for a RAISE Discretionary Grant application. The Rain Coast Data team included PhD economist Brian Vander Naald and Meilani Schijvens, M.S.

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Benefit-Cost Project Summary

The largest calculated benefit of the Juneau Cruise Ship Dock Electrification Project is the monetized value of emission reductions. The ratio of discounted benefits to costs (B/C ratio) is 3.75.

A growing number of cruise ships are traveling to Juneau, Alaska. While Juneau has one cruise ship berth that enables ships to connect to shore power – the first to be developed globally – the community has four cruise ship berths. Ships without access to shore-based electricity use diesel to power onboard cruise ship operations while visiting the Juneau port. Electrification of two municipally-owned cruise ship berths will allow two additional ships to plug into hydroelectrical power when they are docked in Juneau, thus eliminating carbon-based emissions associated with cruise ship hoteling.

Following the development of the baseline and project scenarios, the following impacts were considered and monetized for the Benefit-Cost Analysis (BCA):

Emission Reduction Benefits: Electrification of the two cruise ship berths would displace the following emissions over the next 20 years: 40,362 metric tons of carbon dioxide (CO₂), 1,472 metric tons of nitrogen oxide (NO_x), 1,337 metric tons of sulfur dioxide (SO_x), and 130 metric tons of fine particulate matter (PM_{2.5}). The associated value of estimated emissions reductions, based on damage costs provided by the US Department of Transportation, is \$73 million discounted over a 20-year period.

Table 1 summarizes the findings of the benefit-cost analysis for the development of Juneau Cruise Ship Dock Electrification.

Measure	Discounted at 7%
Emissions Reduction Benefits	\$73,170,730
Residual Value	\$2,758,415
Total Benefits	\$75,929,146
Capital Costs in 2019 dollars	\$19,064,709
Maintenance Costs	\$1,208,542
Total Costs	\$20,273,251
Benefit-Cost Ratio	3.75

Table 1.	Benefit-Cost	Analysis	Summary	Results

In addition, we qualitatively discussed the following benefits that are not included directly in the benefit-cost ratio calculations:

- Jobs and wage income supported
- Local tax income
- Safety benefits

Project Description

The cruise industry is a significant and growing contributor to the Juneau economy. Growth in this sector has led to increasing concerns regarding cruise ship environmental impacts, including air emissions produced while in port. In 2022, 664 large cruise ships voyages are scheduled to visit in Juneau between April and October. CBJ owns and manages two of the four cruise ship berths in Juneau. The two privately owned berths provide similar moorage and utility connections as the city's, with the Franklin Dock providing the only shore tie power connection in Juneau. That system was the first of its kind in the world, constructed in 2001.

The Juneau Cruise Ship Dock Electrification Project would install two onshore power deployment facilities at the City & Borough of Juneau's (CBJ) two cruise ship docks. Completed in June of 2017, the berths provide moorage for neopanamax cruise ships up to 1,100 feet. The berths provide deep water moorage with access to potable water, sewer discharge and visitor amenities in the upland transportation staging areas. A deployment system will be developed to connect cruise ships moored at these docks to electricity generated by the utility's hydroelectric power plants. This system will enable connected ships to operate in hoteling mode without onboard fuel fired generators, reducing greenhouse gas emissions in Juneau's port.

Impacts of Transportation Infrastructure Improvements

The primary goal of the Juneau Cruise Ship Dock Electrification Project is to continue building a successful visitor industry economic sector while remediating environmental impacts associated with large cruise ships visiting the community. Juneau's cruise ship docks are located in downtown Juneau. The community has a population of 32,000 and is 19% Alaska Native. The installation of shore power at the two CBJ docks would eliminate nearly 50,000 metric tons of cruise ship emissions, including the CO₂, NO_x, SO_x, and PM_{2.5} that is emitted when cruise ships run auxiliary engines for hoteling while in port at those berths.

Baseline Scenario

In 2020, 43 cruise ships had been scheduled to make 606 port visits to Juneau. In 2022, 664 voyages are currently planned.¹ Cruise ships are "floating communities" which generate their own electricity and propulsion power, and heat using combustion equipment installed on board the vessels. While docked in Juneau, the ships operate in hotel mode, meaning they continue to provide power, heat, air conditioning, and hot water for guests and staff, like a floating hotel, and as a source of air pollution. The cruise ship season in Juneau begins in late April and continues through October.

If electrical power is not provided at the CBJ docks, the vessels' electrical needs will continue to be met by generation from the large on-board diesel-fired engines or gas turbines, which are a source of GHG emissions. This would mean nearly 50,000 metric tons of CO₂, NO_x, SO_x, and PM_{2.5} would be generated over the next 20 years in downtown Juneau, all of which could be avoided through development of this project.

¹ Data provided by Cruise Lines International Association.

Analysis Approach

The BCA for this project was prepared according to Benefit-Cost Analysis Guidance for Discretionary Grant Programs, published by US Department of Transportation, February 2021, and with reference to OMB Circulars A-4 and A-94 concerning benefit-cost analysis. This BCA considers all reasonable project costs and monetizable benefits over a 20-year horizon (2023–2043), and describes analysis period and discounting. The following sections summarize the results and outlines the project costs, benefits, and assumptions used in this analysis.



Rain Coast Data Technical Memo for Haight & Associates, Inc. July 2021

Page 4

The Project Summary matrix (Table 2) provides a summary of the population impacted, the benefits of the project, and a reference to where each impact is discussed in this report.

	Current Status/Baseline & Problem to be addressed	Change to Baseline	Type of Impacts	Population Affected by Impacts	Economic Benefit	Summary of Results	Page Reference in BSA
	An increasing number of cruise ships are visiting Juneau, Alaska, with 664 large cruise visits planned for 2022. However, high levels of ship- generated emissions are also increasing. By electrifying two municipally-owned docks, cruise ships can plug into renewable hydroelectric shore power while visiting Juneau, reducing the level of air pollutants	acreasing r of cruise re visiting i, Alaska, 564 large se visits d for 2022. ver, high s of ship- nerated ms are also asing. By fying two ally-owned cruise ships bug into ewable ectric shore r while g Juneau, g the level pollutants eenhouse missions.	Emissions Reduction Benefits	31,773 Juneau residents (Juneau's population is 19% Alaska Native), and 1.6 million tourists.	The value of this emission reduction, based on damage costs provided by the US Department of Transportation, is projected to be \$73 million.	Electrification of the two cruise ship berths would displace the following emissions over the next 20 years: 46,314 metric tons of CO ₂ , 1,681 metric tons of NO _x , 1,337 metric tons of SO _x , and 130 metric tons of PM _{2.5} .	Page 7-14 BCA Tabs 1,2,5-8
			Other Impacts: Jobs and Wage Income		The struggling Juneau economy is transitioning to a visitor industry economy. Long-term success of tourism is contingent upon the economic benefits of cruise ship tourism outweighing environmental costs.	Nearly all – 94% – of Juneau's tourists arrive on cruise ship. The Juneau tourism sector directly supports 3,390 year- round equivalent jobs and \$100 million in associated wages annually. Tourists spend \$305 million annually. This project will support and grow those jobs, earnings, and spending.	Page 15-16
			Other Impacts: Local Tax Revenue		The municipality will collect sales tax dollars from cruise ships on electricity received during the time they are plugged into shore power, helping offset operating costs.	\$434,000 over 20 years	Page 16-17
	and greenhouse gas emissions.		Other Impacts: Safety Benefits		Health safety will improve due to reduced CO ₂ , NO _x , SO _x , and PM _{2.5} emissions.	The monetized health-related benefits are included in the emissions reductions estimates above.	Page 17

Table 2. Project Summary Matrix

Results of Benefit-Cost Analysis

This BCA was prepared under the guidelines of the U.S. Department of Transportation for a Discretionary Grant Application.

The proposed development of the Juneau Cruise Ship Dock Electrification Project will result in a variety of monetizable benefits, the sum of which significantly exceed the project costs considered in this analysis.

Table 3 summarizes the findings of the BCA. The ratio of discounted monetized benefits to costs (B/C ratio) is 3.75 at the 7% discount rate. The following sections describe the costs and benefits used to calculate the values displayed in the table below.

Measure	Discounted at 7%
Total Benefits	\$75,929,146
Total Costs	\$20,273,251
Benefit-Cost Ratio	3.75

Table 3. Benefit-Cost Analysis Summary Results

The results of the BCA are presented using the cash flows that occur over the analysis period (2025–2044). The discount rates of 7% follow the guidance of OMB Circular A-4. The discount rate is used to discount future cash flows to the present. The discount rate takes into account the time value of money and the uncertainty associated with future cash flows (put simply, the principle of discounting works on the assumption that a dollar today is worth more than a dollar a year or more in the future). (Note that due to the use of the discount rate and because the dollars a required to be in 2019 dollars by the BCA guidelines, the total costs dollar amount is not identical to the total grant request.)

Additional non-quantifiable social benefits would also result from this project that were not considered as part of the benefit-cost calculations.

Benefits

The total benefit of this project is \$76 million. The largest monetizable benefit of providing electrical connectivity to the CBJ cruise ship berths is air emissions savings.

Value of Emissions Reduction Benefits Reduction of CO2, NOx, SOx, and PM2.5 Emissions

The total benefit of avoided emissions is expected to be more than \$73.2 million over the 20-year scope of this analysis. Air pollution from cruise ships is generated by diesel engines that burn high sulfur content fuel, producing sulfur dioxide (SO_x), nitrogen oxide (NO_x), fine particulate matter ($PM_{2.5}$), and carbon dioxide (CO_2). Cruise ship emissions exert more significant impacts in specific coastal areas that are visited repeatedly, such as Juneau.

Foregone Emissions Value	Discounted at 3% or 7%
Foregone CO2 emissions (discounted at 3%)	\$1,929,408
Foregone NOx emissions (discounted at 7%)	\$8,308,116
Foregone SOx emissions (discounted at 7%)	\$23,095,002
Foregone PM2.5 emissions (discounted at 7%)	\$39,838,204
Total annual 20-year savings of emissions value in 2019 Dollars	\$73,170,730

Table 4. Value of Emissions Savings

Electrification of the two cruise ship berths would displace the following emissions over the next 20 years: 46,314 metric tons of CO₂, 1,681 metric tons of NO_x, 1,337 metric tons of SO_x, and 130 metric tons of PM_{2.5}.

Foregone Emissions Over 20 Years	Metric Tons				
Probable Metric tons CO2 avoided	46,314				
Probable Metric tons NOx avoided	1,681				
Probable Metric tons SOx avoided	1,524				
Probable Metric tons PM2.5 avoided	149				

Table 5. Value of Emissions Savings

The team used "probable estimates" in place of "maximum estimates" to provide a conservative estimate (see tab "Fuel Consumption Avoidance") of emissions reductions. It is possible that emissions reductions will be even greater.

Infrastructure enabling the connection of cruise ships to shore power will reduce the cruise industry's impact on the environment by lowering the level of air pollutants created by the combustion of fuel while in port. The economic damage caused by air pollution represent externalities because these impacts are borne by everyone in the community, rather than by the cruise ship operators whose activities generate those emissions. Local air pollutants are generated by cruise ships while they are in hoteling
status (docked in Juneau, but continuing to provide power, climate control, and hot water for its guests and staff, like a floating hotel). The monetized value, per metric ton, of the damage caused by these emissions is provided by the US Department of Transportation. Using Appendix A, Table A-6 of the Benefit-Cost Analysis Guidance for Discretionary Grant Programs \$73 million in future savings will be realized if this project is developed, over the first 20 years of the project.

Ship-specific information on emissions levels are not available for the Alaska cruise ship fleet. In order to calculate the levels of CO₂, NO_x, SO_x, and PM_{2.5} emissions that are generated when a cruise ship is in hoteling status, the study team used the emission levels measured and presented in "Evaluating Air Emission Inventories and Indicators from Cruise Vessels at Ports," by German De Melo Rodríguez, Enrique Martin-Alcalde, J.C. Murcia-González, and Sergi Saurí, published by the World Maritime University in 2017. This paper provides estimates of air emissions of the various pollutants (CO₂, NO_x, SO_x, and PM) released by cruise vessels at the port level. The methodology was especially valuable as it specifically measured emissions generated during hoteling. Additional insight was derived from another study "Air Pollution Emission Inventory For 2008 Tourism Season Klondike Gold Rush National Heritage Park Skagway, Alaska," prepared by Richard Graw, US Forest Service, and Albert Faure, Alaska Department of Environmental Conservation Division of Water Cruise Ship Program.

In order to measure potential emission reductions from the Juneau Cruise Ship Dock Electrification Project, several assumptions were developed by the BCA project team:

Total Cruise Ship Time in Port and Connection Time Assumptions: Critical to measuring probable emissions avoided is understanding the total time that ships would be connected to shore power in the future. Cruise hours in port were developed by reviewing the schedules Cruise Line Agencies of Alaska Cruise Ship Calendar for 2022.² It is assumed that the average time in port by cruise ships visiting the community will remain relatively similar in future years, since the 2022 schedule effectively maximizes berth usage. Connection time is a subset of total time in port. The existing electrified cruise ship berth in Juneau requires approximately 90 minutes to tie up a ship, follow safety protocols – which includes a visual inspection and lockout of a switch on the dock by a member of the ship's crew to ensures the cables are working safely – and coordinating between the ship and the electric utility's system operator to perform the switching and transfer of load. The reverse action prior to departure takes a similar amount of time.³ Haight & Associates projects that the upgraded substation transformer will better synchronize the ship with the grid and the deployment system will be slightly more efficient, so that the connectiondisconnection time can be reduced to 60 minutes on each end, rather than 90 minutes. Therefore, to arrive at the total time connected per visit, the arrival time was subtracted from the departure time, with an additional two hours subtracted for electricity connection/disconnection time.

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 ² https://secureservercdn.net/198.71.233.51/2xl.54d.myftpupload.com/wp-content/uploads/2021/06/Juneau-2022.pdf
 ³ Interviews with Alec Mesdag, Director of Energy Services Alaska Electric Light & Power Co. June 16, 2021.

Total Electricity Available:

Understanding the total amount of excess hydroelectricity currently available to power two cruise ship berths in Juneau is fundamental to developing projected emission displacement calculations. The ability to provide energy with existing hydro resources is limited based on the water available at any given time, depending on annual precipitation rates. According to Alaska Electric Light and Power (AEL&P), the electrical utility for Juneau, hydrologic data collected over the years indicates that enough additional energy is available to serve two additional docks around 25% of the time (one in every four years).⁴

The project team made a further assumption that within the next 15 years, additional electric capacity would become available, based on two assumptions:

1) There is a high likelihood that new electric generation capacity is likely to be constructed – three hydroelectric sources could be developed to provide Juneau with additional energy capacity, Lake Dorothy Phase II, Sheep Creek (Chas'heeni), and Sweetheart Lake;



Aerial view of the two cruise ship berths that will be connected to hydroelectric shore power.

2) One of AEL&P's interruptible customers might no longer require electricity.

Therefore, for the first 15 years of the project, the project team assumes that 25% of ship power needed to electrify the cruise ship berths would be available, and that for the last five years of this 20-year analysis, 100% of cruise ship shore power electricity needs would be available.

Avoided Fuel Consumption: Avoided fuel consumption is estimated at 297,598 gallons per year, for years in which sufficient hydroelectricity is available – one in every four years for the first 15 years of the project analysis period. Avoided fuel consumption is based on time in port, estimated fuel consumption avoided for an

⁴ Interviews with Alec Mesdag, Director of Energy Services Alaska Electric Light & Power Co. June 16, 2021.

existing electrified cruise ship dock in Juneau, and the number of vessels that currently have the technical capability to plug into shore power.

At year 15 is it assumed that all vessels using the CBJ cruise ship berths would have the ability to connect to shore power: Based on Cruise Lines International Association 2019 Environmental Technologies and Practices Report, 88% of new cruise ships are expected to be constructed with the ability to plug into shore power.⁵ Because ships with shore-side electricity systems would likely be given docking priority at the berths with electrical capacity, by year 15 this analysis assumes that the probable time cruise ships in Juneau will be connected to shore power will increase from 494 hours at the North Berth and 353 hours at the South Berth to 1,663 total hours of connection time for both berths, thus also increasing the gallons of avoided fuel consumption during the final five years of the analysis period to 584,648 gallons annually. (See tab "Fuel Consumption Avoidance" of the BCA tables). Shore power usage is a primary means whereby the cruise industry work on its pledge to lower its carbon footprint.

⁵ CLIA 2019 Environmental Technologies and Practices Report. https://cruising.org/-/media/research-updates/2019-cliainfographic_environmental-technologies-practices-report---cruise-industry-report.ashx

Value of CO2 Savings

An estimated 46,314 metric tons of CO_2 air emissions is expected to be avoided through implementation of this project. The discounted present value of CO_2 avoided is expected to be \$37,684 in the initial year it is realized, and \$1.93 million over the 20-year scope of this analysis. See Table 6 below:

Year	Probable Metric tons CO2 avoided	2019 Value of CO2 value	Nominal value of CO2 avoided	Discounted present value of CO2 avoided
		per metric ton		
2025	757.39	\$56	\$42,414	\$37,684
2026	757.39	\$57	\$43,171	\$37,240
2027	757.39	\$58	\$43,928	\$36,789
2028	757.39	\$59	\$44,686	\$36,334
2029	757.39	\$60	\$45,443	\$35,873
2030	757.39	\$61	\$46,201	\$35,409
2031	757.39	\$62	\$46,958	\$34,941
2032	757.39	\$63	\$47,715	\$34,471
2033	757.39	\$64	\$48,473	\$33,998
2034	757.39	\$66	\$49,988	\$34,039
2035	757.39	\$67	\$50,745	\$33,548
2036	757.39	\$68	\$51,502	\$33,057
2037	757.39	\$69	\$52,260	\$32,567
2038	757.39	\$70	\$53,017	\$32,076
2039	5,951.72	\$71	\$422,572	\$248,216
2040	5,951.72	\$72	\$428,524	\$244,381
2041	5,951.72	\$73	\$434,475	\$240,558
2042	5,951.72	\$75	\$446,379	\$239,951
2043	5,951.72	\$76	\$452,330	\$236,068
2044	5,951.72	\$77	\$458,282	\$232,208
	Total Savings	\$1,929,408		

Table 6. Monetary Value of Avoided CO2

Notes: CO₂ **emissions** are based on gallons of fuel consumed while "hoteling" in port. Probable gallons avoided came from adding the values from the north and south berth "probable" boxes from the "Fuel consumption Avoidance" tab. For the first 15 years of the project, probable metric tons of CO₂ avoided take the metric tons per gallon contained in the EPA guidance (<u>https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references</u>) times the 25% of the time that AELP will be able to supply hydro power for the plug in. Implicitly, we are assuming that the other 75% of the time there are equivalent amounts of CO₂ coming from burning diesel on board versus AELP providing shore power. From years 16-20, analysis assumes that there will be a renewable source of electricity for 100% of the ships' plug in time. The 2019 value per metric ton came from Table A-6 of the 2021 BCA guidance document. Pages 40-41 of the 2021 BCA guidance document indicates that CO₂ emissions should be discounted at 3%.

Value of NOx Savings

An estimated 1,681 metric tons of NOx air emissions is expected to be avoided through implementation of this project. The discounted present value of NOx avoided is expected to be \$340,667 in the initial year it is realized, and \$8.3 million over the 20-year scope of this analysis. See Table 7 below:

Year	Probable Time connected	Probable Metric tons NOx avoided	2019 NOx value per metric ton	Nominal value NOx avoided	Discounted present value of NOx avoided
2025	968	30.43	\$16,800	\$511,249	\$340,667
2026	968	30.43	\$17,000	\$517,336	\$322,171
2027	968	30.43	\$17,300	\$526,465	\$306,407
2028	968	30.43	\$17,500	\$532,551	\$289,673
2029	968	30.43	\$17,700	\$538,638	\$273,816
2030	968	30.43	\$18,000	\$547,767	\$260,240
2031	968	30.43	\$18,000	\$547,767	\$243,215
2032	968	30.43	\$18,000	\$547,767	\$227,304
2033	968	30.43	\$18,000	\$547,767	\$212,433
2034	968	30.43	\$18,000	\$547,767	\$198,536
2035	968	30.43	\$18,000	\$547,767	\$185,548
2036	968	30.43	\$18,000	\$547,767	\$173,409
2037	968	30.43	\$18,000	\$547,767	\$162,064
2038	968	30.43	\$18,000	\$547,767	\$151,462
2039	1663	209.12	\$18,000	\$3,764,201	\$972,741
2040	1663	209.12	\$18,000	\$3,764,201	\$909,104
2041	1663	209.12	\$18,000	\$3,764,201	\$849,630
2042	1663	209.12	\$18,000	\$3,764,201	\$794,046
2043	1663	209.12	\$18,000	\$3,764,201	\$742,099
2044	1663	209.12	\$18,000	\$3,764,201	\$693,551
Total Savings over 20-year period, discounted at 7%					\$8,308,116

 Table 7. Monetary Value of Avoided NOx

Notes: NOx emissions are based on "hoteling" time in port. Probable time plugged in to shore power came from adding the Probable time connected to north and south berths from the "Probable CBJ Docks" box in the "Fuel consumption Avoidance" tab. The value of emissions per hour (125.75 kg/hr), which appears in the upper left-hand corner of the "Avoided NOx" tab in the BCA spreadsheet, comes from the average value in Table 3 of Melo Rodriguez et al. (2017). The 2019 value per metric ton came from Table A-6 of the 2021 BCA guidance document. Page 40 of the 2021 BCA guidance document indicates this gas should be discounted at 7%.

Value of SOx Savings

An estimated 1,524 metric tons of SOx air emissions is expected to be avoided through implementation of this project. The discounted present value of SOx avoided is expected to be \$932,979 in the initial year it is realized, and \$23.1 million over the 20-year scope of this analysis. See Table 8 below:

Year	Probable	Probable	2019 value of	Nominal value of	Discounted present
	Hours	Metric tons	SOx value per	SOx avoided	value of SOx
	connected	SOx avoided	metric ton		avoided
2025	968	27.24	\$44,900	\$1,222,946	\$932,979
2026	968	27.24	\$45,500	\$1,239,288	\$883,595
2027	968	27.24	\$46,200	\$1,258,354	\$838,494
2028	968	27.24	\$46,900	\$1,277,420	\$795,513
2029	968	27.24	\$47,600	\$1,296,486	\$754,567
2030	968	27.24	\$48,200	\$1,312,828	\$714,092
2031	968	27.24	\$48,200	\$1,312,828	\$667,375
2032	968	27.24	\$48,200	\$1,312,828	\$623,715
2033	968	27.24	\$48,200	\$1,312,828	\$582,911
2034	968	27.24	\$48,200	\$1,312,828	\$544,777
2035	968	27.24	\$48,200	\$1,312,828	\$509,137
2036	968	27.24	\$48,200	\$1,312,828	\$475,829
2037	968	27.24	\$48,200	\$1,312,828	\$444,700
2038	1663	46.79	\$48,200	\$2,255,406	\$714,004
2039	1663	187.17	\$48,200	\$9,021,625	\$2,669,173
2040	1663	187.17	\$48,200	\$9,021,625	\$2,494,555
2041	1663	187.17	\$48,200	\$9,021,625	\$2,331,359
2042	1663	187.17	\$48,200	\$9,021,625	\$2,178,841
2043	1663	187.17	\$48,200	\$9,021,625	\$2,036,300
2044	1663	187.17	\$48,200	\$9,021,625	\$1,903,084
Total Savings over 20-year period, discounted at 7%					\$23,095,002

Table 8. Monetary Value of Avoided SOx

Notes: SOx emissions are based on "hoteling" time in port. Probable time plugged in to shore power came from adding the Probable time connected to north and south berths from the "Probable CBJ Docks" box in the "Fuel consumption Avoidance" tab. The value of emissions per hour (112.55 kg/hr), which appears in the upper left-hand corner of the "Avoided SOx" tab in the BCA spreadsheet, comes from the average value in Table 3 of Melo Rodriguez et al. (2017). The 2019 value per metric ton came from Table A-6 of the 2021 BCA guidance document. Page 40 of the 2021 BCA guidance document indicates this gas should be discounted at 7%.

Value of PM2.5 Savings

An estimated 148.6 metric tons of PM2.5 in air emissions is expected to be avoided through implementation of this project. The discounted present value of PM2.5 avoided is expected to be \$1.6 million in the initial year it is realized, and \$40 million over the 20-year scope of this analysis. See Table 9 below:

Year	Probable Hours	Probable Metric tons	2019 value of PM2.5	Nominal value of PM2.5 avoided	Discounted value of PM2.5 avoided
	connected	PM2.5 avoided	per metric ton		
2025	968	2.690	\$796,600	\$2,142,719	\$1,634,670
2026	968	2.690	\$807,500	\$2,172,038	\$1,548,633
2027	968	2.690	\$818,600	\$2,201,895	\$1,467,216
2028	968	2.690	\$829,800	\$2,232,021	\$1,389,990
2029	968	2.690	\$841,200	\$2,262,685	\$1,316,903
2030	968	2.690	\$852,700	\$2,293,618	\$1,247,576
2031	968	2.690	\$852,700	\$2,293,618	\$1,165,959
2032	968	2.690	\$852,700	\$2,293,618	\$1,089,681
2033	968	2.690	\$852,700	\$2,293,618	\$1,018,394
2034	968	2.690	\$852,700	\$2,293,618	\$951,770
2035	968	2.690	\$852,700	\$2,293,618	\$889,505
2036	968	2.690	\$852,700	\$2,293,618	\$831,313
2037	968	2.690	\$852,700	\$2,293,618	\$776,928
2038	968	2.690	\$852,700	\$2,293,618	\$726,101
2039	1663	18.484	\$852,700	\$15,761,516	\$4,663,264
2040	1663	18.484	\$852,700	\$15,761,516	\$4,358,190
2041	1663	18.484	\$852,700	\$15,761,516	\$4,073,075
2042	1663	18.484	\$852,700	\$15,761,516	\$3,806,612
2043	1663	18.484	\$852,700	\$15,761,516	\$3,557,582
2044	1663	18.484	\$852,700	\$15,761,516	\$3,324,843
Total Savings over 20-year period, discounted at 7%					\$ 39,838,204

Table 9. Monetary Value of Avoided PM2.5

Notes: PM2.5 emissions are based on "hoteling" time in port. Probable time plugged in to shore power came from adding the probable time connected to north and south berths from the "Probable CBJ Docks" box in the "Fuel consumption Avoidance" tab. The value of emissions per hour (11.7 kg/hr), which appears in the upper left-hand corner of the "Avoided PM2.5" tab in the BCA spreadsheet, comes from the average value in Table 3 of Melo Rodriguez et al. (2017). Moreover, "95% of the ship-generated PM is of an aerodynamic diameter of less than 2.5 μ m (PM2.5)" (Melo Rodriguez et al. 2017, p.2), so we assume that 95% of the PM is PM2.5. The 2019 value per metric ton came from Table A-6 of the 2021 BCA guidance document. Page 40 of the 2021 BCA guidance document indicates this gas should be discounted at 7%.

Residual Value and Remaining Life of Service

The project fully depreciates in 2044, which is 20-years after the expected first year of operation in 2025. Given that the assumed lifespan of the capital investment is 50 years, residual values were calculated as 60% of the original capital value. While residual value is technically a negative cost, we have classified the residual value as a benefit so it will be added to the numerator in the benefit-cost ratio according to the Benefit-Cost Analysis guidance document.

Other Benefits

Supporting the Local Economy

In recent years, the Juneau economy has been devastated by a pair of economic losses. Jobs in state government, historically the cornerstone of the local economic base, fell 20% over the past eight years. On top of this, Juneau was particularly impacted by the pandemic crisis, losing 19% of all jobs in the first six months of COVID-19.

As state government jobs are cut, the community is increasingly turning to tourism to help support the local economy. In 2019, the Juneau tourism sector directly supported 3,390 year-round equivalent jobs and \$100 million in associated wages, making it the largest private sector industry in the community, both in terms of jobs and wages. In 2022, Juneau tourists are expected to spend \$305 million in the community. Approximately one-fifth of all local sales tax dollars are spent by tourists.



City and Borough of Juneau by Industry, 2019

Rain Coast Data Technical Memo for Haight & Associates, Inc. July 2021

Most visitors, 94% of all Juneau tourists, come to the community by cruise ship. The number of cruise passengers to Juneau has been increasing – from just under a million in 2013, to 1.33 million in 2019, to a projected 1.58 million in 2022. In 2022, 664 large cruise ship voyages are planned for Juneau.



However, local support for a growing cruise ship tourism sector is contingent upon the economic benefits of this important sector outweighing environmental costs. The ability of the community to sustain and support this key economic sector depends on the community's ability to remediate and address local environmental concerns. The development of the Juneau Cruise Ship Dock Electrification Project would be an important step in that process.

Municipal Tax Benefits

One benefit of the Juneau Cruise Ship Dock Electrification Project is that it would allow the municipality to collect sales tax dollars from cruise ships on electricity received during the time they are plugged into shore power. The current sales tax in the City and Borough of Juneau is 5%. Since each cruise ship company that would use shore power would make electricity purchases in excess of the "single item or service tax cap" local tax exemptions – currently \$12,400 per month – sales tax on this would be capped at \$620 monthly. There are seven cruise ship lines which could potentially connect to shore

Rain Coast Data Technical Memo for Haight & Associates, Inc. July 2021

power. Assuming only May through September usages (there will be some usage in April and October) and that each line uses electricity in excess of \$12,400 then these 7 cruise lines would pay a combined total of \$4,340 in municipal sales tax for electricity on a monthly basis, and \$21,700 on an annual basis. If unchanged, this would provide \$434,000 in municipal tax revenue over the course of 20 years. However, the sales tax code provides for an adjustment to the level of the cap every two years, based on the most recent Anchorage CPI data.

Safety Benefits

Cruise ships contribute to Alaska's mobile-source emission inventories. In aggregate, reductions of emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and fine particulate matter (PM2.5) prevent premature deaths and relieve respiratory symptoms. The monetized health-related benefits estimated have already been included in the emissions reductions estimates.

Noise Pollution Reduction

Reduced noise in the downtown Juneau waterfront and business district when auxiliary engine operations are replaced by quiet shore power, and improved air quality in Downtown Juneau, West Juneau & Douglas.

Costs

Capital Expenditures

Design, permitting, and construction of the Juneau Cruise Ship Dock Electrification Project are scheduled to occur over a three-year period from 2022–2024. The estimated construction cost for all elements of the electrification project (North and South berth connections) is \$24.9 million. To account for inflation, capital costs and maintenance costs were first adjusted from 2021 nominal dollars to the baseline 2019 real dollars using GDP deflators from the Bureau of Economic Analysis. Future costs were then further discounted using a 7% discount rate to the baseline 2019 dollars. For the sake of this analysis, capital costs have been spread evenly over the duration of the construction period.

Assume completion in 2024	Discounted at 7%
Capital Costs	\$19,064,709
Maintenance Costs	\$1,208,542
Total Costs	\$20,273,251

Table 10. Total Costs

Operations and Maintenance Expenditures

Equipment and float maintenance will be approximately \$50,000 per berth annually. Discounted at 7% over a 20-year period, maintenance is expected to be \$1.2 million

Operations costs are assumed to be on par with the current South Franklin Dock during cruise season. According to a March 8th memo from AEL&P to the Juneau Assembly, "AEL&P staff now spends about 500 man-hours per year supporting the South Franklin Dock during the cruise ship season...Additional linemen and engineering support will be required during the summer season." Because these are private utility costs, rather than municipally-borne costs, it is assumed that the fees for ship-to-shore power would include these increased costs, and thus they are not included in the BCA calculations.

State of Good Repair

The residual value of the project assets is characterized as a state of good repair benefit. The two city-owned berths called the Alaska Steamship Wharf (north berth) and the Cruise Ship Terminal (south berth) are in excellent structural condition and are among the newest facilities in the world, having been constructed in 2016 and 2017. An in-depth planning and design process lead to the decision to install concrete floating berths, galvanized steel structures with sacrificial zinc pile anodes to construct a facility with a minimum service life of 50 years. The City is committed to ensuring the shore tie power systems are kept in a state of good repair, in line with its demonstrated history of maintaining assets.

Table 1. Benefit-Cost Analysis Summary Results

Measure	Discounted at 7%
Emissions Reduction Benefits	\$73,170,730
Residual Value	\$2,758,415
Total Benefits	\$75,929,146
Capital Costs in 2019 dollars	\$19,064,709
Maintenance Costs	\$1,208,542
Total Costs	\$20,273,251
Benefit-Cost Ratio	3.75

Table 3. Benefit-Cost Analysis Summary Results

Measure	Discounted at 7%
Total Benefits	\$75,929,146
Total Costs	\$20,273,251
Benefit-Cost Ratio	3.75

Table 4. Value of Emissions Savings

Foregone Emissions Value	Disc	counted at 3% or 7%
Foregone CO2 emissions (discounted at 3%)		1,929,408
Foregone NOx emissions (discounted at 7%)		8,308,116
Foregone SOx emissions (discounted at 7%)	\$	23,095,002
Foregone PM2.5 emissions (discounted at 7%)	\$	39,838,204
Total annual 20 year savings of emissions value in 2019 Dollars	\$	73,170,730

Table 5. Metric Tons of Emissions Savings

Foregone Emissions Over 20 Years	Metric Tons
Probable Metric tons CO2 avoided	46,314
Probable Metric tons NOx avoided	1,681
Probable Metric tons SOx avoided	1,524
Probable Metric tons PM2.5 avoided	149

Table x. Total Costs

Assume completion in 2024	Discounted at 7%
Capital Costs in 2019 dollars	\$19,064,709
Maintenance Costs	\$1,208,542
Total Costs	\$20,273,251

Attachment E

Presented by: The Manager Presented: 06/14/2021 Drafted by: R. Palmer III

RESOLUTION OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2958

A Resolution of the City and Borough of Juneau in Support of the U.S. Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program.

WHEREAS, the U.S. Department of Transportation administers the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program under the Consolidated Appropriations Act 2021 by reviewing, scoring, and ranking applicants seeking limited federal funds; and

WHEREAS, Juneau led the world with the first electrified cruise ship berth in 2001 providing renewable hydroelectricity that utilized excess power reserves to reduce ship emissions and to lower the local residents power rates; and

WHEREAS, Juneau continues to wisely use new technologies to see power consumption reductions that have allowed the existing generation system to absorb new loads from electrical cars and electrical buses without new generation infrastructure; and

WHEREAS, the CBJ Climate Action Plan recommends mandating new commercial docks to provide electric plug-ins for cruise ships and other commercial vessels, and require that ships use electric shore power whenever it is available; and

WHEREAS, CBJ consistently receives public comment concerning emissions caused by cruise ships, and hydropower provides energy while limiting greenhouse gas emissions; and

WHEREAS, the Visitor Industry Task Force recommended that CBJ prioritize electrification of all cruise ship docks; and

WHEREAS, CBJ lost marine passenger fee funds that typically are used for public infrastructure projects as a result of tax revenue loss due to the Covid-19 pandemic; and

WHEREAS, the cruise ship fleets continue to retrofit or build shore tie power connection systems to reduce emissions and reduce operating costs; and

WHEREAS, CBJ Docks and Harbors is committed to designing, constructing, and maintaining infrastructure under its charge in a sustainable and efficient manner commensurate with available resources; and WHEREAS, due to fiscal limitations with new capital projects for the municipally owned cruise ship berths were not initially equipped with shore tie power infrastructure; and

WHEREAS, the addition of shore power connections to the municipally owned cruise ship berths will drastically reduce vessel emissions and visible particulates in Juneau; and

WHEREAS, CBJ Docks and Harbors intends to submit an application under the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program to design, purchase, install, and maintain shore tie power connections to both municipally owned cruise ship berths.

Now, Therefore, Be It Resolved by the Assembly of the City and Borough of Juneau, Alaska:

Section 1. Cruise Ship Dock Electrification. The Assembly of the City and Borough of Juneau strongly supports the design, purchase, install, and maintenance of shore tie power connections to both municipally owned cruise ship berths, and requests the U.S. Department of Transportation provide full funding for this project.

Section 2. Local Match. The Assembly of the City and Borough of Juneau supports providing a local match as required by the grant agency.

Section 3. Effective Date. This resolution shall be effective immediately after its adoption.

Adopted this 14th day of June, 2021.

Beth A. Weldon, Mayor

Attest:

Ehalion mener

Elizabeth J. McEwen, Municipal Clerk

Presented by: The Manager Presented: 06/14/2021 Drafted by: R. Palmer III

RESOLUTION OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2958(b)

A Resolution of the City and Borough of Juneau in Support of the U.S. Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program.

WHEREAS, the U.S. Department of Transportation administers the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program under the Consolidated Appropriations Act 2021 by reviewing, scoring, and ranking applicants seeking limited federal funds; and

WHEREAS, Juneau led the world with the first electrified cruise ship berth in 2001 providing renewable hydroelectricity that utilized excess power reserves to reduce ship emissions and to lower the local residents power rates; and

WHEREAS, Juneau continues to wisely use new technologies to see power consumption reductions that have allowed the existing generation system to absorb new loads from electrical cars and electrical buses without new generation infrastructure; and

WHEREAS, the CBJ Climate Action Plan recommends mandating new commercial docks to provide electric plug-ins for cruise ships and other commercial vessels, and require that ships use electric shore power whenever it is available; and

WHEREAS, CBJ consistently receives public comment concerning emissions caused by cruise ships, and hydropower provides energy while limiting greenhouse gas emissions; and

WHEREAS, the Visitor Industry Task Force recommended that CBJ prioritize electrification of all cruise ship docks; and

WHEREAS, CBJ lost marine passenger fee funds that typically are used for public infrastructure projects as a result of tax revenue loss due to the Covid-19 pandemic; and

WHEREAS, the cruise ship fleets continue to retrofit or build shore tie power connection systems to reduce emissions and reduce operating costs; and

WHEREAS, CBJ Docks and Harbors is committed to designing, constructing, and maintaining infrastructure under its charge in a sustainable and efficient manner commensurate with available resources; and WHEREAS, due to fiscal limitations with new capital projects for the municipally owned cruise ship berths were not initially equipped with shore tie power infrastructure; and

WHEREAS, the addition of shore power connections to the municipally owned cruise ship berths will drastically reduce vessel emissions and visible particulates in Juneau; and

WHEREAS, CBJ Docks and Harbors intends to submit an application under the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program to design, purchase, install, and maintain shore tie power connections to both municipally owned cruise ship berths; and

WHEREAS, on June 14, 2021, the Assembly adopted Resolution 2958, and this version has been amended to include a match funding amount, which would require passage of an appropriation ordinance in the future and this resolution does not bind a future Assembly.

Now, Therefore, Be It Resolved by the Assembly of the City and Borough of Juneau, Alaska:

Section 1. Cruise Ship Dock Electrification. The Assembly of the City and Borough of Juneau strongly supports the design, purchase, install, and maintenance of shore tie power connections to both municipally owned cruise ship berths, and requests the U.S. Department of Transportation provide full funding for this project.

Section 2. Local Match. The Assembly of the City and Borough of Juneau supports providing a local match up to \$ 4,900,000 or as required by the grant agency.

Section 3. Effective Date. This resolution shall be effective immediately after its adoption.

Adopted this 12 day of July, 2021.

Beth A. Weldon, Mayor

Attest:

Elizabeth J. McEwen, Municipal Clerk

FY 2021 RAISE Project Information Form - All Fields Required **DO NOT CHANGE FILE NAME, COPY/PASTE, OR PDF THIS DOCUMENT WHEN SUBMITTING TO AVOID PROCESSING ERRORS**



Field Name	Response	Instructions
Project Name	Juneau Cruise Ship Berth Electrification	Enter a <u>concise</u> , descriptive <u>title</u> for the project. This should be the same title used in the Grants.gov SF-424 submission and the application narrative.
Project Description	The Juneau Cruise Ship Berth Electrification Project will enable cruise ships that are visiting the community to plug into renewable shore power, thereby allowing the ships to operate without onboard fuel fired generators. Juneau's two city- owned cruise ship berths sit in the heart of downtown Juneau. Completed in 2017, the berths provide moorage for neopanamax cruise ships. The RAISE Grant will fund two new power connection floats, cable positioning devices	Describe the project in plain English terms, using <u>no more</u> <u>than 100 words</u> . For example, "The project will replace the existing bridge over the W river on Interstate-X between the cities of Y and Z" or "the RAISE Grant will fund construction activities for streetcar service from location X to location Y." Please <u>do not</u> describe the project's benefits, background, or alignment with the selection criteria in this description field.
Urban/Rural	Rural	Identify whether the project is <u>located in a rural or urban</u> <u>area</u> , using the drop-down menu. For RAISE 2021, a project is designated as urban if it is located within (or on the boundary of) a Census-designated urbanized area that had a population greater than 200,000 in the 2010 Census. If a project is located outside a Census-designated urbanized area with a population greater than 200,000, it is designated as a rural project.
Urbanized Area	Not located in an Urbanized Area	If you have identified the project as "urban," please select the <u>associated 2010 Census-designated urbanized area</u> (UA) from the drop-down. If you identified the project as "rural" but it is located in an UA with a population under 200,000, please select the UA from the drop-down. If you have identified the project as "rural" and it is located outside an urbanized area, please select "Not located in an urbanized area" from the drop-down.
Capital or Planning	capital	Identify the project as <u>capital</u> or <u>planning</u> . The "capital" designation is for projects that requesting funding for the construction of surface transportation capital infastructure. The " planning " designation is for projects that are requesting funding primarily for planning, preparation, or design of eligible surface transportation capital projects.
Amount Requested	\$20,051,856	Enter the total amount of RAISE funds requested for this project in this application. [<i>For capital projects, the minimum urban entry is \$5,000,000 and the minimum rural entry is \$1,000,000. For planning projects, the minimum entry is \$1. The maximum entry for both types is \$25,000,000].</i>
Project Location County	AK - Juneau Borough	Identify the county where the project is located in using the drop-down. If the project is located in more than one county, please identify the county in which the majority of the project is located.
Additional Project Counties		Identify additional counities seperated by a comma. For instance, if the project additionaly runs through Middlesex County and Suffolk County, please enter 'Middlesex County, Suffolk County' in the cell.

FY 2021 RAISE Project Information Form - All Fields Required **DO NOT CHANGE FILE NAME, COPY/PASTE, OR PDF THIS DOCUMENT WHEN SUBMITTING TO AVOID PROCESSING ERRORS**



Field Name	Response	Instructions
Project Location Census Tract	5	Identify the census tract number of the project. Please visit USDOT's RAISE webpage to review a full list of census tracts by state and county or refer to the Census Bureau's TIGER Web map to identify. For example, if the most central tract is Census Tract 93.30, please enter '93.30' into the cell. Do not be concerned if the last zero is missing from your response (e.g., 93.30 may display as 93.3). If the project is located in more than one census tract please identify the census tract in which the majority of the project is located.
Other Project Census Tracts		Identify other census tracts in which the project is Iocated, seperated by a comma. For example, if the project is located in Census Tract 93.31, Census Tract 93.32, and Census Tract 94.03, please enter '93.31, 93.32, 94.03' into the cell.
Project Located in an Area of Persistent Poverty?	No - it is not located in area of persistent poverty	Identify if the project is located in an area of persistent poverty based on the critieria outlined in the NOFO. The list of counties and census tracts that meet this definition can be found on USDOT's RAISE webpage.
Project Location Zip Code	99801	Identify the 5-digit zip code of the project location. If the project is located in more than one zip codes, please identify the zip code in which the majority of the project is located.
Project Type	Maritime - New Capacity	Identify the Primary and Secondary project type combination that most closely aligns with your project from the choices in the drop-down menu. See the "Project Types" tab in this file for further information and project type definitions.
Prior BUILD/TIGER Funds Awarded to Project?	No	Identify whether the project has previously received BUILD/TIGER funding, and if so, whether that funding was through a planning or capital grant, using the drop-down menu.
Prior BUILD/TIGER Application?	No	Identifiy whether this project has previously been submitted for BUILD/TIGER funding and, if it is has, please identifiy the most recent competition it was submitted to for consideration.
USDOT FY21 Discretionary Application?	No	<u>Please identify if this project has been submitted to</u> <u>other USDOT FY21 discretionary grant programs</u> in addition to RAISE. If it has been submitted to multiple programs (in addition to RAISE), please select 'Multiple' from the drop-down.
Total Project Cost	\$24,951,856	Enter the total cost of the project . This should equal the sum of Total Federal Funding and Total Non-Federal Funding. <i>This value may not be less than the amount requested.</i>

FY 2021 RAISE Project Information Form - All Fields Required **DO <u>NOT</u> CHANGE FILE NAME, COPY/PASTE, OR PDF THIS DOCUMENT WHEN SUBMITTING TO AVOID PROCESSING ERRORS**



Field Name	Response	Instructions
Total Federal Funding	\$20,051,856	Enter the <u>amount of funds committed to the project</u> <u>from ALL Federal sources including the proposed RAISE</u> <u>amount</u> . This value may not be less than the amount requested. For RAISE projects designated as urban , Federal funding cannot exceed 80% of total project cost unless the project is a planning project located in an area of persistent poverty as defined in the RAISE NOFO.
Total Non-Federal Funding	\$4,900,000	Enter the <u>amount of funds committed to the project</u> <u>from non-Federal sources</u> . For RAISE projects designated as urban , the total non-Federal funding amount must be greater than or equal to 20% of the project cost unless the project is a planning project located in an area of persistent poverty as defined in the RAISE NOFO.
Tribal Government?	No	Select "Yes" from the drop-down menu if the applicant is a Federally recognized tribal government .
Tribal Benefits?	N/A	If the applicant is not a Federally recognized tribal government, is the project located on tribal land? And if not, does it have direct tribal benefits? Answer using the drop-down menu.
Private Corporation Involvement	Yes - directly involves or benefits a private corporation	Does this project involve (a) private entity(ies) that will receive a direct and predictable financial benefit if the project is selected for award? This includes, but it not limited to, private owners of infrastructure facilities being improved and private freight shippers or carriers directly benefitting from completion of the proposed project.
Private Corporation Name(s)	Alaska Electric Light and Power Company	If this project directly involves or benefits a specific private corporation, please list the corporation(s) separated by a comma.
TIFIA/RRIF?	No	Is the project currently, or does this project anticipate applying for Transportation Infrastructure Finance and Innovation Act (TIFIA) or Railroad Rehabilitation & Improvement Financing (RRIF) <u>loans</u> ?
Department Financing Program?	No	If your application is unsuccessful, would you like to be contacted about the Department's financing program ?

Attachment D Letters of Support



July 8, 2021

The Honorable Pete Buttigieg Secretary of Transportation 1200 New Jersey Avenue SE Washington DC, 20590

Re: Support for the City and Borough of Juneau's publicly-owned dock electrification funding request for the US DOT RAISE grant

Dear Secretary Buttigieg:

As the state legislators representing Alaska's capital city, we write to support the RAISE grant application that would help fund electrification of Juneau's two publicly-owned cruise ship docks. We appreciate your retooling of the former TIGER grants to incorporate renewable energy, climate change, and emissions elimination. Juneau's project squarely meets the updated goals and objectives with infrastructure that eliminates ship-borne emissions, particulates, and noise at the port facilities in the heart of downtown Juneau.

Electrifying these docks is a demonstrated community value, supported in both the Juneau Climate Action Plan and the Juneau Renewable Energy Strategy. Shifting big ships from their own generators to Juneau's fish-safe, renewable hydroelectric power system will help our community and our nation meet our greenhouse gas reduction goals.

Juneau pioneered dock electrification with the first dock in the world to provide shore power to a cruise ship, mitigating emissions and lowering costs. Our local government now seeks to build on that private facility's success at the two adjacent publicly-owned cruise ship berths. The economic, environmental, and quality of life benefits will improve Juneau's downtown for the diverse groups of Americans who live and work there. The project will also create family-wage construction and operations jobs while helping Juneau to a zero-emission future. It enjoys support from both business and labor organizations.

The visitor industry is vital to our state and local economy. In Juneau, tourist revenue produces more than 20% of the local sales tax as we serve more than a million annual visitors every (non-pandemic) year. A clean, haze-free, downtown area provides the picturesque capital city that locals deserve and visitors expect. This dock infrastructure is critical to our visitor industry.

Thank you in advance for considering Juneau's RAISE grant application for dock electrification, and for your service to our nation.

Senator Jesse Kiehl

Representative Sara Hannan

Representative Andi Story

Proudly Serving the Community of Juneau.



p: 907.780.2222 • f: 907.780.3571 • 5601 Tonsgard Ct. • Juneau, AK 99801

July 7, 2021 **The Honorable Pete Buttigieg** Secretary of the U.S. Department of Transportation **Office of the Secretary of Transportation** 1200 New Jersey Ave, SE Washington, DC 20590

AEL&P Letter of Support for the City and Borough (CBJ) for its Juneau Dock Electrification funding request: 2021 Application for the National Infrastructure Investments for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Mr. Secretary,

Alaska Electric Light and Power Company (AEL&P) supports the CBJ's application for dock electrification infrastructure to the RAISE program to fund the development and construction of dock electrification for two publicly owned cruise ship berths to provide additional electrical service to the over 580 (pre-covid 2019) cruise ship visitations, delivering over 1.35M visitors to Juneau.

AEL&P has been providing electric service to the City and Borough of Juneau for 128 years. Twenty years ago, AEL&P and Princess Cruise Lines collaborated to pioneer cruise ship dock electrification. Juneau was the first location in the world which allowed cruise ships to completely rely on shore power while connected to the local electric system.

Now the CBJ is working toward electrifying its public-owned docks to reduce emissions to create a better working and living environment (cleaner, healthier and quieter) for the downtown citizens.

CBJ Dock Electrification is a demonstrated community value supported by CBJ Assembly (*CBJ Resolution 2958*) as well as in both the CBJ Juneau Climate Action Plan (*CBJ Resolution* 2593) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution 2808*).

We fully support the CBJ's RAISE application to electrify its public docks to help our community meet its GHG reductions and renewable energy goals. These federal funds would support the US DOT to expand dock electrification in Juneau by providing the required funds to electrify the public-owned and publicly operated docks.

We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner port that will provide health benefits to Juneau's citizens for generations to come.

Constance Hulbert

Constance Hulbert President and General Manager



June 18, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: Goldbelt, Incorporated Strong Letter of Support for the City and Borough of Juneau's (CBJ) 2021 Application for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program,

Dear Secretary Buttigieg,

Goldbelt, Incorporated is an urban Alaskan Native corporation with more than 3900 Alaska Native shareholders headquartered in Juneau that owns businesses and employs our Alaska Native tribal shareholders in the visitor, transportation, and maritime sectors. Because of our deep background and understanding of these industries and our commitment to stewardship for our environment and traditional lands, I am writing to express our support for the CBJ Port Authorities Dock Electrification funding request to your DOT RAISE grant program.

I appreciate that your 2021 Federal Notice included addressing the concerns of "overburdened communities," which translates into addressing concerns of Native American populations. A clean and emission-free downtown Juneau directly impacts Goldbelt Native Alaskan shareholders and is consistent with our Native values of preserving our environment for future generations. First and foremost, dock electrification provides environmental benefits and sustained reduction of smog, particulates, and harmful emissions that diesel exhaust can cause on our shareholders and workers employed in the Juneau tourism industry. Our Goldbelt Tram is yards from the public cruise ship terminals slated for electrification. Dock electrification eliminates all cruise ship smoke and emissions, thereby significantly improving the visitor experience on our Goldbelt Tram and providing a healthier work environment for our shareholders and employees. Our Goldbelt Tram travels 1800 feet in elevation from the Port area to an observation deck, restaurant, and tourism adventure with a live eagle exhibition on Mount Roberts. The visitor to Juneau can learn about our Alaska Native culture visit with Alaska Native artists.

On June 14, 2021, the CBJ Assembly passed Resolution 2958 supporting the City's application to the US Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program. This recent support is consistent with the community values seeking to reduce harmful emissions and displace fossil fuel with clean, locally produced hydropower electricity. Our Goldbelt, Inc. and its shareholders share these



values, and our investments prove our commitment. The Goldbelt Tram is fully electric and has run on electric motors for 25 years.

A RAISE grant award from the US Department of Transportation to Juneau would enable Juneau with a partnership of Goldbelt and other Alaska Native organizations to help market the pristine and clean area that makes up the traditional lands of shareholders. Dock Electrification is synergistic for our community values, good for the health of our residents, workers, and shareholders. Further dock electrification is also economically beneficial for the cruise industry as clean hydropower is lower than burning fuel, so it is economically beneficial for ships to connect to shore power.

Responsible stewardship and reduction of emissions and improved quality of life by installing dock electrification for publicly owned dock facilities is a team effort with the US Dept. of Transportation and our community at large.

We appreciate your consideration of this grant application for Juneau's dock electrification. A wise and prudent investment that will provide environmental and economic benefits and dividends for years to come.

Thank you for your consideration.

McHugh Pierre President and CEO



September 21, 2020

Subject: Alaska Native Brotherhood Camp 70 support for federal funding for regional dock electrification and intertie connections for Skagway, Haines, and Juneau Alaska to permanently lower GHG, create a cleaner and sustainable regional environment, and lower regional energy costs.

To Whom It May Concern,

The Alaska Native Brotherhood (ANB) is the oldest civil rights organization in North America founded in 1912. Our mission is to better the lives of Native people and their families; to continue the fight for civil rights and land rights of all Native people; to share the cultural knowledge, wisdom, and artistic beauty of Native Tribal Societies and strive for a spirit of Brotherhood and Sisterhood among all people. ANB Camp 70 Glacier Valley (Juneau) members have for over a decade submitted comments for local, regional, and statewide comments on the need for dock electrification for visiting cruise line vessels and the need to lower energy costs for our Native peoples and their communities.

ANB Camp 70 passed a resolution on September 13, 2020, supporting and providing a letter of support for the regional Northern Intertie to electrically interconnect with submarine transmission lines Skagway, Haines, and Juneau. ANB Camp 70 wants to express our support for the regional efforts to advance electrical grid completion and regional dock electrification for cruise vessels in Northern Southeast Alaska that not only will increase the use of zero-carbon renewable energy for the visitor industry but also help the visitor industry market Alaska with our values to harmonize with nature and sustainably displace fossil fuels. ANB Camp 70 supports this effort to electrically interconnect our northern Southeast Alaska communities for current and future renewable energy projects that create jobs for our Native people, improve regional prosperity while reducing energy costs while reducing Green House Gasses/ carbon emissions by displacing fossil fuel electrical production with zero-carbon energy sources.

The Northern Intertie is the northern Southeast Intertie segment of the Southeast Intertie that was authorized by Congress under Public Law 106-511 and has not been completed. Northern Southeast Alaska deserves grid intertie infrastructure that is taken for granted elsewhere in North America.

Dock electrification for our visitor industry ensures that we protect our environment and market Alaska to visitors that are built on Native Alaskan values and initiates key transmission infrastructure to support renewable energy and displace fossil fuel use in the region. ANB Camp 70 supports regional aspirations and the communities of Skagway, Haines, and Juneau to work together with the State of Alaska and US federal sources to find solutions to allow the region to establish an intertie grid and install dock electrification infrastructure in our communities that will form the economic foundation of Alaska prosperity for years to come. Our support coincides with these communities, their values, and our State of Alaska Energy Policy.

Marcelo Quento

Marcelo Quinto, President 2551 Vista Drive C202 Juneau, AK 99801





RESOLUTION No. 14-07

Title: Request Southeast Communities begin Shore to Ship Electrifying Cruise Ships to Lower Emissions, Support and Sustain our Cruise Industry and make our Communities a Better Place to Live and Work

WHEREAS, Southeast Alaska has a vibrant Cruise Visitor Industry that brings revenue and jobs to many Southeast Communities; and

WHEREAS, Juneau, Alaska pioneered shore to ship power using Southeast Alaska hydropower to lower cruise line costs and to reduce emissions caused by passenger vessels; and

WHEREAS, this shore to ship technology is being adopted and expanded in West Coast ports of Seattle, Vancouver and Los Angeles; and

WHEREAS, Southeast Alaska communities would be cleaner by significantly reducing emissions and smoke particulates that are unhealthy to residents, wildlife and plant life in our tourist industry communities; and

WHEREAS, the rising cost of fuel makes electrified ports more attractive and more economical for the cruise line industry; and

WHEREAS, the State of Alaska cruise industry Marine Passenger Fees provide annual payments to communities to enhance the Cruise industry; and

NOW THEREFORE BE IT RESOLVED, that the Alaska Native Brotherhood and the Alaska Native Sisterhood in Grand Camp assembled in Petersburg, Alaska between October 8 through October 11, 2014 asserts that the highest priority for the State of Alaska Marine Passenger Fees is to provide infrastructure for shore to ship electrification in communities with hydropower resources to completely reduce emissions from Cruise Ship vessels while in port and to keep Southeast Alaska communities clean and sustainable for the visiting tourists, residents and workers in the communities where cruise ships dock; and

BE IT FURTHER RESOLVED, that the Alaska Native Brotherhood and Alaska Native Sisterhood Grand Camp follow with the Mayors and Assemblies/Councils of Southeast Communities requesting that 2014 Marine Passenger Fees be dedicated

to electrifying all cruise ship berths and docks owned and administered by the Community on a priority basis.

BE IT FURTHER RESOLVED, that the Alaska Native Brotherhood and Alaska Native Sisterhood Grand Camp take a lead in this effort to initiate and transform our Marine Visitor Industry throughout Southeast, Alaska to clean, sustainable energy and that we work with Marine Visitor Industry and affected Southeast Communities to electrify shore to ship power wherever possible.

51

William E. Martin ANB Grand President

Fiela Milton

Freda M. Westman ANS Grand President

ATTEST: I certify that this resolution was adopted by the ANB/ANS Grand Camp in convention at Petersburg, Alaska, during the week of October 8 through October 11, 2014.

Keckanan

Colette Buchanan ANB Grand Secretary



June 24, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Letter of Support for the City and Borough (CBJ) for its Juneau Dock Electrification funding request: 2021 Application for the National Infrastructure Investments for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Secretary Buttigieg,

I am writing to you on behalf of Sealaska Corporation, the Alaska Native Regional Corporation for Southeast Alaska formed pursuant to the Alaska Native Claims Settlement Act of 1971 (ANCSA). We represent more than 22,000 shareholders, predominantly of Tlingit, Haida and Tsimshian descent.

Sealaska strongly supports the City and Borough of Juneau's application for dock electrification infrastructure to the RAISE program to fund the development and construction of dock electrification for two publicly owned cruise ship berths to provide electrical service to the over 580 (pre-covid 2019) cruise ship visitations delivering over 1.35M visitors to Juneau.

Juneau pioneered dock electrification in the world with the first dock electrification to mitigate cruise ship emissions and to lower costs. Now the CBJ would like to electrify its public-owned docks to reduce emissions, create a better working and living environment (cleaner, healthier and quieter) for our downtown citizens that include the elderly, children, and minorities from our community.

CBJ Dock Electrification is a demonstrated community value supported in both the CBJ Juneau Climate Action Plan (*CBJ Resolution* 2593) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution* 2808.

We fully support the CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals. These federal funds would be wisely used to help the US DOT help Juneau regain its world leadership in dock electrification by providing the required funds to electrify our public owned and publicly operated port facilities.

We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our citizens for years to come.

Warmest Regards,

Unit

Anthony Mallott President and CEO

Sealaska • One Sealaska Plaza, Suite 400, Juneau, Alaska 99801-1276 • Tel: 907.586.1512 • Fax: 907.586,2304



CENTRAL COUNCIL *Tlingit and Haida Indian Tribes of Alaska* Office of the President • Edward K. Thomas Building 9097 Glacier Highway • Juneau, Alaska 99801

Monday, July 12, 2021

Honorable Pete Buttigieg, Secretary U.S. Department of Transportation 1200 New Jersey Avenue S.E. Washington DC, 20590

RE: Letter of Support – City & Borough of Juneau's (CBJ) 2021 Proposal – Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program

Dear Secretary Buttigieg:

The Central Council of the Tlingit and Haida Indian Tribes of Alaska (Tlingit & Haida) is a tribal government representing over 32,000 Tlingit and Haida Indians worldwide. We are a sovereign entity and have a government-to-government relationship with the United States.

Tlingit & Haida was founded in 1935 and established to pursue a land suit on behalf of the Tlingit & Haida people. Tlingit & Haida is only one of two federally recognized regional tribes in Alaska. The Native cultures of Southeast Alaska were built on a solid foundation of respect for culture, elders, clans, the bounty of the land and waters, and the land itself.

Because of our deep background, understanding, and promotion of our Native culture and our commitment to the stewardship of our environment and traditional lands, I am in support for the CBJ Port Authorities Dock Electrification funding request to the U.S. Department of Transportation (DOT) RAISE grant program.

The 2021 Federal Notice included addressing the concerns of "overburdened communities," which translates into addressing concerns of Native American populations, and we appreciate your recognition of and input from local Tribes. A clean and emission-free downtown Juneau directly impacts tribal members and is consistent with our Native values of preserving our environment for future generations. Dock electrification and the use of renewable energy sources provide environmental benefits and sustained reduction of smog, particulates, and harmful emissions that diesel exhaust can cause on our tribal citizens and employees employed in the Juneau tourism industry.

Dock electrification eliminates all cruise ship smoke and emissions, thereby significantly improving the Juneau downtown area and the visitor experience. Elimination of pollutants and particulates is respectful of the land while providing a healthier and more sustainable environment for future generations.

A RAISE grant award from the U.S. Department of Transportation to Juneau would enable Juneau to partner with Tlingit & Haida and other Native Alaskan interests to help perpetuate the pristine and clean area that makes up the traditional lands of shareholders. Dock Electrification is synergistic for our community values, good for the health of our citizens, residents, and employees.

We believe responsible stewardship and reduction of emissions and improved quality of life by installing dock electrification is a mutually beneficial opportunity for Tlingit & Haida, U.S. DOT, CBJ, and the visitor industry. Thank you.

Gunalchéesh / Háw'aa

Richard J. Peterson President

Bartlett Regional Hospital

3260 Hospital Drive, Juneau, Alaska 99801

907.796.8900

www.bartletthospital.org

June 15, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: Bartlett Regional Hospital Support for CBJ Application for City and Borough (CBJ) for its Juneau Dock Electrification for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program, 2021

Dear Secretary Buttigieg,

The Bartlett Regional Hospital serves a 15,000-square-mile region in the northern part of Southeast Alaska. Bartlett Regional Hospital is a certified Medicare and Medicaid provider. Approximately 55,000 people reside in our Southeast Alaska service area. Removing emissions and diesel exhaust from our community is beneficial and promotes a healthy environment now and for future generations as our community transitions to cleaner and zero-emission fuel sources.

In addition to serving our locals, roughly 1.35 million visitors visit Juneau (Post Covid) with a typical cruise vessel season, experiencing over 580 ship visits. Our hospital serves the needs of our traveling visitors. The influx of the tourist season and the many ships berthed in our downtown area brings attendant emissions and particulates that affect our downtown residents' health and air quality, including the communities of elderly, children, and minorities.

Juneau has a proud history of pioneering dock electrification to enable visiting ships to shut off their diesel engines and connect to locally produced zero-carbon hydropower electricity, thereby eliminating ship emissions while in port and visiting our downtown community. Now Juneau0 would like to electrify its public-owned docks to reduce emissions and create a vastly improved and better working and living environment (cleaner, healthier and quieter) for our community.

CBJ Dock Electrification is a demonstrated community value supported in both the CBJ Juneau Climate Action Plan (*CBJ Resolution* 2593) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution* 2808.

We fully support and ask for your full consideration in providing a grant award to move the Capital City of Alaska progressively forward to addressing climate change and eliminating harmful emissions that impact the health of all, but especially the elderly and children. A successful award to electrify our public docks would substantially help advance our community to meet our GHG reductions and renewable energy goals and enable Juneau to regain its world leadership in the industry.

We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our citizens and help our cruise industry for years to come.

Warmest Regards,

Juse Lawhen

Rose Lawhorne, MSN, MHA, RN Chief Executive Officer





July 2, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: City and Borough of Juneau (CBJ) Dock Electrification request to the RAISE Grant Program

Dear Secretary Buttigieg,

The Southeast Alaska Regional Health Consortium (SEARHC) is a non-profit health consortium that serves the health interests of Native Alaskans and other residents of Southeast Alaska.

SEARHC strongly supports the City and Borough of Juneau's 2021 RAISE Grant application for dock electrification infrastructure to remove emissions and pollutants from the Juneau port and downtown Juneau areas. Removing emissions and pollutants using clean and renewable power is healthier for all residents and interests.

The CBJ is applying for dock electrification infrastructure and supporting electrical equipment that would significantly enable visiting cruise ships to dock in Juneau, connect to shore power, and shut down their engines, reducing millions of pounds of emissions and pollutants that would otherwise enter the downtown Juneau environment. The elimination of diesel exhaust at the Juneau port facilities is a healthy improvement. We note that the CBJ has a Juneau Climate Action Plan (CBJ Resolution 2593) and the CBJ Juneau Renewable Energy Strategy (CBJ Resolution 2808) supporting dock electrification.

We fully support and ask for your full consideration in providing a grant award to move the Capital City of Alaska progressively forward to addressing climate change and eliminating harmful emissions that impact the health of all, but especially the elderly and children.

We are pleased to help the US Department of Transportation's goals to incorporate climate change and health consideration values in your decision-making process and ask that you support Juneau in this leadership for cleaner and sustainable port electrification.

Charles Clement President/CEO





Department of Commerce, Community, and Economic Development

OFFICE OF THE COMMISSIONER Anchorage Office

550 West Seventh Avenue, Suite 1535 Anchorage, Alaska 99501 Main: 907.269.8100 Fax: 907.269.8125

July 6, 2021

Secretary Pete Buttigieg U.S. Department of Transportation 1200 New Jersey Avenue SE Washington DC, 20590

Dear Secretary Buttigieg,

The Alaska Department of Commerce, Community, and Economic Development is a strong advocate for developing Alaska's resources and encourages investment in Alaska to generate jobs and improve our economic prosperity and natural resources, including renewable energy. As a result, we are supportive of the City and Borough of Juneau's (CBJ's) dock electrification grant proposal: Juneau Port Dock Electrification for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program.

Responsibly developing Alaska's resources and welcoming visitors to our great land are essential industries and employment sectors of our State economy. Alaska ports provide clean, locally produced electricity to the cruise industry during the several hundred tourism ship visits each year. Local renewable energy displaces more expensive fuels that are burned and emit exhaust while in our picturesque port communities.

Cruise ships seeking shore power create an electrical demand to develop cost-effective renewable energy resources; shore power eliminates exhaust and ship noise in our ports, providing cleaner air and better quality of life for our port area residents. Exhaust reduction also provides more scenic port areas, emblematic with the photos and videos that help market Alaska as America's last frontier travel destination. Further, cruise ship sales of energy provide more money in our local economies, creating family-wage utility-level and longshoremen jobs that serve these ships and provide local sales tax revenues on energy sales. Together with the cruise industry, U.S. DOT, and community leadership, pursuing efforts to construct shore power infrastructure lowers the cruise industry's energy costs, making port visits more compelling and competitive.

Twenty years ago, Juneau, Alaska, pioneered shore power service with the first dock electrification in the world. Unfortunately, dock electrification infrastructure and its requirements on the local grids are expensive. Currently, Juneau is working to provide dock electrification for its publicly owned cruise ship port facilities. Alaska has a proud history of protecting its air and waters. Mr. Secretary, your objectives in the 2021 RAISE Grant Program are an excellent fit for Juneau's desire to install shore-side power facilities. The State of Alaska supports CBJ's Juneau Port Dock Electrification grant proposal, which will help accomplish the Capital City's community goals and need to create jobs and will expand our economy while ensuring the best air and water quality for Alaskans and our visitors.

We ask that you consider providing the requested funding to assist our Capital City in electrifying its port facilities while helping U.S. DOT achieve the goals you have set forward for your department.

ula abolesse

Julie Anderson Commissioner



June 25, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE Washington DC, 20590

Dear Secretary Buttigieg,

Travel Juneau is the destination marketing organization for Alaska's capital city; our mission is to market Juneau to conventions, groups, and independent travelers, all of whom bring significant economic benefit to our community.

Travel Juneau supports the CBJ's application to the US Department of Transportation for the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program to offset the cost of installing shoreside power facilities at our publicly owned cruise ship terminals, all connected to hydropower. On June 4, 2021, the CBJ Assembly passed Resolution 2958, supporting the RAISE Grant application and demonstrating community support for dock electrification.

The Juneau Climate Action Plan, Juneau Renewable Energy Strategy, Blueprint Downtown planning document, and the recent Visitor Industry Task Force recommendations all call for installing shoreside power infrastructure for the cruise industry to reduce emissions and noise levels in our downtown Juneau port, to the benefit of residents, travel industry businesses and visitors alike. As part of the CBJ Juneau Climate Action Plan and CBJ Juneau Renewable Energy Strategy, dock electrification would assist in meeting the climate and environmental goals in those documents, which our residents strongly support. Additionally, as travelers are taking their carbon footprint into consideration when making their choices for destinations, Travel Juneau promotes our city's use of renewable energy and our renewable energy goals to those prospective visitors.

Juneau is the most visited destination in Alaska. We pioneered hydroelectric shoreside power in 2001 with one privately owned dock, a project that sparked an era of clean port electrification worldwide. A successful DOT RAISE grant award would enable Juneau to again put its leadership and values into practice to the benefit of our residents and visitors alike. Thank you in advance for your consideration.

Liz Perry President & CEO Travel Juneau



June 24, 2021

The Honorable Pete Buttigieg Secretary of the U.S. Department of Transportation Office of the Secretary of Transportation 1200 New Jersey Ave, SE Washington, DC 20590

RE: Support for the City and Borough (CBJ) Juneau Dock Electrification through the 2021 Application for the National Infrastructure Investments for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Mr. Secretary:

The Juneau Economic Development Council (JEDC) supports the CBJ's application for dock electrification infrastructure to the RAISE Program to fund the development and construction of dock electrification for two publicly owned cruise ship berths to provide electrical service to the over 580 (pre-covid 2019) cruise ship visitations, delivering over 1.35M visitors to Juneau. JEDC is a Juneau-based organization with the mission of helping make Juneau a great (capital) city, strengthening key regional industries, promoting entrepreneurship and small businesses, developing talent, and delivering core economic development services. We have served for over thirty-five years as a local economic development organization with an excellent track record of delivering high quality support for the best of the community.

The Juneau, Alaska community pioneered dock electrification globally with the first dock electrification in 2001 to mitigate cruise ship emissions and lower costs. Now the CBJ would like to electrify its publicowned docks to reduce emissions and create a better working and living environment (cleaner, healthier and quieter) for our downtown citizens, including the communities' elderly, children, and minorities. CBJ Dock Electrification is a demonstrated community value supported by CBJ Assembly (*CBJ Resolution 2958*) as well as in both the CBJ Juneau Climate Action Plan (*CBJ Resolution 2593*) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution 2808*).

We fully support the CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals. These federal funds would wisely support the US DOT to help Juneau regain its world leadership in dock electrification by providing the required funds to electrify our publicly owned and operated port facilities. We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our citizens for years to come.

Brian Holst Executive Director



Greater Juneau Chamber of Commerce

9301 Glacier Hwy, Suite 110 • Juneau AK 99801 • (907)463-3488

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Connie Hulbert *AEL&P*

Scott Bergmann *The Alaskan Fudge Co.*

Ray Thibodeau Alaska Marine Lines June 22, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: Letter of Support for the City and Borough of Juneau's (CBJ) 2021 RAISE grant Dock Electrification funding request.

Dear Secretary Buttigieg,

The Greater Juneau Chamber of Commerce, which represents the business community of Alaska's Capital City, supports the City and Borough of Juneau's RAISE Grant application. The CBJ is requesting RAISE grant funding to assist in building and offering dock electrification to our serve expanding Alaska cruise industry. The cruise industry, in a nonCOVID year, brings 1.35M visitors to Alaska's capital city generating a significant portion of our city's sales tax and fee-based revenue.

Electrification of the city-owned docks to serve the cruise ships, mitigates emissions and lowers operating costs by utilizing locally produced zero-carbon hydropower while in port. This also helps position Juneau for the future in vessel and transportation electrification while also creating local construction jobs and helping our community address climate change.

Juneau was the first port to offer dock electrification that is now offered in many other ports and a standard for the future. The Chamber appreciates your support for this very important project.

Respectfully,

Craig E/Dahl, Executive Director Greater Juneau Chamber of Commerce


The Alaska Committee P.O. Box 22138 • Juneau AK 99802 • (907)789-2903

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Duff Mitchell

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Liz Perry

Brian Holst

Craig E. Dahl

June 10, 2021 Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: Alaska Committee Letter of Support for the City and Borough (CBJ) for its Juneau Dock Electrification funding request: 2021 Application for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Secretary Buttigieg,

The Alaska Committee is comprised of 22 board members representing a cross-section of the Juneau Community. The purpose of the committee is to enhance Alaska's Capital City to serve all Alaskans better. Pre-Covid Juneau hosted over 1.3 million visitors from around the country in the summer and Alaskans from around Alaska during the winter months during the annual legislative sessions. Post-Covid, these visitor numbers will rebound, with a typical cruise vessel season experiencing over 580 ship visits. Unfortunately, this also impacts our air quality with less than desirable ship emissions that secondarily impact our businesses, residents, visitors, and the clean image of Alaska's capital.

Juneau, Alaska, pioneered dock electrification globally with the first dock electrification to mitigate cruise ship emissions and lower costs. Now the CBJ would like to electrify its public-owned docks to reduce emissions and create a better working and living environment (cleaner, healthier and quieter) for our downtown citizens, including the communities elderly, children, and minorities.

CBJ Dock Electrification is a demonstrated community value supported in both the CBJ Juneau Climate Action Plan (*CBJ Resolution* 2593) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution* 2808.

We fully support CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals and enable Juneau to regain its world leadership in the industry. These federal funds would wisely and together allow US DOT to set a national example of Federal and local partnerships to advance the federal priority of the RAISE grant program.

We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our citizens and help our cruise industry for years to come.

Warmest Regards,

Wayne Jensen, Chair Chair, Alaska Committee 9301 Glacier Hwy, Suite 110 Juneau, AK 99801



July 6, 2021

Secretary Pete Buttigieg

US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Re: Letter of Support for the City and Borough (CBJ) for its Juneau Dock Electrification funding request: 2021 Application for the National Infrastructure Investments for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Secretary Buttigieg:

Southeast Conference is the Alaska Regional Development Organization – and the federally recognized Economic Development District for Southeast Alaska. We fully support the CBJ's application for dock electrification infrastructure to the RAISE program to fund the development and construction of dock electrification for two publicly owned cruise ship berths to provide electrical service to the over 580 (pre-covid 2019) cruise ship visitations delivering over 1.35M visitors to Juneau.

Juneau, Alaska has been a national and international leader and pioneered the first dock electrification project to mitigate cruise ship emissions and to lower costs. Now the CBJ would like to electrify its public-owned docks to further reduce emissions, create a better working and living environment (cleaner, healthier and quieter) for our downtown citizens that include the community's elderly, children, and minorities.

The CBJ Dock Electrification has demonstrated community, regional and national value. Southeast Conference fully supports the CBJ's RAISE application to electrify our public docks and help advance our nation's – and community's commitment to meet our GHG reductions and renewable energy goals.

We urge your fullest support for the CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our nation's citizens for years to come.

Thank you,

Robert Venables Executive Director





July 1, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: City and Borough of Juneau (CBJ) Dock Electrification request to the RAISE Grant Program

Dear Secretary Buttigieg,

The Alaska Center envisions a thriving, just and sustainable Alaska for future generations. We are working with community members, government leaders, and partners throughout the state to build an equitable clean energy economy. We support the CBJ's application for dock electrification infrastructure to the RAISE program to fund the development and construction of dock electrification for two publicly owned cruise ship berths to provide electrical service to the over 580 (pre-covid 2019) cruise ship visitations delivering over 1.35M visitors to Juneau.

Juneau, Alaska pioneered dock electrification in the world with the first dock electrification to mitigate cruise ship emissions and to lower costs. Now the CBJ would like to electrify its public-owned docks to reduce emissions, create a better working and living environment (cleaner, healthier and quieter) for our downtown citizens that include the communities elderly, children, and minorities.

CBJ Dock Electrification is a demonstrated community value supported in both the CBJ Juneau Climate Action Plan (*CBJ Resolution* 2593) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution* 2808).

We support the CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals. These federal funds would be wisely used to help the US DOT help Juneau regain its world leadership in dock electrification by providing the required funds to electrify our public owned and publicly operated port facilities.

We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our citizens for years to come.

Sincerely,

Polly Carr Executive Director www.akcenter.org

June 29, 2021

The Honorable Pete Buttigieg Secretary of the U.S. Department of Transportation **Office of the Secretary of Transportation** 1200 New Jersey Ave, SE Washington, DC 20590

Juneau Downtown Business Association Letter of Support for the City and Borough (CBJ) for its Juneau Dock Electrification funding request: 2021 Application for the National Infrastructure Investments for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Mr. Secretary,

The Juneau Downtown Business Association supports the CBJ's application for dock electrification infrastructure to the RAISE program to fund the development and construction of dock electrification for two publicly owned cruise ship berths to provide electrical service to the over 580 (pre-covid 2019) cruise ship visitations, delivering over 1.35M visitors to Juneau.

The Juneau, Alaska community pioneered dock electrification globally with the first dock electrification in 2001 to mitigate cruise ship emissions and lower costs. Now the CBJ would like to electrify its public-owned docks to reduce emissions and create a better working and living environment (cleaner, healthier and quieter) for our downtown citizens, including the communities' elderly, children, and minorities.

CBJ Dock Electrification is a demonstrated community value supported by CBJ Assembly (*CBJ Resolution 2958*) as well as in both the CBJ Juneau Climate Action Plan (*CBJ Resolution* 2593) and the CBJ Juneau Renewable Energy Strategy (*CBJ Resolution 2808*).

We fully support the CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals. These federal funds would wisely support the US DOT to help Juneau regain its world leadership in dock electrification by providing the required funds to electrify our public owned and publicly operated port facilities.

We appreciate your consideration of CBJ's RAISE grant application for dock electrification infrastructure for a cleaner, reliable, healthier, and zero-emission port that will provide health benefits to our citizens for years to come.

Warmest Regards,

Midgi Moore, CCTP President Juneau Downtown Business Association



June 30, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Re: City and Borough of Juneau (CBJ's)Application for Dock Electrification Grant

Dear Secretary Buttigieg

Alaska Interfaith Power & Light is the Alaska affiliate of Interfaith Power and Light, https://www.interfaithpowerandlight.org/. Our purpose is to create a response to climate change by people of faith. We do this by promoting energy conservation, energy efficiency, renewable energy, and the wise use of the Earth's resources.

Alaska IPL represents congregations of various faiths dedicated to implementing climate change solutions as a moral and spiritual imperative. These congregations have deliberated among their clergy and membership and chosen to sign on as official members, including Northern Light United (Presbyterian and Methodist), Holy Trinity Episcopal, St. Brendan's Episcopal, Congregation Sukkat Shalom, Juneau Unitarian Universalist Church, and Shambala (Buddhist).

On June 14, 2021, the CBJ Assembly passed Resolution 2958. This resolution supported the City's application to the US Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program. This recent support is consistent with the community values of our Juneau Climate Action Plan and our Juneau Renewable Energy Strategy seeking to reduce harmful emissions and displace fossil fuel with clean, locally produced hydropower electricity. Alaska Interfaith Power & Light supports these community values.

Dock Electrification will eliminate a significant contributor to climate change in Juneau. It is especially important to take this step because these ships dock in our downtown area, with many elderly and children living near the port area. Eliminating harmful emissions and particulates is a health improvement and a quality-of-life improvement for those living in the area.

Alaska Interfaith Power and Light fully supports federal funding for the electrification of Juneau and the entire region's cruise ship docks. We specifically support Juneau's RAISE grant application to construct and operate shore power and dock electrification infrastructure. This project will provide climate change and health benefits to Juneau for years to come.

Sincerely,

Mangalucher

Stuart Cohen and Mary Alice McKeen, Co-Chairs Alaska Interfaith Power and Light 725 5th St. Juneau, AK 99801

International Brotherhood of Electrical Workers

Local 1547

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MARCIE OBREMSKI BUSINESS MANAGER • FINANCIAL SECRETARY

200 0 mg

VINCE BELTRAMI PRESIDENT



July 1, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: IBEW Local 1547 Support Letter for the City and Borough of Juneau's (CBJ) 2021 Application for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program,

Dear Secretary Buttigieg,

On behalf of the International Brotherhood of Electrical Workers Local 1547, I am writing to express our support for the City and Borough of Juneau (CBJ) Port's application to the 2021 RAISE grant program. The CBJ application requests federal funding to assist our community in electrifying our publicly owned cruise ship berths. Dock electrification has been a community goal when the public project was first envisioned in 2010. As a result, the electrical conduit has already been laid to these facilities.

The Juneau Climate Action Plan, the Juneau Renewable Energy Plan, the Downtown Juneau Blueprint planning document, and the recommendations of the Vistor IndustrtyTask Force that consider the public input from all Juneau citizens, all support the dock electrification of our Port facilities. Therefore, now is the time to complete our Juneau dock electrification by providing clean electricity to cruise ships to displace diesel and their attendant emissions with zero emission hydropower. In addition, the Juneau dock electrification infrastructure project creates family-wage jobs to construct and operate the infrastructure that will serve our community and visitor industry for years to come.

We represent over 4,000 working Alaskans throughout the state, most of whom are electrical workers in construction or electrical utilities.

IBEW Local 1547, as well as the Juneau Central Labor Council, appreciate that the RAISE grant calls for "providing opportunities for workers to find good-paying jobs directly related to the project, including project labor agreements and local hiring provisions..." Juneau, after the recent Covid 19 experience, could use the extra federal funded construction dollars that provides much needed infrastructure, provides jobs but also helps ameliorate tensions with downtown residents and businesses concerned with the addition of noise and emissions from visiting vessels.

0 CC/BT 7220

IBEW Local 1547 is a statewide organization, and we support the efforts of the Juneau community to transform our publicly owned port facilities to a state of the art dock electrified port for cleaner and quieter visitor destination that represents Alaska and the Department of Transportation well. IBEW Local 1547 appreciates the opportunity to weigh in and offer this letter of support to this effort.

We ask for your consideration of the Juneau grant application and a successful award for this worthy project.

Sincerely, rancie Obren

Marcie Obremski Business Manager IBEW Lcoal 1547





International Union of Operating Engineers LOCAL 302 • Washington and Alaska • AFL-CIO

Daren Konopaski, Business Manager and General Vice President Corey Baxter, District 8 Representative

June 28, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

International Union of Operating Engineers, Local 302 Support Letter for the City and Borough of Juneau's (CBJ) 2021 Application for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program.

Dear Secretary Buttigieg

The International Union of Operating Engineers Local 302 is a three-state organization (Alaska, Washington, and Idaho) representing over 13,000 members, with around 4,000 members residing in Alaska. I am writing to express our support for the City and Borough of Juneau's application to your RAISE Grant program to construct and operate required dock electrification infrastructure to help create family-wage jobs, improve health and safety for workers, and help Juneau meet future growth and the transformation to lessening emissions.

This project will also assist in lowering energy costs for cruise line industry participants while also increasing the quality of life for our downtown Juneau residents and worker that work in our port area that abuts our downtown corridor. The displacement of fossil fuel electrical production and its associated emissions and health concerns with cleaner, renewable, and locally produced energy sources make a lot of sense.

The International Union of Operating Engineers Local 302 is on record of supporting dock electrification for many years because it creates jobs and makes sense for all the right reasons. Local 302 would like to take this current opportunity to encourage the US Department of Transportation to timely consider Juneau's RAISE grant application and award funding to put local engineers to work. We expect this project to go out to competitive bidding and willingly seek our members and affiliated contractors to help build this critical infrastructure for our local port operations. Dock electrification and providing shore power to visiting vessels move our country, state, and local community forward with this great project that will provide job opportunities and economic and environmental benefits for years to come.

Sincerely,

J Beit

Corey Baxter District 8 Representative Local 302

GOCANT-)

June 24, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Subject: Support for Juneau, Alaska dock electrification funding from the US DOT Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program to construct and operate shore power electrification for Juneau's cruise ship berths.

Dear Secretary Buttigieg,

On behalf of my company, UnCruise Adventures, I am writing to express my strong support for the City and Borough of Juneau's application for federal funding to construct and operate shore power electrification for visiting cruise ships. Shore power infrastructure will increase the use of zero-carbon renewable energy for the visitor industry and help marketing Alaska for future generations, emphasizing sustainably and displacing fossil fuels and zeroing emissions while vessels are docked in port.

These combined efforts create family-wage and local jobs, improve regional prosperity, and assist in lowering energy costs and attendant carbon emissions by displacing fossil fuel electrical production with cleaner, locally produced sources.

Dock electrification for our cruise and visitor industry elevates Alaska's clean marketing message to visitors. In addition, it initiates critical electrical infrastructure to support the renewable energy industry required for the continued transformation from fossil fuels to renewable electricity.

UnCruise Adventures support CBJ efforts to seek federal resources to find solutions to enable our Juneau community to install dock electrification infrastructure on cruise ship terminals. The benefits derived from this forward-thinking initiative will help form the economic foundation for the visitor industry of Alaska's prosperity for years to come. Therefore, I ask for your support in supporting dock electrification that eqincides with our Juneau community values.

Dan Blanchard Owner & CEO UnCruise Adventures

Define Your Un-ness

American Owned and Operated – homeported in Seattle, WA and Juneau, AK Reservations: 888-862-8881 • uncruise.com



July 9, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE Washington D.C., 20590

Alaska Independent Power Producers Association Letter of Support for the City and Borough (CBJ) for its Juneau Dock Electrification 2021 RAISE Grant funding request

Dear Secretary Buttigieg:

AIPPA is a diverse organization whose membership includes Alaska's leading and innovative renewable energy developers and independent power producers. Alaska is America's breadbasket of renewable energy. On a national level, independent power producers (IPPs), which are efficient and innovative renewable energy developers, generate 39% of America's electrical generation. In Alaska, IPPs represent a much smaller market share, perhaps 5%. Beneficial electrification is the term used to displace fossil fuels with renewable, zero-emission, and lower-cost power. Juneau Hydropower, Inc., one of our members, has the FERC license for Sweetheart Lake Hydroelectric Facility P-13563. A profound secondary benefit of beneficial electrification, such as the dock electrification proposed by CBJ, is that it creates new demand for renewable energy by creating new opportunities to convert diesel-fired generation to clean locally produced electricity. The Sweetheart Lake Hydro Project will provide Juneau with clean, renewable energy well into the end of this century, has been in development for ten years, and is scheduled to begin construction in 2022.

Dock electrification is a strategic and surgical "beneficial electrification initiative" in Alaska. The Juneau effort to transform the Alaska cruise industry's shore-side power source from onboard diesel-electric systems to locally produced, zero-emission, and lower-cost power is a game-changer. Shore power dock electrification in Juneau and beyond support the independent power renewable energy producers and promotes economic development, prosperity, and good-paying jobs in Alaska. Curtailing self-generation in port will provide immediate and significant air quality benefits to local communities. Renewable and lower-cost energy significantly displaces thousands of gallons of fossil fuel consumption daily, an Alaskan economic and environmental victory. AIPPA supports the CBJ in its application and partnership with US DOT in funding Juneau's dock electrification to reduce fossil fuel use in favor of clean, renewable energy to strategically posture America to a cleaner and more energy secure future.

Importantly the Juneau effort is a pathfinding project. Its success will allow other Southeast communities to convert their cruise ship docks to provide shore power and dock electrification infrastructure. AIPPA's membership is well-attuned to the on-going efforts of other Alaska communities that are working to develop and construct dock electrification systems and zero-emissions renewable energy systems in their communities. Therefore, your support for Juneau will

have a multiplier effect in technology deployment and a more significant increase in beneficial electrification. The additional beefed-up grid infrastructure for Juneau provides a secondary benefit. The grid infrastructure essential for dock electrification purposes provides secondary energy security and grid resilience for the local grid.

The Alaskan public overwhelmingly supports the transformation from more expensive fossil fuels to lower-cost renewable energy. AIPPA understands that this Juneau effort has garnered letters of support from Tribes, Native Corporations, Cruise Lines, NGOs, Travel Industry, the Juneau Chamber, Downtown Juneau businesses, and now AIPPA. Dock electrification supports the local energy and climate action plans of Juneau, and it also supports the State of Alaska renewable energy goal of 50% renewable by 2025.

AIPPA appreciates your consideration of Juneau's RAISE grant application.

AIPPA looks toward a favorable award by your department to the CBJ for dock electrification that is mutually beneficial to provide US DOT clear progress in cleaning up ports while delivering economic and environmental benefits to so many in Alaska.

Regards,

Joel D. Groves AIPPA President



June 25, 2021

The Honorable Pete Buttigieg Secretary of the U.S. Department of Transportation **Office of the Secretary of Transportation** 1200 New Jersey Ave, SE Washington, DC 20590

Re: City and Borough of Juneau 2021 RAISE grant program letter of support for its Dock Electrification funding request

Dear Mr. Secretary,

Royal Caribbean Group is pleased to support the City and Borough of Juneau's (CBJ) application for dock electrification infrastructure to the RAISE grant program and appreciates CBJ's proactive measures to advance renewable energy goals and reduce greenhouse gas emissions. CBJ's grant request will fund the development and construction of dock electrification for two publicly owned cruise ship berths in Juneau that will provide electrical service to ships supporting over 1.3 million visitors to Juneau per year.

Royal Caribbean Group has long prioritized continuous improvement in sustainable operations. Reducing energy consumption and emissions is a critical part of our environmental stewardship strategy to support healthy oceans and local environmental efforts in the places we visit. Our new ships are built with shore power connections and many of our older ships are scheduled to receive shore power connections over the next 2-3 years. We are also integrating the use of LNG into our fleet and continue to look for ways to lower our footprint, going above and beyond regulatory expectations.

Royal strives to create positive impact tourism by listening to communities and creating success for local priorities. Supporting CBJ Dock Electrification is easy to do. It is a community project supported by the CBJ Assembly (*CBJ Resolution 2958*), recommended by the Visitor Industry Task Force and it is championed in the CBJ Juneau Climate Action Plan (*CBJ Resolution 2593*) and CBJ Juneau Renewable Energy Strategy (*CBJ Resolution 2808*).



We are honored to stand by Juneau as it pursues opportunities to bolster a healthy environment for its citizens and strongly support CBJ's RAISE grant application for dock electrification infrastructure.

Sincerely,

Joshm Oull

Joshua Carroll Vice President, Destination Development

July 5, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Subject: Norwegian Cruise Lines Holdings LTD support for dock electrification infrastructure and support for Juneau's economic prosperity

Dear Secretary Buttigieg,

On behalf of Norwegian Cruise Line Holdings LTD. (NCLH), I am writing to express our support for the City and Borough of Juneau's efforts to advance the use of renewable energy to support dock electrification. NCLH supports these local efforts to create jobs, improve cruise ship industry relations to assist in lowering energy costs as well as the attendant carbon emissions by displacing fossil fuel electrical production with cleaner, locally produced sources.

NCLH is a committed, responsible corporate citizen by fostering a culture of awareness and respect for our world's resources. Juneau's efforts for shore power supplied dock electrification for our cruise and visitor industry elevates Alaska's clean marketing message to visitors and residents alike. This community effort that we are part of initiates critical electrical and dock electrification infrastructure to support Alaska's renewable energy and Alaska's cruise and visitor industry.

We look forward to and support the use of US federal sources such as your RAISE grant funding to install dock electrification infrastructure at Juneau's public-owned dock facilities. Our support coincides with Juneau's diverse community support, their values, and our State of Alaska Energy

Thank you for this consideration.

DocuSigned by: JNN 7C6182326D6948E...

Howard Sherman Executive Vice President



Northern Light United Church

July 8, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Re: City and Borough of Juneau (CBJ's)Application for Dock Electrification Grant

Dear Secretary Buttigieg

Northern Light United Church (NLUC) is a congregation in Alaska's capital city affiliated with the Presbyterian Church USA and the United Methodist Church. NLUC is also part of the Alaska Interfaith Power and Light organization, which represents congregations of various faiths dedicated to implementing climate change solutions as a moral and spiritual imperative.

On June 14, 2021, the CBJ Assembly passed Resolution 2958. This resolution supported the City's application to the US Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program. This recent support is consistent with the community values of our Juneau Climate Action Plan and our Juneau Renewable Energy Strategy seeking to reduce harmful emissions and displace fossil fuel with clean, locally produced hydropower electricity. NLUC supports these community values.

Dock electrification will eliminate a significant contributor to climate change in Juneau. As a downtown church, NLUC believes it is especially important to take this step because these ships dock in our downtown area, with many elderly and children living near the port area. Eliminating harmful emissions and particulates is a health improvement and a quality-of-life improvement for those living in the area.

We fully support federal funding for the electrification of Juneau and the entire region's cruise ship docks. We specifically support Juneau's RAISE grant application to construct and operate shore power and dock electrification infrastructure. This project will provide climate change and health benefits to Juneau for years to come.

Sincerely,

Marianne Mills

Marianne Mills, Moderator Northern Light United Church 400 W. 11th Street Juneau, AK 99801-1512

The Mission of Northern Light United Church is to make Disciples of Jesus Christ through God-centered Worship and People-centered Ministries



July 5, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Juneau Electric Vehicle Association Letter of Support for City and Borough of Juneau (CBJ) Dock Electrification RAISE grant funding request.

Dear Secretary Buttigieg,

The Juneau Electric Vehicles Association (JEVA) is a chapter of the 501(c)3 non-profit Electric Auto Association founded in 1967. Our Juneau Chapter is one of the fastest-growing chapters of the Association attributed to Juneau, Alaska, is one of the highest per-capita electric vehicle ownership in the United States. The significant number of electric vehicles (EVs) operating in Juneau demonstrates our community's commitment to critically examine and reduce emissions in our community to make our capital city the most inviting and clean city that someone would want to live, work, and visit.

Cruise ship smog, emissions, and pollutants at our port facilities are an injustice to the local citizens who want to share the beauty of Alaska, but are saddled with the outsized environmental impacts of mass-market cruising on their home. However, this injustice need not stand as there is the opportunity to mitigate these emissions at the dock through beneficial electrification. Our city is dedicated to creating a more sustainable community through local effort. Our small EV group has meaningfully impacted EV adoption in Juneau by salvaging and giving new life to fast charging equipment our community could otherwise not afford, however we recognize dock electrification for cruise ships is a significant investment, which will require Federal assistance to bring to fruition.

The trend is clear, cruise ships are plugging in to mitigate in-port emissions. What was considered an experiment in the early 2000s when Juneau partnered with Princess Cruise Lines to electrify Princess ships visiting Juneau has two decades later become commonplace in major ports. Continued investment in dock electrification will not only support emission reduction today, but will support increased emission reduction as cruise vessels adopt hybrid energy systems with sizable battery energy storage systems. Today's electricity at the dock zeros out port emissions, but the same infrastructure enables charging of onboard ship batteries tomorrow. Already two cruise lines are adopting hybrid battery systems, and the State of Washington and the British Columbia Ferry system have already adopted and integrated this technology. In 10 years, Juneau's dock electrification could support not only mitigate emissions while in port, but would enable emission reduction during travel for ships employing hybrid battery propulsion systems.

Using locally produced renewable energy sources is a pathway for our community to increase our energy security, increase our community sustainability, enhance our local economy, create good-paying jobs, reduce the impact on our environment, and generally increase our quality of life.

The cruise line industry vessels visiting Juneau are already "electrification ready." As Juneau constructs and prioritizes electrification-ready ships to our publicly owned and highly coveted dock

locations—steps away from the downtown historic and shopping district—the project achieves maximum use and optimization of our local and federal investment into the dock electrification infrastructure and emission reduction impact.

Dock electrification in Juneau has further ancillary benefit in the form of strengthening the resiliency of our islanded electrical grid. To support the cruise ship load, the project will install additional equipment on the grid to handle rapid changes in power requirements from more diverse and varied loads. Whether serving cruise ships as proposed or a cold snap in the winter or future loads like electric tour buses, investments in beneficial electrification have the ability to benefit all electricity users.

We ask for your full support for this worthy effort and provide Juneau the necessary RAISE grant funding to proceed with this development-ready and community-supported dock electrification port infrastructure.

Our group started with five vehicles, and now Juneau has over 500 electric cars—and one batteryelectric boat. JEVA looks forward to adding a new type of plug-in electric vehicles to its membership in the coming years—cruise ships.

Thank you for your consideration.

Sincerely,

Devon Kibby

Devon Kibby, President Juneau Electric Vehicle Association

https://www.facebook.com/juneauev/

CC: Electric Auto Association



June 24, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Letter of Support for the City and Borough of Juneau (CBJ) for FY 2021 US Dept. of Transportation R.A.I.S.E program grant application.

Dear Secretary Buttigieg:

350Juneau - Climate Action for Alaska supports the City and Borough of Juneau's application for a RAISE grant to accelerate the shift to powering visiting cruise ships powered by local, zero-carbon, renewable energy. This grant will enable the community to displace imported fossil fuel burning when ships are docked at the CBJ owned cruise terminals. The CBJ is applying to you to obtain funds to construct and operate dock electrification infrastructure for shore power operations.

350Juneau is a local organization whose mission is to educate and mobilize about the climate crisis. We expect that when the CBJ is awarded this grant, the results will effectively eliminate large cruise ship emissions and particulates in our downtown corridor that directly abuts the cruise terminal berths. Elimination of emissions provides residents and visitors clean, no emissions, quiet, and more cost-effective energy sources to the cruise industry. Environmental Justice is essential in our community. The CBJ is working for the opportunities for minority and low-income communities to influence the transportation planning and decision-making processes through enhanced engagement and meaningful input. The dock electrification would remove emissions, particulates, and their associated health impacts on a disproportionately higher minority and low-income population residing near our port facilities.

350Juneau fully supports the CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals. These federal funds would strategically support the US DOT to help Juneau provide clean air benefits to serve our community members and greatly assist our elderly, disadvantaged, and homeless with a better quality of life.

CBJ Dock Electrification is a demonstrated community value supported in the Juneau Climate Action Plan (*CBJ Resolution* 2593) and the Juneau Renewable Energy Strategy (*CBJ Resolution* 2808.

We appreciate your consideration of CBJ's RAISE grant application supporting our community values and your priorities for RAISE-funded infrastructure. Renewable energy is forever and zeroing out emissions is critical.

Thank you,

Doug Woodby Co-Chair, 350Juneau - Climate Action for Alaska



Renewable Energy Alaska Project

July 5, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Re: Letter of Support for the City and Borough of Juneau (CBJ) grant application for FY 2021 US Dept. of Transportation RAISE grant program.

The Renewable Energy Alaska Project (REAP) supports the City and Borough of Juneau's (CBJ) port improvement-dock electrification application for a Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program. This critical infrastructure effort shifts visiting cruise vessels into Alaska fueled by imported petroleum to shore power powered by local, zero-carbon, renewable energy. The CBJ is applying for dock electrical connection shore power systems to serve the community, the industry, and the environment for decades to come. Please consider providing the CBJ the requisite funding to electrify their two publicly owned cruise ship berth facilities fully.

REAP is a clean energy education and advocacy non-profit with offices in Anchorage and Juneau. The organization has been working to increase energy literacy and promote clean energy policy and programs across Alaska since 2004. If the CBJ is awarded this grant, it will allow for more efficient and cleaner energy serving the cruise ship industry needs within the City and Borough of Juneau, thus providing both residents and visitors clean, quiet, zero-emission, and lower-cost renewable energy to service the vital visitor industry sector of Juneau's economy. In addition, creating renewable energy jobs, improving Alaska's visitor industry marketing message, improving the quality of life derived from using renewable energy, and displacing fossil fuels are all objectives that REAP believes are important.

Juneau is blessed with abundant renewable hydroelectricity. As a result, Juneau is ideal for operating and providing state-of-the-art and world-class dock electrification services to the Alaska cruise industry. Juneau is also Alaska's capital city and the most visited tourist destination in Alaska. Your support of the award and the construction of this essential infrastructure will set a great US DOT example for port electrification services not only in the US but worldwide. This grant is also a great marketing and teaching opportunity for the city's 1.5 million annual visitors to witness the Juneau community's leadership in using clean, renewable, zero-emissions shore power systems that is the way of the future for the cruise and shipping industry.

REAP strongly supports the City and Borough of Juneau's grant application. Thank you very much for your consideration.

Sincerely,

Rose

Chris Rose Executive Director



July 6, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Dear Secretary Buttigieg,

We, members of the University of Alaska Southeast Sustainability Committee, submit this letter to state our strong support for the City and Borough of Juneau's (CBJ) Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program requesting federal funding to assist our community in removing one of the largest sources of emissions in our community - cruise ship emissions. We commend Juneau's grant efforts to electrify our publicly-owned docks to eliminate emissions, resulting in cleaner air and enhanced sustainability in our community.

A RAISE grant award enables our community to progressively construct the necessary infrastructure to shore power all vessels docking at Juneau's publicly owned cruise ship terminals. A typical cruise season has over 550 visiting cruise ships visiting Juneau carrying over 1.3 million passengers. Each cruise ship is a floating city with several thousand visitors and crew. Your support of federal funding combined with local leadership to build shore power infrastructure can significantly impact local air quality while addressing a critical local contributor to climate change. Zeroing out carbon emissions can be locally eliminated by providing readily available shore power electricity derived from locally produced hydropower resources - clean, lower cost, and smart.

On June 14, 2021, the CBJ Assembly passed Resolution 2958, supporting the City's application to the US Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program. This action is only the most recent demonstration of community support for this decade-long endeavor to provide shore power at our public facilities. Our local Juneau Climate Action and Implementation Plan, our Juneau Renewable Energy Strategy, Blueprint Juneau, and the 2019 Visitor Industry Task Force recommendation all support installing shore power infrastructure on our publicly owned cruise ship terminals.

A successful award from your RAISE grant program will provide the financial resources for our community to achieve its long-standing vision. We appreciate your consideration of this grant application for Juneau's dock electrification to assist our community and, together, mutually achieve the goals of the US DOT RAISE program.

Sincerely,

Aude charpon, Ph.D

Heidi Pearson, PhD, UAS Sustainability Committee Chair and Associate Professor of Marine Biology Kevin Maier, PhD, Associate Professor of English Ke Mell, Planning and Construction Project Manager Sonia Nagorski, Associate Professor of Geology Jim Powell, PhD, Assistant Professor of Public Administration Lora Vess, PhD Associate Professor of Social Science



July 7, 2021 Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Re: Juneau Dock Electrification funding request: 2021 Application for the National Infrastructure Investments for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Secretary Buttigieg,

We at Sukkat Shalom would like to express our support of the effort to electrify Juneau's cruise ship docks. Our faith teaches us that the earth and our fellow creatures are a divine gift, and that we have the responsibility to care for it, as well as for future generations. By offsetting in-port power generation by cruise ships with clean hydro-electric energy, we reduce our carbon footprint and take a small step toward a more livable future. Additionally, It saves the cruise lines money and reduces electrical costs to Juneauites. Please make all efforts to achieve the electrification of Juneau's docks.

We fully support the CBJ's RAISE application to electrify our public docks to help advance our community to meet our GHG reductions and renewable energy goals.

Sincerely,

Congregation Sukkat Shalom



June 18, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

Letter of Support from Tongass Rain Electric Cruise, LLC of Juneau Alaska the City and Borough of Juneau's (CBJ) 2021 Application for the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program to construct and operate shore power electrification for Juneau's public owned cruise ship berths.

Dear Secretary Buttigieg,

Tongass Rain Electric Cruise, LLC is Juneau and Southeast Alaska's leading supplier of electric outboard and inboard marine drives. Additionally, we have engaged in several projects for naval design for electric watercraft in the US and overseas. Our expertise is visualizing the future for electrified marine transportation and then putting engineering and real solutions to execute today for a better and cleaner marine industry tomorrow.

I appreciate that your 2021 Federal Notice included addressing the concerns of "overburdened communities," which translates into addressing concerns of Native American populations. Good stewardship of the environment is a traditional Native value that helps justify and perpetuate the visions that society can live in harmony with its environment. Dock electrification where visiting cruise ships come to Juneau, connect to shore power generated from renewable and plentiful hydropower is not only a traditional value, but a community value of Juneau.

Juneau has several planning documents and strategies that support the electrification of Juneau's publicly owned cruise ship facilities to eliminate emissions and pollutants in our downtown corridor that abuts the publicly owned terminals. These documents include our Juneau Climate Action and Implementation Plan, Juneau Renewable Energy Strategy, Blueprint Juneau and our recent 2020 Visitor Industry Task Force recommendations that received extensive public testimony. On June 14, 2021, the CBJ Assembly passed Resolution 2958 supporting the City's application to the US Department of Transportation and the Rebuilding American Infrastructure with Sustainably and Equity (RAISE) Grant Program. This recent support is consistent with the community values seeking to reduce harmful emissions and displace fossil fuel with clean, locally produced hydropower electricity.

A RAISE grant award from the US Department of Transportation to Juneau would allow Juneau to meet its community goal to electrify our port and take a bold step to reducing and one day eliminating all emissions in our harbor. I am attaching a Juneau dock promotion brochure that assured our community that these facilities would be electrified for visiting cruise ships. Your funding would enable elected leaders and City staff to fulfill promises made to the Juneau public, while creating jobs, servicing vessels with new service, and cleaning our environment at the same time.

Dock Electrification exemplifies our community values, good for the health of our residents, workers, and visitors and your funding to our community would serve your department well in furthering your goals to improve transportation infrastructure while positioning America for the future of beneficial electrification. As you already know with other forms of transportation electrification, dock electrification is also economically beneficial for the cruise industry, extends the life of their marined diesel equipment while increasing the quality of life for cruise ship workers, passenger and Juneau residents.

Additionally, the additional electrical infrastructe in our port area brings secondary and third order benefits by providing the necessary power and capacity to future charge and electrify tourist buses, taxis and other ancillary transportation vehicles and vessels that service these ships and provide transportation services to our visitors.

I appreciate your service to our country and your consideration of this grant application for Juneau's dock electrification.

Robert X. Varness President and General Manager Tongass Rain Electric Cruise LLC 3004 Goodwin Road Juneau, Alaska 99801 907-321-3012 www.tongassrain.com tongassrain@gmail.com



Attachment: Port of Juneau Cruise Ship Terminal Project Brochure pre-construction

CHANGES ARE COMING TO DOWNTOWN



HOW VISITORS HELP JUNEAU'S ECONOMY

- The average cruise ship passenger spends \$197 on their Juneau stop alone.
- The tourism industry employs over 2,700 people in Juneau and gives career entry opportunities for many
- In 2011 cruise lines spent an estimated \$93 million in goods and services in Southeast.
- Juneau is the most visited city in Alaska with visitors contributing 22% of Juneau's annual sales tax.

source in the future.

the CBJ sewer system and creating the necessary infrastructure for ships to use a clean local power

- Sales tax funds our schools, roads and city infrastructure.
- Other local businesses and services benefit from the cruise ship business including Bartlett Regional Hospital and our utilities.

YOUR QUESTIONS

How is the project being paid for?

This estimated \$70 Million project is fully funded through the State Commercial Passenger Vessel Tax and CBJ Port Development Fees. No CBJ sales or property taxes are being used.

What about existing waterfront businesses or the fisherman's memorial?

No improvement project is without its tradeoff or opposition. Docks & Harbors has worked closely with the waterfront stakeholders to maximize upside.

Will my business be affected by the construction?

We don't anticipate any business disruption. We invite you to visit our website and sign up for our newsletter to stay up-to-date on construction activity. (contact info on brochure back)

How does the project help Juneau residents?

Improved safety for pedestrians and an accessible waterfront Seawalk to enjoy all year. Also, many Juneau businesses rely on summer traffic to stay open all year for residents.

With larger ships will our air or water quality suffer?

On the contrary, the docks will have modern sewel and electrical hookups giving immediate access to

Will this mean more cruise ships for Juneau? The maximum number of cruise ships at a time will remain at 5. These 2 improved docks can accommodate larger ships and an uptick in passengers is

anticipated

CRUISE SHIP TERMINAL PROJECT

WHAT

In 2010 the CBJ Assembly approved a plan to invest cruise passenger fees in an offshorefloating cruise ship dock improvements. The Cruise Ship Terminal Project concept chosen by the Docks and Harbors Board addresses the much-needed repairs and includes a broader vision of a functional waterfront for visitors and residents.

AHM

Cruise ship industries are building larger ships. To stay competitive, Juneau must invest now to accommodate ships of the future. The new docks will align our port capacity with sister ports Ketchikan and Skagway.

WHEN

Phase I Completed by May 2014 Remove the Alaska Marine Highways transfer bridge and install needed utilities

Improve pedestrian access and bus staging area

Phase II | South Berth | starts October 2015 Replaces Cruise Terminal Dock (CT) near the Visitor's Center

Phase III | North Berth | starts October 2016 Replace Alaska Steamship Dock (AS) off Marine Park

We understand this project could cause some inconvenience to your business or your routine. Our goal is to improve the Downtown Juneau experience for visitors and for Juneau residents.



KEEP UP WITH THE LATEST

Please contact us for any questions or join us on the web for up-to-date information.

- Sign up for Docks & Harbor newsletter www.juneau.org/harbors/newsletter.php
- Get all the latest information on the project: www.juneau.org/harbors

Port Director's office: phone 586-0292



This information is brought to you by





PORT OF JUNEAU CRUISE SHIP TERMINALPROJECT

A project of Juneau City and Borough Docks and Harbors





Renewable Juneau

June 26, 2021

Secretary Pete Buttigieg US Department of Transportation 1200 New Jersey Avenue SE, Washington DC, 20590

RE: Renewable Juneau Support for the City and Borough (CBJ) Application for Cruise Ship Dock Electrification via the 2021 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program

Dear Secretary Buttigieg:

I write today with strong support for the City and Borough of Juneau, Alaska's application for the RAISE grant program. Alaska's capital city has proven itself over and over again as a national leader in the utilization of green energy and as a pioneer in the adoption of clean energy technology and innovation.

Juneau has near the highest per capita rate of electric vehicles in the nation, residential and business migration to space heating with renewable energy driven heat pumps is increasing rapidly, the city has been blessed with fish-friendly hydro power for 99.9% of its electrical needs for over 100 years, and most importantly, in 2001, Juneau became the first cruise port in the world to offer shore power to visiting summer tour ships.

Officers

Margo Waring President

Doug Woodby Vice President

> Sally Saddler Treasurer

Anjuli Grantham Secretary

Board Directors

Steve Behnke John Neary Andy Romanoff Kate Troll

P.O. Box 22227 Juneau, AK 99802

renewablejuneau.org

Today, with well over one million summer cruise visitors in an average summer season, electrification of the city-owned docks is more important than ever. With upwards of a half dozen cruise ships in port on a summer day, all steadily idling their diesel systems, the city can become lost in a gray pall of noxious emissions. Not only are the health hazards of such smoke of great concern to the community, this unnecessary pollution literally clouds both the actual and romantic views of Alaska that prompted these millions of global visitors to sail north. The practice of idling cruise ships in port flies in the face of all that the State of Alaska has worked decades to market - the last frontier, unspoiled, pristine, world-class beauty sitting atop the famed Inside Passage.

In response to widespread public outcry during the summer of 2019 from record-breaking cruise visitation, combined with excessive ship emissions from multiple per-day docked vessels, Renewable Juneau led a education and petition drive calling on city leaders to act on the strong local interest in dock electrification. Over 800 signatures were gathered, representing over 2.5% of the city's population, and presented to both the mayor and city leaders. See attached letter and petitions from Renewable Juneau to Juneau Mayor Weldon of May 2, 2019.

Renewable Juneau asks for your full consideration in providing a RAISE grant award to the City and Borough of Juneau. Not only would additional dock electrification help to propel Juneau towards its climate and energy goals, but if battery storage were a part of the equation, the added grid resiliency has the potential to not only assist with the transition to electrifying summer tour bus fleets, but would provide a diesel-free back up power supply during fall and winter power outages from seasonal storms.



Renewable Juneau

Renewable Juneau is a Juneau, Alaska non-profit dedicated to providing information, education, and advocacy to support local climate solutions, including renewable energy, heat pumps, electric vehicles, and building efficiency. We engage in a variety of activities and programs that reduce Juneau's dependence on fossil fuels, promote the sustainability ethic of our community, and move Juneau closer to its adopted climate and energy goal of 80% renewable energy by 2045.

Sincerely,

Margoli

Margo Waring Preisdent of the Board, Renewable Juneau

Attached: 5.2.2019 letter and petitions

Officers

Margo Waring President

Doug Woodby Vice President

> Sally Saddler Treasurer

Anjuli Grantham Secretary

Board Directors

Steve Behnke John Neary Andy Romanoff Kate Troll

P.O. Box 22227 Juneau, AK 99802



Mayor Beth Weldon Members of the CBJ Assembly City Manager Rorie Watt

155 S. Seward Street Juneau, AK 99801

May 2, 2019

RE: Petition for Use of Marine Passenger Fees to Fund Cruise Ship Dock Electrification

Dear Mayor, Assembly, and City Manager,

The Board of Renewable Juneau respectfully submits the attached 800+ signatures per your public comments request regarding the allocation of marine passenger fees. We believe this number of signatures supporting this community directive and community value on a single topic issue is unprecedented and requires your affirmation. We collectively ask for no further studies and no wasting of both time and money. Instead, we simply ask for design work to be completed and the project put out to bid, using CBJ marine passenger receipts.

The petitioners request specific dock electrification action and seek the allocation of marine passenger fees towards the finalizing of design work necessary to put the project to bid. We understand that in 2016, a local feasibility study commissioned by the CBJ was completed, and therefore, the use of marine passenger fees for further feasibility work is strongly discouraged. The next step is cost-effective and tried and proven dock infrastructure design, as is used both here and in other ports.

The Assembly should consider CBJ's decades-long public support for dock electrification: action goal in the 2011 Juneau Climate Action and Implementation Plan; committed to by Docks and Harbors as justification in 2012 for the new docks; referenced in the CBJ 2013 Comprehensive Plan and again in the 2018 Juneau Renewable Energy Strategy.

The petition seeks recognition of the health concerns of our community and the toxicity of ship emissions that blanket Juneau's waterfront on a frequent and regular summer day basis, emissions deemed very hazardous to health by the EPA and numerous European studies. This continuing and growing emission problem impacts the health of residents and workers, but impacts our most vulnerable populations, elders and children especially. Further, inaction to move to design and construction also pits our visitor industry, an industry that publicly supports additional dock electrification, with downtown residents and workers when instead we should be collaboratively resolving this matter.

What the petition does not directly state is that Juneau's summertime hydroelectric capacity is more than adequate to power one, if not two additional cruise ship berths. An additional dock would only use 6,000 to 8,000-megawatt hours, roughly 1.4% additional load on top of current uses.

Further, the petition does not mention that the 2016 CBJ study makes no mention of seeking the input of shore power specialists ABB, Schneider, Cochran Marine, KPFF or other specialized firms who have cost-effectively



built multiple dock electrification projects across the globe for other ports. Consider that many of the same vessels visiting Juneau already use shore power in Seattle and Vancouver, with over 80% of the cruise line fleet electrification ready.

A significant cross section of the Juneau citizenry recognizes that too much time has passed with no CBJ action or execution on dock electrification. The recent CLIAA/CBJ lawsuit resolution suggests collaboration with our visitor industry by using marine passenger fees appropriately. As ship visits increase, ship sizes increase and more and more visitors arrive, the impacts on our town and our health increase and draw into question the sustainability of our industry. Dock electrification reduces impacts and provides a good step to work with our industry.

CBJ elected leaders can appropriate the required fees to reduce and mitigate impacts on downtown Juneau residents, businesses, property owners, and workers in a responsible manner. Together, we can collaboratively put Juneau on a forward-thinking track towards a sustainable and collaborative working relationship with our visitor industry, reducing the health and emission impacts on downtown residents, workers, and our most vulnerable populations. Again, we discourage any further studies and instead, simply ask for design work to be completed and the project put out to bid, using CBJ marine passenger receipts.

We appreciate your consideration on this important community matter expressed by the outpouring of petition signers.

Andy Romanoff for the Board of Renewable Juneau

Attachments: 50 pages signed petitions



The undersigned, urge Juneau's city lea test from our air and help Juneau to me tid, we ask for design work to be compl	eted and the project put	ut to bid, using CBJ marine passenge	nd the wasting of both time and mo
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Plug in the	Ships & Eliminate Downtown Toxic Smog
Never before has there been a bett in port. Passenger head tax mone high (1.3 million this year) and the west coasts. We know this works. N a local study concluded. These sam	ter time to run electric power to Juneau's cruise ship docks, power that will allow ships to shut down their engines while ey will help cover the costs, industry leaders have expressed their support, passenger levels have reached an all-time is number and size of visiting ships continues to rise. Studies have been done both here and up and down the east and Montreal recently powered four berths for approximately \$2 million each, far less than the \$13 million for one berth that ne ships plug in while berthed in Seattle, Vancouver and in other major ports. We started this in 2001. Let's finish the job!
We, the undersigned, urge Junea exhaust from our air and help Jur Instead, we ask for design work to	au's city leaders to begin the work needed to power our docks and prevent the idling of summer ships, clean the neau to meet its energy and climate goals. We ask for no further studies and the wasting of both time and money. o be completed and the project put out to bid, using CBJ marine passenger receipts.
NAME	ADDRESS EMAIL SIGNATURE
Lassi Karvones	4300 University Ame great lassitatio agricult con 1000
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Carol Barril	8870 N. Douglas Hwy	barrilcarol 638 Ogmail . com	and barry
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Never before has there been a better time to run electric power to Juneau's cruise ship docks, power that will allow ships to shut down their engines while in port. Passenger head tax money will help cover the costs, industry leaders have expressed their support, passenger levels have reached an all-time west coasts. We know this works. Montreal recently powered four berths for approximately \$2 million each, far less than the \$13 million for one berth that a local study concluded. These same ships plug in while berthed in Seattle, Vancouver and in other major ports. We started this in 2001. Let's finish the job! high (1.3 million this year) and the number and size of visiting ships continues to rise. Studies have been done both here and up and down the east and

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Plug in the S	ships & Eliminate Downtown Toxic Smoo	
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ZIP CODE	99502	99801	99821	99801	99801	99801	99824	98664	99801	99824	10666	998016916	99824	99802	99801	99802	01803	99801	
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*** ONLINE PETITION ENTRIES ***

We, the undersigned, urge Juneau's city leaders to begin the work needed to power our docks and prevent the idling of summer ships, clean the exhaust from our air and help Juneau to meet its energy and climate goals. We ask for no further studies and the wasting of both time and money. Instead, we ask for design work to be completed and the project put out to bid, using CBJ marine passenger receipts.

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*** ONLINE PETITION ENTRIES ***

in port. Passenger head tax money will help cover the costs, industry leaders have expressed their support, passenger levels have reached an all-time Never before has there been a better time to run electric power to Juneau's cruise ship docks, power that will allow ships to shut down their engines while high (1.3 million this year) and the number and size of visiting ships continues to rise. Studies have been done both here and up and down the east and west coasts. We know this works. Montreal recently powered four berths for approximately \$2 million each, far less than the \$13 million for one berth that a local study concluded. These same ships plug in while berthed in Seattle, Vancouver and in other major ports. We started this in 2001. Let's finish the job!

SIGNATURE	" Daved Oth-	1/1 Zhen HWDen	John Theres	VANALI AND	The Cingeller	am andra		Fm Naquer	and the second se	Reth Lustanch	Man	Sistin Heben-George	Braddy L. C.	AN M	Mary By Coase	723-6382 U
EMAIL	Vaulantoods. scall@quich.co		tengsakinet	menned of calacter in	Jagan e Jahro con	ABE CHONSED ON JUNEAR.	1900 - innearche Instmail. cert	tomutaguever og meri lica	TOURS HE WALL MAN JI REGARD	leibowitz Dakinet	mberry 13560 grail con			we live a 297 (199 a give aft	betweetage. net	May 1, renewablejuneau@gmail.com
ADDRESS	212 W-944 Junium 99801	auti of pupped	139 W. 2425+ (32 2000)		S3S7 haven her they (5898 Lomon SH.	212 West 977 - 25-Juniard	gosnancest thoy	1006 Sk, street	9123 N Pouglas	315 5422 #7	No (28/33321)		969 (30) NBY ANE/////	9450 Del Ree 21#8	leted form to Renewable Juneau by
NAME	David attason	NZMAL HUBBER	Forul Tenas	CindySpanlers	dai Crapeller	FAMES TANAP	VIN OAK ONDSAM-MCKEEN	TOM WAGNER	MARINA LOUISHAWK	Beth Leibowitz	Math Bony	Sugher Haltson Cresh	BRAD CORRSIG	Tom Rew mond	Mary Ochcourt	Return comp

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/ Return comple	ted form to Renewable Juneau by Ap	oril 30 renewablejuneau@gmail.co	m 723-6382

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Never before has there been a better time to run electric power to Juneau's cruise ship docks, power that will allow ships to shut down their engines while in port. Passenger head tax money will help cover the costs, industry leaders have expressed their support, passenger levels have reached an all-time high (1.3 million this year) and the number and size of visiting ships continues to rise. Studies have been done both here and up and down the east and west coasts. We know this works. Montreal recently powered four berths for approximately \$2 million each, far less than the \$13 million for one berth that a local study concluded. These same ships plug in while berthed in Seattle, Vancouver and in other major ports. We started this in 2001. Let's finish the job!

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We, the undersigned, urge Juneau's city leaders to begin the work needed to power our docks and prevent the idling of summer ships, clean the exhaust from our air and help Juneau to meet its energy and climate goals. We ask for no further studies and the wasting of both time and money. Instead, we ask for design work to be completed and the project put out to bid, using CBJ marine passenger receipts.

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*** ONLINE PETITION ENTRIES ***