The following documents are contained (or will be added as received) in this application package:

1. Modal Committee Summary
   a. Marine
   b. Oregon Freight Advisory Committee
2. Applicant Response to Modal Committee Questions
3. Modal Committee Questions to Applicants
4. Applicant Response to Modal Staff Questions
5. Economic Benefits Analysis
6. Applicant Responses to Feasibility Questions
7. ConnectOregon II Staff Questions to the Applicant
   (December 28, 2007 through January 4, 2007)
8. Feasibility Review
9. Completeness Review
10. Project Application

Reviewer Instructions are posted online at:

MODAL PROJECT REPORT

MODE

<table>
<thead>
<tr>
<th>Applicant:</th>
<th>Tier (1-4)</th>
<th>Rank (High/Medium/Low)</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saddle Mountain, Inc.</td>
<td>3</td>
<td>L</td>
<td>2</td>
</tr>
</tbody>
</table>

Project: X20063

Requested Funds: $5,736,640

Region: 2

Report Date: March 3, 2008

Project Description: Purchase of helicopter serving Columbia River Bar pilotage grounds.

Review Comments:
Would increase efficiencies for pilots, but not clear whether cost benefits would be shared by all by holding down piloting costs

The bar pilots have use of a leased helicopter and are looking ahead to when the lease will expire. Since fees are collected for their services, one option would be to purchase a helicopter and make payments using the funds currently expended on the lease payments.
## MODAL PROJECT REPORT

### OFAC

<table>
<thead>
<tr>
<th>Applicant:</th>
<th>Tier (1-4)</th>
<th>Rank (High/Medium/Low)</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saddle Mountain, Inc. and Columbia River Bar Pilots LLC</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project:</th>
<th>Requested Funds:</th>
<th>Region:</th>
<th>Report Date:</th>
<th>Project Description:</th>
</tr>
</thead>
<tbody>
<tr>
<td>X20063</td>
<td>$5,736,640</td>
<td>2</td>
<td>3/3/08</td>
<td>Purchase of helicopter serving Columbia River Bar pilotage grounds.</td>
</tr>
</tbody>
</table>

**Review Comments:**

OFAC reviewed 40 freight related projects and assigned this a priority 35 of 36.

OFAC does not recommend funding this project at this time. The committee identified this project as ranking low in regards to the needs of the freight system.

The project is primarily a support role regarding freight movement. The documented improvement to the freight system will not significant change to the mobility of freight or reduce shipping costs.
**ConnectOregon II Review of Economic Benefit to the State**

Note to economic reviewers: Early in the application development process, it was decided that given the limited time and resources of applicants, economic studies produced by consultants would not be required. The application questions were crafted to serve as indicators of economic benefit.

**Project Number and Mode:** Multimedia | X2-0063  
**Project Description:** Helicopter收购 for Saddle Mountain Inc.

House Bill 2278, which authorizes the ConnectOregon II program, requires the Oregon Transportation Commission to consider “Whether a proposed transportation project results in an economic benefit to this state”.

1. The following application questions measure an aspect of economic benefit to the state: (Use the following checklist as a quick guide to the application. Provide a critical review of the applicant’s answer before checking yes. Indicate in the comments section if an application clearly overstates a project benefit.)

<table>
<thead>
<tr>
<th>Application Section</th>
<th>Question #</th>
<th>Description</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>6</td>
<td>What is the useful life of the project (as identified on the application)?</td>
<td>20 Years</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>Is the project in an industrial or employment center?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The Project is in a State of Oregon Certified Industrial Site. Under the Oregon Certified Industrial Site program?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td>D</td>
<td>3</td>
<td>Does the project serve one or more of Oregon’s Statewide Traded Clusters or the tourism industry?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>Does this project provide an economic benefit to the State of Oregon by attracting new business or industry to the State?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td>D</td>
<td>5</td>
<td>Is this project located in an economically distressed or severely distressed community, as defined by the Oregon Economic and Community Development Department (OECDD)?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td>D</td>
<td>6</td>
<td>Does this project provide an economic benefit to the State of Oregon by creating an immediate non-speculative opportunity for job creation or retention?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td>D</td>
<td>9</td>
<td>Does the project improve or create linkages to transportation networks and markets outside of Oregon?</td>
<td>☐Yes ☐No</td>
</tr>
<tr>
<td>D</td>
<td>10</td>
<td>Does this project use technology to improve the use or efficiency of Oregon’s transportation system?</td>
<td>☐Yes ☐No</td>
</tr>
</tbody>
</table>

While economic studies are not required to quantify the answers above, letters of commitment of economic resources, or investment were requested to support statements made on the application. Please contact the ODOT Freight Mobility Section at 503-986-3208 for assistance.
ConnectOregon II Review of Economic Benefit to the State

Note to economic reviewers: Early in the application development process, it was decided that given the limited time and resources of applicants, economic studies produced by consultants would not be required. The application questions were crafted to serve as indicators of economic benefit.

2. ODOT Comments (Including any additional economic benefits identified in Part E Item 1 of the application)

1. The project is part of a system that connects industrial centers (ports).
2. The project would only very slightly improve transportation system efficiency.
3. Cost savings for the transportation system are dependent upon BOMP rate-setting decisions, which are likely, but not certain, to reflect cost savings to Saddle Mountain, Inc.

3. OECDD Comments


4. Based on this review of the application materials please select the statement below that most clearly describes the project:

<table>
<thead>
<tr>
<th>ODOT Initials</th>
<th>OECDD Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The project will <strong>clearly</strong> result in an economic benefit to this state</td>
</tr>
<tr>
<td>sS</td>
<td>The project will <strong>likely</strong> result in an economic benefit to this state</td>
</tr>
<tr>
<td></td>
<td>The project has the <strong>potential</strong> to result in an economic benefit to this state</td>
</tr>
<tr>
<td></td>
<td>The project is <strong>unlikely</strong> to result in an economic benefit to this state</td>
</tr>
<tr>
<td></td>
<td>The project would not result in an economic benefit to this state</td>
</tr>
</tbody>
</table>

Reviewers:
ODOT Reviewer Name: John Swadelnek
ODOT Reviewer Signature: John Swadelnek
OECDD Reviewer Name: Douglas Hulse
OECDD Reviewer Signature: Douglas Hulse
CONNECTOREGON II Application Revision Form

DATE: December 12, 2007

Application Number:

Applicant Name: Saddle Mountain, Inc.
Co-Applicant: Columbia River Bar Pilots LLC
Project Name: Bar Pilot Helicopter Project

Reason for Revision:

☒ Revision requested by ODOT
☐ Revision initiated by Applicant

Saddle Mountain, Inc. requests ODOT accept the following changes to the Bar Pilot Helicopter Project CONNECTOREGON application.

This change will supplement the information provided in Part B, Item 1.

Attachment A is a recap of the annual cost of the dedicated helicopter service that is provided by Arctic Air Service, Inc. to the Columbia River Bar Pilots pursuant to a contract with Saddle Mountain, Inc. Almost all of that $2.06 to $2.37 million cost during the period of 2005-2007 is associated with monthly charges for the helicopter, which the contractor acquired used in 2005 for approximately $4.25 million. The projected cost savings is based upon the estimated difference between a capital acquisition of a helicopter and the current lease arrangement.

This change will supplement the information provided in Part B, Item 6.

Most of the parts or components on any aircraft are time or life limited. As a result, it is very common for a helicopter maintained according to the manufacturer’s prescribed maintenance procedures to have a life in excess of 20 years. The applicant has confirmed that this will be the case for the Agusta A109S that is the subject of this grant. This can be confirmed through Ron Cooper, AgustaWestland’s regional sales manager for the Western U.S., at (287) 968-2379.

This change will supplement the information provided in Part B, Item 9.

The current rate order for the Columbia River Bar pilotage grounds which was supplemented and modified by a settlement agreement involving all of the affected stakeholders in November, 2005, is in effect through November, 2009. After the expiration of that rate order, the parties may either negotiate a new settlement or initiate a contested rate proceeding, which generally concludes within a period of 12 to 18 months. It should be noted that the major opposition stakeholders in the last rate proceeding – the Columbia River Steamship Operators Association and the Port of Portland – support this grant application. Based on eight years of operational experience, the helicopter has significantly improved pilot transfer and vessel safety at the mouth of the Columbia River.
This change will supplement the information provided in Part C, Item 1.

Attachment B is a copy of the price quote from AgustaWestland for the Agusta A109S helicopter that is the subject of this grant application.

This change will supplement the information provided in Part C, Item 2.

The grant seeks only the cost of the Agusta A109S helicopter; hence, the entire request is proposed to be spent on capital equipment.

This change will supplement the information provided in Part C, Item 5.

Milestone 1 for contract negotiations is scheduled to start in January, 2009 and end in March, 2009.

Milestone 2 for equipment purchase negotiations is scheduled to start in April, 2009 and end in June, 2009.

Milestone 3 for equipment deployment is scheduled to occur (begin and end) in June, 2010.

This change will supplement the information provided in Part C, Item 6.

The estimated cost for Milestone 1 for contract negotiations is $0.00.

The estimated cost for Milestone 2 for the 3% initial deposit upon equipment purchase is $2,151,240.

The estimated cost of Milestone 3 for equipment delivery and deployment is the estimated purchase price balance of $5,019,560.

Certification

I certify that the information on this form above, is accurate, and supersedes, or supplements as indicated, the information on the ConnectOregon II application for this project.

<table>
<thead>
<tr>
<th>APPLICANT SIGNATURE</th>
<th>PRINT NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO-APPLICANT SIGNATURE</th>
<th></th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Captain Gary Lewin</td>
<td>12/12/07</td>
</tr>
<tr>
<td>Item</td>
<td>Quantity</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Item 1</td>
<td>100</td>
<td>Equipment 1</td>
</tr>
<tr>
<td>Item 2</td>
<td>2</td>
<td>Supplies</td>
</tr>
<tr>
<td>Item 3</td>
<td>50</td>
<td>IT Services</td>
</tr>
</tbody>
</table>

**Total** | $20,100 |
As we discussed this afternoon please provide as much information as possible to respond to the items below.

During the review of your application by our feasibility Consultant, several items were identified as not providing sufficient information to provide an accurate assessment of the Proposed Project.

ODOT’s Consultant is requesting clarification or elaboration of the following items:

Part B 1: Provide a reference or background for cost savings.

Part B 6 Provide background documents indicating useful life of the proposed project will be 20 years.

Part B 9 Clarify with more detail when funding will be secure, provide dates of rate proceedings, and any contested case hearing.

Part C 1 Is a price quote available from the helicopter manufacturer?

Part C 2 Clarify how much will be spent on capitol equipment

Part C 5 Complete Milestone start and end dates

Part C 6 Indicate costs for all milestones.

Time is limited by our review schedule, and we need to deliver this information to our consultant as soon as possible. Please provide the requested information within three business days.

Use the attached form to provide the additional information. These forms will be attached to the front of your application during future reviews.

Please contact me if you have any additional questions.

Michael Bufalino, AICP
Senior Freight Mobility Planner
Freight Mobility Section
Oregon Department of Transportation
555 13th Street NE, Suite 2
Salem OR 97301
phone: 503-986-3208
fax: 503-986-4173
Request for Clarification of Application Items.

Dear applicant,

During the review of your application by our feasibility Consultant, several items were identified as not providing sufficient information to provide an accurate assessment of the Proposed Project.

ODOT’s Consultant is requesting clarification or elaboration of the following items:

Part B 1: Provide a reference or background for cost savings.

Part B 6 Provide background documents indicating useful life of the proposed project will be 20 years.

Part B 9 Clarify with more detail when funding will be secure, provide dates of rate proceedings, and any contested case hearing.

Part C 1 Is a price quote available from the helicopter manufacturer?

Part C 2 Clarify how much will be spent on capitol equipment

Part C 5 Complete Milestone start and end dates

Part C 6 Indicate costs for all milestones.

Time is limited by our review schedule, and we need to deliver this information to our consultant as soon as possible. Please provide the requested information within three business days.

Use the attached form to provide the additional information. These forms will be attached to the front of your application during future reviews.

Please contact me if you have any additional questions.
CONNECTOREGON II FEASIBILITY REPORT FORM

Feasibility Reviewer: Monica Isbell, Starboard Alliance Company LLC
DATE: 12-4-07

Application Number: X20063
Applicant Name: Saddle Mountain Inc.
Co-Applicant: Columbia River Bar Pilots LLC
Project Name: Bar Pilot Helicopter Project
Mode: Air-Marine-Transit

Applicant Administrative Eligibility:
Is the Applicant a Public Body or Person within the state of Oregon?
☐ Yes ☐ No
The Applicant, if applicable, is current on all state and local taxes, fees and assessments.
☐ Yes ☐ No
Does the Applicant appear to have sufficient management and financial capacity to complete the Project including without limitation the ability to contribute 20 percent of the eligible grant Project cost.
☐ Yes ☐ No

Project Administrative Eligibility:
Is the project a Transportation Project that involves one or more of the following modes of transportation: air, marine, rail or public transit?
☐ Yes ☐ No
Can the Project assist in developing a multimodal transportation system that supports state and local government efforts to attract new businesses to Oregon or that keeps and encourages expansion of existing businesses?
☐ Yes ☐ No
Is the Project likely eligible for funding with lottery bond proceeds under the Oregon Constitution and laws of the State of Oregon?
☐ Yes ☐ No
Will the Project likely require or rely upon continuing subsidies from ODOT for ongoing operations?
☐ Yes ☐ No
Is the Project a public road or other project that is eligible for funding from revenues described in section 3a, Article IX of the Oregon Constitution, i.e. the State Highway Trust Fund?
☐ Yes ☐ No
Is the Project generally feasible as discuss in technical feasibility section below.
☐ Yes ☐ No

Technical Feasibility
Is the budget estimate complete?
☐ Yes XX No
If budget estimate information is complete, does the cost estimate appear reasonable?
☐ Yes XX No
Is timeline feasible in relation to tasks not yet completed?
XX Yes ☐ No
Are there any elements of the project that could cause unanticipated delays?
XX Yes ☐ No (if yes, explain in Comments below)
Can all applicable and required permits be obtained as indicated in the schedule?
XX Yes ☐ No
Does the application package include documentation (Application Part C, Item 3 Part D, Items 4, and 6) of the desire for and support of the Project from the businesses and entities to be served by the Project?
XX Yes ☐ No
In the Feasibility Reviewer’s opinion, this project sounds on the surface to have benefits, however, the application is not complete or is unclear as per the following comments:

Part B 1: 1) The Feasibility Reviewer believes the Applicant’s statement of justification is flawed in paragraph 2 that Columbia River cargoes “are highly mobile and can be readily moved by and exchanged between truck, train and barge.” This may be true only for certain commodities or certain shippers. 2) The Applicant should furnish more substantiation in paragraph 3 about how the purchase vs. lease of a helicopter provides more cost stability, since the Applicant will still have to pay for the helicopter crew and maintenance costs to Arctic Air, which could increase. The Applicant stated that a long-term contract could be negotiated with Arctic Air for just the crew and maintenance, but doesn’t indicate how long that might be. 3) The Applicant has provided no substantiation for the statement made in paragraph 4 relating to an annual operating cost savings of 25% or $500,000 if the helicopter is purchased rather than continuing with the existing helicopter lease model. How was this figure arrived at?

Part B3: The Feasibility Reviewer doesn’t understand how Transit is a mode affected by this project.

Part B 6: The Applicant did not provide any back-up regarding its claim that the useful life of this helicopter is 20 years. However, the Feasibility Reviewer spoke with a helicopter industry expert, who indicated that 20 years is a mid-range life span for a helicopter of this type as long as it is properly maintained.

Part B 9: Funding for the continued maintenance and operation of the project has not been secured, which could delay the project. The Applicant did not specify when the “next rate proceeding” will take place or what rate increase might be secured from the Applicant’s clients that will help fund the purchase of the helicopter. It is possible the rate negotiations will be contentious enough that resolution might have to be accomplished through “a contested case hearing before the Oregon Board of Maritime Pilots,” which leads the Feasibility Reviewer to believe securing the funding match could be problematic. The Applicant also stated the rate proceedings revenue will go towards “maintenance and operation of the helicopter,” so from where will the funding match to purchase the helicopter come?

Part C 1: It would have been helpful if Applicant had attached a price quote from the manufacturer or distributor for the helicopter to substantiate the $7,170,800 cost estimate.

Part C 2: Capital outlay – equipment and total should be $1,434,160, not $7,170,800.

Part C 5: None of the three milestones have been met and, as stated above, the reviewer believes Milestone 1 – Contract Negotiations – could pose some problems for the Applicant. Because all Milestones are pending, project delays could occur. No information has been provided regarding when work will commence on the Milestones and the estimated timeframe for completion.

Part C 6a: Some figure should be listed under Milestone 1.

Part C 6b: Capital outlay – equipment and Milestone 2 total should be $7,170,800, not zero.

Part C 6c: Should be “Other - equipment deployment,” not capital outlay – equipment, and the amount and Milestone total should be stated for the cost to deploy the helicopter, which should not be the same as the helicopter purchase price.

Page 9 totals should be filled in instead of listed as zero.
No Conflict of Interest Certification: I do not have any conflict of interest with the proposer submitting this project application. A conflict of interest may include any family members presently associated with a proposer, or any financial relationships with a proposer (does not include past employment). I have read and rated the project application independently, and without interference or pressure from anyone. I have not had conversation or other contact with the proposer concerning this project application since it was issued. I have noted any potential conflicts or concerns on this form.

FEASIBILITY EVALUATOR SIGNATURE:  

Name: Monica Isbell  
Date: 12-4-07

PRINCIPAL CONSULTANT SIGNATURE:  

Name:  
Date: 12/4/2007
COMPLETENESS CHECKLIST

ConnectOregon II Completeness Checklist

Project Number and Mode: X20063, Multi-Modal
Project Name: Bar Pilot Helicopter Project
Reviewer Name: Michael Bufalino
Reviewer Phone: 503-986-3208

Application:
- Electronic Submission (Received on: 11/21/07)
- Paper Submission (Received on: 11/21/07)

Completeness:

Part A
- Item 1 and 2 – Contact Information (☐ Additional applicant box checked)
- Item 3 and 4 – Name location and summary
- Item 5 – Even though cells fill in automatically, this section still needs to be checked for accuracy.
- Item 6 – (Signatures match names from Item 1 and 2)

Part B
- Item 1 – Description completed
- Item 2 – Detailed Location
- Item 3 – Mode
- Item 4 – Region
- Item 5 – Taxes – administrative requirement
- Item 6 – Life of project (☐ Useful life is less than 20 years)
- Item 7 – Responsible Party
- Item 8 – Source of operational funds
- Item 9 – Funding for operation secured or budgeted
- Item 10 – Real estate (☐ Signature) (☐ Additional owner box checked)
- Item 11 – Property purchase
- Item 12 – Property leased
- Item 13 – Property Details (optional)

Part C
- Item 1 – Source and amount of funds
- Item 2 – Source of match (Grant projects only)
- Item 3 – Description of larger project context (optional)
- Item 4 – Milestones
- Item 5 – Milestone details
- Item 6 – Milestone budgets

Part D
- Item 1 – Improve connections
- Item 2 – Link workers to jobs
DUE BACK TO FREIGHT MOBILITY ON 11/30/07

Please note on checklist any item you are still reviewing, but Please return the checklist by 11/30/07. All additional information must be received by Freight Mobility no later than Friday, 12/7/07.

- Item 3  – Statewide traded clusters
- Item 4  – Attract new business (☐ Commitment letters box checked)
- Item 5  – Economically distressed communities
- Item 6  – Job creation (☐ Commitment letters box checked)
- Item 7  – Improve use of efficacy of transportation system (☐ Documentation included in supplemental information box checked)
- Item 8  – Multi-modal links(☐ Contact information of stakeholders in supplemental information box checked)
- Item 9  – Interstate linkages
- Item 10  – Technological solutions to improve of efficacy of transportation system
- Item 11  – Construction readiness checklist
- Item 12  – Construction limits
- Item 13  – Support of public agencies
- Item 15  – Other permit approvals
- Item 15  – Other Construction readiness text box (optional)

Part E
☐ Item 1 Other Considerations Text box (optional)

Supplemental Information
☐ Part C, Item 3 – Commitment letters
☐ Part D, Item 4 – Commitment letters
☐ Part D, Item 6 – Commitment letters
☒ Part D, Item 8 – Key stakeholder letters and contacts
☐ Part D, Item 13 – Documentation of coordination with approving agencies
☐ Other Supporting documentation

Addenda
☐ Additional text (optional)

Additional Signature page
☐ Not applicable
☒ Complete (☐ Signatures match names)

NOTES: __________________________________________________________

Mode is Aviation/Marine

No signature from hangar owner

Match not detailed on C2

C5 milestones not detailed

_________________________
**ConnectOregon II**  
Program Application 2007-2009

To ensure you have current program information, sign up for the ConnectOregon electronic mailing list at:  
[http://listserv.ole.state.or.us/mailman/listinfo/connectoregon-news](http://listserv.ole.state.or.us/mailman/listinfo/connectoregon-news)

- Please read **ConnectOregon II Application Instructions**.
- The Application Instructions, the Draft Project Agreement, and Frequently Asked Questions are available on the **ConnectOregon II** Web site: [http://www.oregon.gov/ODOT/COMM/CO](http://www.oregon.gov/ODOT/COMM/CO)
- Submission Requirements are detailed in Section 8 of the Application Instructions

### PART A: Project Summary and Certification

1. **Applicant**

<table>
<thead>
<tr>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saddle Mountain, Inc.</td>
<td>Robert Johnson</td>
<td>Columbia River Bar Pilots LLC</td>
<td>Captain Gary Lewin</td>
</tr>
<tr>
<td>ADDRESS</td>
<td>CONTACT PERSON TITLE</td>
<td>ADDRESS</td>
<td>CONTACT PERSON TITLE</td>
</tr>
<tr>
<td>100 16th Street</td>
<td>President</td>
<td>100 16th Street</td>
<td>Administrative Pilot</td>
</tr>
<tr>
<td>Astoria, OR 97103</td>
<td>PHONE</td>
<td>Astoria, OR 97103</td>
<td>PHONE</td>
</tr>
<tr>
<td></td>
<td>(503) 325-2643</td>
<td></td>
<td>(503) 325-2643</td>
</tr>
<tr>
<td>WEB SITE</td>
<td>FAX</td>
<td>WEB SITE</td>
<td>FAX</td>
</tr>
<tr>
<td><a href="http://www.columbiariverbarpilots.com">www.columbiariverbarpilots.com</a></td>
<td><a href="mailto:realjohn@pacifier.com">realjohn@pacifier.com</a></td>
<td><a href="http://www.columbiariverbarpilots.com">www.columbiariverbarpilots.com</a></td>
<td><a href="mailto:gslinc@pacifier.com">gslinc@pacifier.com</a></td>
</tr>
</tbody>
</table>

- [ ] Check if additional co-applicant(s)/co-sponsor(s) are identified in Page 18 of this application.

2. **Co-applicant / co-sponsor**

<table>
<thead>
<tr>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbia River Bar Pilots LLC</td>
<td>Captain Gary Lewin</td>
<td>Columbia River Bar Pilots LLC</td>
<td>Captain Gary Lewin</td>
</tr>
</tbody>
</table>

### 3. Project name and location

**PROJECT NAME**: Bar Pilot Helicopter Project  
**PROJECT LOCATION**: Astoria, Oregon

### 4. Project summary

**BRIEF SUMMARY OF PROJECT**:  
Purchase of helicopter serving Columbia River Bar pilotage grounds.

### 5. Cost summary (These fields will fill automatically as the application is completed.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>ConnectOregon II grant amount</td>
<td>$5,736,640.00</td>
</tr>
<tr>
<td>Match amount (20% of grant)</td>
<td>$1,434,160.00</td>
</tr>
<tr>
<td>ConnectOregon II loan amount</td>
<td>$0.00</td>
</tr>
<tr>
<td>ConnectOregon II project total</td>
<td>$7,170,800.00</td>
</tr>
</tbody>
</table>

### 6. Certification

I certify that **Saddle Mountain, Inc.** supports the proposed project, has the legal authority to pledge matching funds, and has the legal authority to apply for **ConnectOregon II** funds. I further certify that matching funds are available or will be available for the proposed project. I understand that all State of Oregon rules for contracting, auditing, underwriting (where applicable), and payment will apply to this project. I certify that we have read the Sample Draft Agreement and will sign the Agreement if selected.

**APPLICANT SIGNATURE**:  
**PRINT NAME**: Robert Johnson  
**DATE**: 11/20/2007

**CO-APPLICANT SIGNATURE**:  
**PRINT NAME**: Gary Lewin  
**DATE**: 11/20/2007
PART B: Project Description

1. Project purpose and description

   Project maps must be included with this application. Maximum map size: 11 by 17 inches.

   The transportation system transferring bar pilots to and from vessels crossing the dangerous Columbia River Bar consists of a combination helicopter/fast boat system. An AGUSTA 109E helicopter has been on station in Astoria, Oregon since August, 1999 and performs 70% of the pilot transfers. When fog or other conditions make the helicopter unavailable, a fast cutter-type pilot boat performs the vessel transfers. Historically, the Bar Pilots have owned their pilot boats through a captive corporation, Saddle Mountain, Inc. The helicopter service is provided by an outside contractor. During the last eight years, helicopter service has been provided by three different contractors, one of whom repudiated its contract after performing less than two years of a five year term.

   In a 2004 cost benefit analysis commissioned by the Oregon Board of Maritime Pilots, the state agency regulating pilotage on the Columbia River, an independent consulting firm concluded that the helicopter/fast boat system was the most cost effective. However, the study pointed out that the economic model developed to measure the cost effectiveness of the system showed that it was "relatively sensitive to the helicopter lease cost." This same study found that containerized cargos calling on the Columbia River "have the greatest potential to be affected by [pilotage] fee increases because they are highly mobile and can be readily moved by, and exchanged between, truck, train, and barge." Quantec, "Pilot Transfer System Cost-Benefit Analysis and Cost Effectiveness Study" at 44, 64 (May 2004).

   Based upon its experience with three different helicopter service providers, the Bar Pilots are concerned that there will be a substantial increase in helicopter service costs in 2013, when the existing contract expires. This could result in a significant increase in pilotage fees and potentially impact the attractiveness of the Columbia River system to containerized cargos. In order to obtain full control over its pilot transportation system, the Bar Pilots seek funding for 80% of the cost of acquiring a new state-of-the-art AGUSTA A109S helicopter to replace the existing AGUSTA 109E provided by the existing contractor. The Bar Pilots propose that this purchase occur in 2010 and be preceded by negotiations with the existing helicopter service provider Arctic Air Service to renegotiate the terms of the contract with Arctic Air. This would lead to a long-term contract under which Arctic Air provides helicopter crewing and maintenance, but the Bar Pilots provide the helicopter under their ownership.

   Based upon current projections, eliminating the lease cost from the system by capitalizing the cost of a helicopter acquisition will reduce the current costs of helicopter operations by 25% or approximately $500,000 per year. This savings would reduce the transportation system costs for the bar pilotage system, help maintain rate stability and benefit all users of the Columbia River maritime transportation system.
2. Project location

| STREET ADDRESS OR NEAREST STREET INTERSECTION | 422 Gateway Avenue, Suite 100 |
| CITY(IES) | COUNTY(IES) |
| Astoria | Clatsop |

| GPS COORDINATES | LATITUDE (DEGREES AND DECIMAL) | LONGITUDE (DEGREES AND DECIMAL) |

3. Project mode (check all that apply): ☒ Air ☐ Marine ☐ Rail ☒ Transit

4. ConnectOregon region: ☐ Region 1 ☒ Region 2 ☐ Region 3 ☐ Region 4 ☐ Region 5

For more information, refer to the Application Instructions. For processing purposes, projects should be wholly contained in one region. Applicants should complete separate applications for portions of larger projects that cross region boundaries. See Application Instructions for additional details.

5. Is(are) the applicant(s) current on all state and local taxes, fees, and assessments? ☒ Yes ☐ No

6. What is the project’s useful life? ☐

7. Which applicant/co-applicant will assume responsibility for the continued maintenance and operation of the project?

RESPONSIBLE PARTY

Saddle Mountain, Inc.

8. What will be the source(s) of funds for the continued maintenance and operation of the project?

SOURCE(S)

Pilotage fees paid by vessels crossing Columbia River bar

9. Is the funding for the continued maintenance and operation of the project currently secured or budgeted? ☐ Yes ☒ No

If no, describe when these steps will occur:

DESCRIBE

Funding for maintenance and operation of the AGUSTA A109S helicopter will be secured in the next rate proceeding to establish rates paid by ocean-going vessels calling ports on the Columbia River. This rate proceeding will be resolved either by way of settlement with the involved stakeholders (Columbia River Steamship Operators Association and Ports of Portland, Vancouver and Longview) or in a contested case hearing before the Oregon Board of Maritime Pilots, which is the state agency regulating pilotage on the Columbia River system.
10. Is all the real estate required for the project owned by the applicants? (See also Questions 11-13.)
   - Yes, project real estate is wholly owned by the applicant(s).
   - No, project real estate is partly owned by the applicant(s).
   - ☒ No.

   If yes, project real estate is wholly owned, what was the price of the property? \( \text{PURCHASE PRICE} \quad \text{\$0.00} \)

   If no, project real estate is partly owned, or if no, include the property owner’s information and signature for the non-owned portion:

<table>
<thead>
<tr>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>CONTACT PERSON TITLE</td>
</tr>
<tr>
<td>CITY, STATE, ZIP</td>
<td>PHONE</td>
</tr>
<tr>
<td></td>
<td>FAX</td>
</tr>
<tr>
<td>WEB SITE (IF APPLICABLE)</td>
<td>E-MAIL</td>
</tr>
</tbody>
</table>

I certify that [ ] supports the proposed project, has the legal authority to pledge matching funds, and has the legal authority to authorize the use of the real estate underlying the project. I understand that all State of Oregon rules for contracting, auditing, underwriting (where applicable), and payment will apply to this project, and that these rules may require a 20-year lease of the site.

11. Will the property be purchased by the applicant to complete the project? ☒ Yes ☐ No
   If yes, is the property in escrow? ☒ Yes ☐ No

12. Will the property be leased by the applicant? ☒ Yes ☐ No

13. Provide any additional real estate details

   ADDITIONAL DETAILS
   
   The current helicopter service provided by an outside contractor to the Columbia River Bar Pilots is stationed at the Astoria Airport owned and operated by the Port of Astoria. Hangar, office and crew quarter space is leased by the Port of Astoria to Saddle Mountain, Inc. This leasing arrangement would continue following acquisition of the new helicopter.
PART C: ConnectOregon II Project Budget

1. Identify the source and amount of funds composing the project budget, including grants, loans, and matching funds.

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>AMOUNT</th>
<th>DATE AVAILABLE</th>
<th>STAFF USE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a. Grant portion</strong></td>
<td>$7,170,800.00</td>
<td>2009</td>
<td>1.0000</td>
</tr>
<tr>
<td>1. Required match (For grants: 20% grant project subtotal)</td>
<td>$1,434,160.00</td>
<td>Select</td>
<td>0.2000</td>
</tr>
<tr>
<td>2. ConnectOregon II grant amount requested</td>
<td>$5,736,640.00</td>
<td>Select</td>
<td>0.8000</td>
</tr>
<tr>
<td><strong>b. ConnectOregon II loan portion requested</strong> (no match required)</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td><strong>c. ConnectOregon II total (a+b)</strong></td>
<td>$7,170,800.00</td>
<td>Select</td>
<td>1.0000</td>
</tr>
<tr>
<td><strong>d. Additional applicant match (not required)</strong></td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td><strong>Project total</strong></td>
<td>$7,170,800.00</td>
<td></td>
<td>1.0000</td>
</tr>
<tr>
<td><strong>e. Multimodal study fee (2% of line c)</strong></td>
<td>$143,416.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. For grant projects, detail the source and timing of the match shown above.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>DATE AVAILABLE</th>
<th>STAFF USE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Contracted services</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Capital outlay – land (purchase price)</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Capital outlay -- equipment</td>
<td>$7,170,800.00</td>
<td>2009</td>
<td>1.0000</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>Select</td>
<td>0.0000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$7,170,800.00</td>
<td></td>
<td>1.0000</td>
</tr>
</tbody>
</table>

*Total must equal $1,434,160.00
1.a.1–Required match + 1.d–Additional applicant match*
3. If the ConnectOregon II project is part of a larger project, describe the scope of the entire project. Include the total amounts of public and private investment in the proposed project. Please note which portions of the project are ConnectOregon II-eligible.

**DESCRIBE**

The Bar Pilot Helicopter Project is the final piece of a three-part project to modernize the pilotage transportation system at the entrance to the Columbia River. In 1999, the Oregon Board of Maritime Pilots approved, for a trial period of two years, the implementation of a helicopter/fast boat system to improve the safety and speed of deploying bar pilots to and from vessels crossing the dangerous Columbia River Bar. Helicopter service pursuant to a multi-year contract with an outside provider began in August, 1999. The Bar Pilots have also acquired two state-of-the-art, fast pilot boats which replaced two aging vessels, both in excess of 30 years old. The pilot boat Chinook was built in Seattle and delivered for service in August, 2000. Her sister ship, the pilot boat Columbia, is under construction at the same yard in Seattle and scheduled for delivery in January, 2008. Acquisition of a new helicopter by Saddle Mountain will consolidate the bar pilotage transportation system under Bar Pilot control and help ensure a stable rate structure benefitting all stakeholders served by the pilotage system on the Columbia River Bar.

☐ Commitment letters from businesses and organizations, stating their intentions regarding private investment over a specified period, are included in the Supplemental Information attached to this application.

4. Complete the following tables regarding current and projected milestones for the project. Check to indicate if the project is a construction or a non-construction project.

<table>
<thead>
<tr>
<th>MILESTONE</th>
<th>CONSTRUCTION PROJECTS</th>
<th>OTHER (NON-CONSTRUCTION) PROJECTS – DESCRIBE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Milestone 1</td>
<td>Scoping and planning</td>
<td>Contract Negotiations</td>
</tr>
<tr>
<td>b. Milestone 2</td>
<td>Right-of-way and land acquisition</td>
<td>Equipment Purchase</td>
</tr>
<tr>
<td>c. Milestone 3</td>
<td>Permits</td>
<td>Equipment Deployment</td>
</tr>
<tr>
<td>d. Milestone 4</td>
<td>Final plans/bidding engineering documents</td>
<td></td>
</tr>
<tr>
<td>e. Milestone 5</td>
<td>Construction contract award</td>
<td></td>
</tr>
<tr>
<td>f. Milestone 6</td>
<td>Project completion</td>
<td></td>
</tr>
</tbody>
</table>

5. For the milestones identified above, provide the following details:

<table>
<thead>
<tr>
<th>MILESTONE</th>
<th>HAS THE MILESTONE BEEN MET?</th>
<th>PROJECTED START DATE OF MILESTONE WORK</th>
<th>ESTIMATED LENGTH OF PROCESS</th>
<th>PROJECTED MILESTONE COMPLETION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Milestone 1</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Milestone 2</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Milestone 3</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Milestone 4</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Milestone 5</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Milestone 6</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. Based on the milestones identified on the previous page, provide details of the proposed uses and amount of funds needed to complete each milestone.

   a. Milestone 1
   □ This milestone is complete or does not apply.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>PART OF GRANT MATCH?</th>
<th>DATE AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td>2009 Select</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
</tbody>
</table>

   Milestone 1 Total $ 0.00

   b. Milestone 2
   □ This milestone is complete or does not apply.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>PART OF GRANT MATCH?</th>
<th>DATE AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td>2009 Select</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
</tbody>
</table>

   Milestone 2 Total $ 0.00

   c. Milestone 3
   □ This milestone is complete or does not apply.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>PART OF GRANT MATCH?</th>
<th>DATE AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td>2010 Select</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>☑ Yes ☐ No</td>
<td></td>
</tr>
</tbody>
</table>

   Milestone 3 Total $ 0.00
d. Milestone 4

☑ This milestone is complete or does not apply.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>PART OF GRANT MATCH?</th>
<th>DATE AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
</tbody>
</table>

**Milestone 4 Total** $0.00

e. Milestone 5

☑ This milestone is complete or does not apply.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>PART OF GRANT MATCH?</th>
<th>DATE AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
</tbody>
</table>

**Milestone 5 Total** $0.00

f. Milestone 6

☑ This milestone is complete or does not apply.

<table>
<thead>
<tr>
<th>FUNDS</th>
<th>AMOUNT</th>
<th>PART OF GRANT MATCH?</th>
<th>DATE AVAILABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>$0.00</td>
<td>□ Yes □ No</td>
<td>Select</td>
</tr>
</tbody>
</table>

**Milestone 6 Total** $0.00
<table>
<thead>
<tr>
<th>Description</th>
<th>AMOUNT</th>
<th>STAFF USE ONLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor (payroll)</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td>Contracted services (if known)</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td>Materials and supplies</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td>Capital outlay – land</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td>Capital outlay – buildings</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td>Capital outlay – equipment</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td>Other</td>
<td>$ 0.00</td>
<td>0.0000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 0.00</strong></td>
<td><strong>0.0000</strong></td>
</tr>
</tbody>
</table>
PART D: Project details

1. Does the project improve an existing connection or add a new connection to an industrial or employment center?
   ☒ Yes  ☐ No

   If yes, this project improves or creates access to:

   | ☒ Industrial center | SPECIFY Ports on the Columbia River |
   | ☐ Employment center | SPECIFY |

   ☐ This project provides access to SITE NAME which is a site certified as “Project Ready” by the Oregon Economic and Community Development Department (OECDD). For more information, refer to the Application Instructions.

2. Does this project link workers to jobs?
   ☐ Yes  ☒ No

   EXPLAIN

   PASSENGER MODE LINKS (CHECK ALL THAT APPLY)
   ☐ Fixed-route bus  ☐ Light rail  ☐ Air services
   ☐ Demand-responsive bus  ☐ Passenger rail  ☐ Ferry
   ☐ Other  ☐ Commuter rail  ☐ Water taxi

   IDENTIFY GEOGRAPHIC SERVICE LEVEL (CHECK ALL THAT APPLY)
   ☐ Rural  ☐ Intra-city (within a town or city)  ☐ Intercity (between towns or cities)
   ☐ Interstate (between states)  ☐ International

3. Identify if the project serves one or more of Oregon’s Statewide Trade Clusters or the tourism industry. For more information, refer to the Application Instructions.

   STATEWIDE TRADE CLUSTERS (CHECK ALL THAT APPLY)
   ☒ Agricultural products  ☐ Medical products
   ☒ Apparel and sporting goods design  ☒ Metals
   ☐ Business services  ☒ Processed food and beverage products
   ☒ Communications equipment  ☒ Transportation equipment and parts
   ☒ Electronics and advanced materials  ☒ Wood and other forest products
   ☐ Information technology  ☒ Tourism
   ☒ Logistics and distribution

   PROVIDE DETAIL

   The pilotage system at the mouth of the Columbia River is a vital link in the maritime transportation system on the Columbia River. All ocean-going vessels (including cruise ships) are required by law to utilize pilots on the Columbia River to ensure safe passage across the bar and upriver to and from all ports. These vessels account for much of the region's foreign trade, both import and export.
4. Does this provide an economic benefit by attracting new businesses or industry to Oregon?

☒ Yes  ☐ No

EXPLAIN
The efficiency of the pilotage system is an important ingredient of the maritime transportation system on the Columbia River. As ocean-going vessels increase in size and operating cost, ocean carriers calling on Columbia River ports demand a system which minimizes costly bar closures and deploys bar pilots safely and efficiently in order to reduce vessel operating costs.

LIST UP TO FIVE BUSINESSES THAT WILL BE SERVED BY THE PROJECT

<table>
<thead>
<tr>
<th>BUSINESS NAME</th>
<th>NAME OF CONTACT PERSON</th>
<th>CONTACT PERSON PHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Kalama Export Company, LLC</td>
<td>Steve Oakes</td>
<td>(360) 673-3900</td>
</tr>
<tr>
<td>2. Port of Portland</td>
<td>Sam Ruda</td>
<td>(503) 944-7207</td>
</tr>
<tr>
<td>3. Inlandboatmen's Union of the Pacific</td>
<td>Michael Conradi</td>
<td>(503) 228-6000</td>
</tr>
<tr>
<td>4. Arctic Air Services, Inc.</td>
<td>Jeff Attebery</td>
<td>(805) 938-5500</td>
</tr>
<tr>
<td>5. Columbia River Steamship Operators Association</td>
<td>Heather Moats</td>
<td>(503) 226-3093</td>
</tr>
</tbody>
</table>

☒ Commitment letters are included in Supplemental Information. These letters must be from businesses or organizations stating their intention to operate in Oregon and detailing any private investment over a specified period of time. These letters should document the need for, and intent to use, the project by the businesses and entities to be served.

What is the size of the initial investment by these businesses? ............................................ $

5. Is this project located in an economically distressed or severely distressed community, as defined by the OECDD? For more information, refer to the Application Instructions.

☐ Yes  ☒ No

LIST (OECDD-IDENTIFIED CITY, COUNTY, OR AREA)

EXPLAIN HOW THE PROJECT BENEFITS THE COMMUNITY
6. Does this project benefit the Oregon economy by providing improvements that ensure specific non-speculative job creation or retention (beyond short-run construction jobs)?

☐ Yes*  ☒ No

If yes, please complete the following:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Number of non-construction jobs created or retained as a direct</td>
</tr>
<tr>
<td></td>
<td>result of the project................................................................</td>
</tr>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>b.</td>
<td>Average annual wage of non-construction jobs created or retained</td>
</tr>
<tr>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>c.</td>
<td>ConnectOregon II funding requested per job</td>
</tr>
<tr>
<td></td>
<td>ConnectOregon II funding requested ÷ number of non-construction</td>
</tr>
<tr>
<td></td>
<td>jobs identified in response to this question</td>
</tr>
<tr>
<td></td>
<td>$0.00</td>
</tr>
</tbody>
</table>

* ☐ Required for a yes answer. Commitment letters are included in Supplemental Information. (These letters must be from businesses or organizations stating their intention to operate in Oregon and detailing the number of jobs retained or created over a specific period of time as a result of this project.)

EXPLAIN

7. Does this project improve the use or efficiency of Oregon’s transportation system?

☐ Yes  ☒ No

If yes, please complete the following:

CHECK ALL THAT APPLY, AND EXPLAIN IN THE BOX BELOW

The project...

☒ improves safety.
☒ increases system capacity.
☒ improves a bottleneck or congestion point.
☒ completes one or more gaps in Oregon’s transportation system.
☐ removes an existing barrier.
☒ reduces traffic or use conflicts.
☒ provides another measurable system improvement (described below).

EXPLAIN

The helicopter is the safest means of pilot transfer in heavy weather. The helicopter also significantly enhances the accident prevention capability of the pilotage system on the coast of Oregon and Washington. This project will increase system capacity by funding the acquisition of a helicopter which can carry three pilots, which significantly speeds deployment of pilots to and from incoming or outgoing vessels during peak traffic periods. Without speedy deployment of Bar Pilots, the mouth of the Columbia River can become a congestion point for ocean-going vessels, which increases the risk of collision and catastrophic environmental damage. This project will complete the consolidation of the helicopter/fast boat pilot transfer system on the Columbia River Bar. The speed of the helicopter allows for greater traffic separation during peak periods, thus reducing the risk of collision and conflicts with other traffic such as crab boats. This project will increase the average speed of deploying Bar Pilots to and from vessels, which will reduce helicopter operations and maintenance costs. With the helicopter, a Bar Pilot can be transferred to or from a vessel traveling at sea speed saving an hour or more per transit.
8. Does the project provide links between, or include improvements in, multiple modes of transportation (air, marine, pipeline, passenger rail, freight rail, transit, truck, bus, bicycle, pedestrian, personal automobile)?

- Yes  - No

EXPLAIN
This project will improve a vital link in the Columbia River maritime transportation system. Ocean-going vessels calling on the Columbia River, which are legally required to take on a bar pilot to oversee navigation during the bar passage, will receive safe, speedy and cost effective service through implementation of this project.

☐ Check if contact and confirmation information for key stakeholders is included in Supplemental Information.
9. Does the project improve or create linkages to transportation networks outside Oregon?

☑ Yes ☐ No

EXPLAIN
The project will improve linkages to transportation networks outside Oregon. The Columbia River maritime transportation system is linked through modern infrastructure at public ports on this commercial waterway to highway and rail networks serving the United States and North America.

10. Does the project use technology to improve the use or efficiency of Oregon’s transportation system?

☑ Yes ☐ No

EXPLAIN
The AGUSTA A109S helicopter that is the subject of this project is a state-of-the-art helicopter designed for external hoist of pilots from the helicopter to the deck of a vessel while the ship is underway and vice versa. The AGUSTA A109S is a faster and more capable helicopter compared to the existing contractor-provided AGUSTA 109E. Acquisition of the A109S will improve the helo operation’s overall safety and efficiency. The A109S can be outfitted with AIS technology enabling the helicopter to electronically track its route to vessels requiring pilotage service, which will be considerably more efficient in low visibility situations than the current system based upon radio communication and visual tracking. The A109S is 18 inches longer and is equipped with slightly more powerful engines. These additional features will enable the helicopter to carry as many as three pilots and reduce the average flight time per vessel by approximately 5%. Due to its size and weight limitations, the existing helicopter is not able to carry three pilots, which dramatically increases efficiency during peak traffic periods. Currently, the 109E cannot carry three pilots unless the total weight of the fuel on board, the three-person helicopter crew and the three pilots happens to fall within the helicopter's maximum carrying capacity. At present, this occurs less than half of the time. With ocean-going vessels calling Columbia River Ports expected to increase over the next two decades, the need to carry three pilots aboard the helicopter will increase as well.

Attached is a copy of the technical information from the AGUSTA brochure showing the specifications for the A109S including a list of how the aircraft interior is outfitted for what the manufacturer refers to as "Harbour Pilot Shuttle."
11. Complete the following table regarding pre-construction documentation and permits. (Potential projects are expected to be at varying stages of construction readiness; some of the steps below will not apply, or must be marked “Still required” or “Don’t know.” See the ConnectOregon II Application Instructions for detailed explanations of the terms below.)

<table>
<thead>
<tr>
<th>STEP</th>
<th>ALREADY COMPLETED</th>
<th>INCOMPLETE UNDERWAY</th>
<th>STILL REQUIRED</th>
<th>NOT APPLICABLE</th>
<th>DON’T KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Environmental impact statement (EIS)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>b. Environmental assessment (EA)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>c. Inclusion in adopted transportation system plan (TSP)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>d. Inclusion in adopted local comprehensive plan</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>e. Inclusion in adopted regional transportation plan (RTP)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>f. Air-quality conformity determination</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>g. In-water work permit</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>h. Zoning amendment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>i. Coordination of project approval with any Native American tribe or another state</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>j. Goal exception (as required by state planning goals)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>k. 25% design complete</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>l. 50% design complete</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>m. 75% design complete</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>n. Final design complete</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>o. Plans and specifications</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>p. Permits</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>q. Other: Contract negotiations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>r. Other: Equipment purchase</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>s. Other: Equipment deployment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
<tr>
<td>t. Other:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☑</td>
</tr>
</tbody>
</table>

12. Is the construction of the project limited to specific construction windows due to environmental considerations (such as bird-nesting or fish-spawning seasons, or temperature)?

☐ Yes ☑ No ☐ No; however, additional information is included in Section E.

If yes, note the periods when construction is limited:

<table>
<thead>
<tr>
<th>RESTRICTION DESCRIPTION</th>
<th>START DATE OF RESTRICTION</th>
<th>END DATE OF RESTRICTION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
13. Can the project demonstrate support from public agencies that must approve the project?

☐ Yes  ☒ Yes, started but not completed  ☐ No

EXPLAIN
The state agency regulating pilotage is the Oregon Board of Maritime Pilots. This agency approved helicopter operations at the Columbia River Bar on a trial basis in 1999, and has approved rate structures funding helicopter operations in formal rate orders adopted in 2001 and most recently in 2005. The Columbia River Bar Pilots are confident that the Oregon Board of Maritime Pilots will be supportive of this project. The Board also authorized a $200,000 study which found the helicopter/fast boat system to be the most efficient and cost effective means of boarding and disembarking Bar Pilots to and from vessels. Quantec, "Pilot Transfer System Cost-Benefit Analysis and Cost Effectiveness Study" (May, 2004).

☐ Check if documentation of the coordination is attached in Supplemental Information.

14. What permits or approvals (beyond those noted above) are required prior to project construction?

PERMITS OR APPROVALS
Not applicable.

15. Describe any unique construction-readiness issues or likely delays not identified above:

DESCRIBE
Not applicable.
Part E: Other Considerations and Information

Describe any other considerations and information that support why the project should be selected:

Supporting materials

List the supporting materials to be submitted in your paper application packet.

Part C, Item 3: Commitment letters.

1.

2.

3.

4.

5.

Part D, Item 4: Commitment letters from businesses and organizations stating their intention to operate in Oregon.

1.

2.

3.

4.

5.
Part D, Item 6: Commitment letters from businesses and organizations stating their intentions regarding job creation and private investment plans over a specified period.

1.  
2.  
3.  
4.  
5.  

Part D, Item 7: Other supporting documents

1. Excerpt from AGUSTA brochure regarding helicopter specifications.  
2.  
3.  

Part D, Item 8: Key stakeholder contacts and confirmation letters

1. Senator Betsy Johnson support letter.  
2. Kalama Export Company support letter.  
3. Inlandboatmen's Union support letter.  
4. Arctic Air Service, Inc. information letter.  
5.  

Part D, Item 13: Documentation of coordination with approving agencies

1.  
2.  
3.  
4.  
5.  

Other supporting documents

1.  
2.  
3.  
4.  
5.
Part D, Question 7.

With operational costs of $50,000 to $100,000 per day, this aggregate savings to the ocean-going fleet calling Columbia River Ports is substantial. Shorter steaming times for vessels approaching or departing the mouth of the Columbia River also reduces engine emissions in the region.
Additional co-applicants/co-sponsors, additional property owners/lessors

Check one:  ☐ Co-applicant/co-sponsor  ☐ Property owner/lessee

<table>
<thead>
<tr>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>CONTACT PERSON TITLE</td>
</tr>
<tr>
<td>CITY, STATE, ZIP</td>
<td>PHONE</td>
</tr>
<tr>
<td>WEB SITE</td>
<td>FAX</td>
</tr>
<tr>
<td>E-MAIL</td>
<td></td>
</tr>
</tbody>
</table>

Check one:  ☐ Co-applicant/co-sponsor  ☐ Property owner/lessee

<table>
<thead>
<tr>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>CONTACT PERSON TITLE</td>
</tr>
<tr>
<td>CITY, STATE, ZIP</td>
<td>PHONE</td>
</tr>
<tr>
<td>WEB SITE</td>
<td>FAX</td>
</tr>
<tr>
<td>E-MAIL</td>
<td></td>
</tr>
</tbody>
</table>

Check one:  ☐ Co-applicant/co-sponsor  ☐ Property owner/lessee

<table>
<thead>
<tr>
<th>ORGANIZATION NAME</th>
<th>CONTACT PERSON NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS</td>
<td>CONTACT PERSON TITLE</td>
</tr>
<tr>
<td>CITY, STATE, ZIP</td>
<td>PHONE</td>
</tr>
<tr>
<td>WEB SITE</td>
<td>FAX</td>
</tr>
<tr>
<td>E-MAIL</td>
<td></td>
</tr>
</tbody>
</table>

Co-applicant/co-sponsor certification

I certify that ______________________ ______________________ supports the proposed project, has the legal authority to pledge matching funds, and has the legal authority to apply for ConnectOregon II funds. I further certify that matching funds are available or will be available for the proposed project. I understand that all state of Oregon rules for contracting, auditing, underwriting (where applicable), and payment will apply to this project. I certify that we have read the Sample Draft Agreement and will sign the agreement if selected.

<table>
<thead>
<tr>
<th>CO-APPLICANT SIGNATURE</th>
<th>PRINT NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Owner/lessor certification

I certify that ______________________ ______________________ supports the proposed project, has the legal authority to authorize the use of the real estate underlying the project. I understand that all state of Oregon rules for contracting, auditing, underwriting (where applicable), and payment will apply to this project.

<table>
<thead>
<tr>
<th>PROPERTY OWNER/LESSOR SIGNATURE</th>
<th>PRINT NAME</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Application Instruction for submittal requirements.
1 INTRODUCTION

The *Grand* is a new top-of-the-range light twin helicopter developed to meet market requirements in a multitude of applications. Positioned at the upper end of the light twin FAR/JAR 27 segment (3175 kg – 7000 lb), the *Grand* features high performance capabilities, providing levels of cabin space and payload previously available only on intermediate-size category helicopters, whilst retaining attractive economics typical of the light twin category.

The *Grand*’s spacious, unobstructed passenger cabin (2.30 m – 7 ft 7 in max length) is easily accessible through large sliding cabin doors (1.40 m – 4 ft 7 in), one on each side of the fuselage. A comprehensive selection of interiors and mission equipment makes the *Grand* a suitable platform for a multitude of roles, including Corporate/VIP transportation, EMS, Law Enforcement, Offshore and various Utility operations. The *Grand*’s 815 shp new generation Pratt & Whitney Canada PW207C turboshaft engines with electronic control (FADEC) ensure outstanding performance capabilities in both hovering and cruising flight, including full Cat. A/Class 1 capability, whilst retaining low fuel burn characteristics. The payload/range characteristics and the very high cruise speed give the *Grand* capabilities which are unique in its category.

The cockpit layout provides excellent visibility and an ergonomic working space for the pilots. The instrument panel incorporates four LCD displays for flight and navigation together with two LCD multifunction displays (IDS) for aircraft/engine data monitoring, crew alerting and maintenance data pages. State-of-the-art avionics for single/dual pilot IFR operation, including a three-axis duplex autopilot coupled with a Flight Director, are standard features of the helicopter and maximise safety of operations and a low pilot workload. High passive safety is available to the flight crew and the passengers thanks to the cocoon-type high strength airframe fitted with a crash-resistant fuel system and crushworthy seats for both the pilot(s) and passengers.

The *Grand*’s composite material main and tail rotor blades feature optimised geometry and tip profile for high aerodynamic efficiency and contribute to reduce external noise to levels well below the ICAO noise limits.

Operating economics benefit from low level of maintenance requirements, both in terms of materials and man-hours required. Only a few main components are subject to overhaul, whilst a limited number of low cost parts are subject to retirement: in both cases TBOs (Time Between Overhaul) or retirement hours are high. In addition, an attractive Warranty Policy and, alternatively, availability of competitive “Pay-by-the-hour” spare parts support programmes ensure optimum operating cost control.
1.1 MAIN CHARACTERISTICS

The Grand satisfies the stringent market demand, fulfilling the new Civil Aviation regulations. Its main features include the following:

- High Maximum takeoff weight (3175 kg – 7000 lb) for increased payload/range capability
- New generation Pratt & Whitney Canada PW207C engines with Full Authority Digital Engine Control (FADEC)
- Titanium main rotor hub with composite grips and blades and with elastomeric bearings
- Composite tail rotor blades
- Crash-resistant seats for crew and passengers, crash-resistant fuel system, fail-safe design and redundancy of all systems to ensure high safety level
- Full Cat. A – Class 1 performance for safe operation
- Excellent flying qualities, high controllability and manoeuvrability
- Spacious passenger cabin (2.30 m – 7 ft 7 in long) for high comfort
- Wide cabin sliding door opening (1.40 m – 4 ft 7 in max length) on both sides to ensure excellent accessibility
- Large separate baggage compartment (2.30 m – 7 ft 7 in max length)
- Particular care to soundproofing to obtain very low levels of cabin noise
- State-of-the-art avionics for single/dual pilot IFR operation, including 3 axes duplex autopilot with Flight Director, 4 LCD screens for flight and navigation instruments, 2 LCD multifunction displays (IDS) for aircraft/engine data monitoring and aircraft warnings (with voice announcement)
- Capability to operate in congested or hostile environment and in extreme temperature, within -40°C and + 50°C
- Heavy duty retractable landing gear with high clearance for unprepared terrain
- Reduced maintenance requirements by the wide use of reliable and 'on-condition' components
- Low operating costs and maximum airborne availability through different inspection programme options suited for the customer needs, as well as fixed hourly rate maintenance programmes available both for the airframe and the engines

1.2 APPLICATIONS

The great flexibility of the cabin layout and the wide range of optional equipment make the Grand suitable for different applications such as:

- Passenger transportation
- VIP and Corporate transportation
- Emergency medical service (EMS)
- Search And Rescue (SAR) operations
- Law Enforcement
- Offshore passenger transportation
- Harbour pilot shuttle
- Utility operations (fire fighting, sling load carrying, news gathering, etc.)
2 LEADING FEATURES

The Grand is a twin-engine light category, multipurpose helicopter with crashworthy seats for accommodating up to eight persons. The helicopter has a four-composite blade, fully articulated main rotor with elastomeric bearings and a semi-rigid, two-composite blade tail rotor system. Each engine provides separate input to the main transmission. The twin-engine reliability is further enhanced by a dual fully separated crash-resistant fuel system, dual hydraulic system and dual electric system. The fuselage and the empennage are of aluminium alloy construction for the primary structure and fibre composite material for the secondary structure. The landing gear is a three-wheel, retractable, tricycle type.

2.1 CERTIFICATION (TYPE AND OPERATIONAL APPROVAL)

The helicopter is designed and certified* in compliance with:

- JAR 27 – Small Rotorcraft, Amendment 2
- JAR 27 Appendix C (assimilating JAR 29 selected paragraphs) for Category A
- FAR 27 – Small Rotorcraft, Amendment 1 to 8 included and from 11 to 28 where applicable

On this basis, the rotorcraft is approved for:
- Day/night VFR (Visual Flight Rules) – Single pilot operation permitted from the right seat
- Day/night IFR (Instrument Flight Rules) – Single pilot operation permitted from the right seat
- Category A operations

Other special mandatory airworthiness standards are:
- HIRF requirements for in accordance with RTCA DO-160D
- Software certification in accordance with RTCA DO-178B

The basis of certification for noise is:
- ICAO Annex 16, Vol. I, Ch. 8

The reference for FAA noise certification is:
- FAR part 36, Appendix H

* The Grand is type certified as A109S, with Agusta S.p.A. being the Type Certificate holder.
### 2.2 EXTERNAL DIMENSIONS

#### Fuselage

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>11.65 m</td>
<td>38 ft 03 in</td>
</tr>
<tr>
<td>Width (elevator)</td>
<td>3.29 m</td>
<td>10 ft 10 in</td>
</tr>
<tr>
<td>Width (fuselage)</td>
<td>1.64 m</td>
<td>5 ft 05 in</td>
</tr>
<tr>
<td>Height (tail fin)</td>
<td>3.44 m</td>
<td>11 ft 03 in</td>
</tr>
<tr>
<td>Fuselage ground clearance</td>
<td>0.40 m</td>
<td>1 ft 04 in</td>
</tr>
</tbody>
</table>

#### Rotors

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main rotor diameter</td>
<td>10.83 m</td>
<td>35 ft 06 in</td>
</tr>
<tr>
<td>Tail rotor diameter</td>
<td>1.94 m</td>
<td>6 ft 04 in</td>
</tr>
</tbody>
</table>

#### Landing Gear

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheel track</td>
<td>2.15 m</td>
<td>7 ft 01 in</td>
</tr>
<tr>
<td>Wheel base</td>
<td>3.74 m</td>
<td>12 ft 03 in</td>
</tr>
</tbody>
</table>

#### Overall Dimensions

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (rotors turning)</td>
<td>12.96 m</td>
<td>42 ft 06 in</td>
</tr>
<tr>
<td>Width (main rotor blade at 45°)</td>
<td>7.76 m</td>
<td>25 ft 06 in</td>
</tr>
<tr>
<td>Height (top of tail fin)</td>
<td>3.44 m</td>
<td>11 ft 03 in</td>
</tr>
<tr>
<td>Main rotor clearance (rotor turning, controls in neutral position)</td>
<td>2.45 m</td>
<td>8 ft 00 in</td>
</tr>
<tr>
<td>Tail rotor clearance (rotor turning)</td>
<td>1.00 m</td>
<td>3 ft 03 in</td>
</tr>
</tbody>
</table>
Grand external dimensions

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.

THF G-0307-1
2.3 INTERNAL DIMENSIONS AND VOLUMES

<table>
<thead>
<tr>
<th>COCKPIT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max length</td>
<td>1.38 m</td>
<td>4 ft 06 in</td>
</tr>
<tr>
<td>Max width</td>
<td>1.59 m</td>
<td>5 ft 03 in</td>
</tr>
<tr>
<td>Max height</td>
<td>1.36 m</td>
<td>4 ft 06 in</td>
</tr>
<tr>
<td>Volume</td>
<td>1.65 m³</td>
<td>58.3 ft³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CABIN</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max length</td>
<td>2.30 m</td>
<td>7 ft 07 in</td>
</tr>
<tr>
<td>Max width</td>
<td>1.61 m</td>
<td>5 ft 03 in</td>
</tr>
<tr>
<td>Max height</td>
<td>1.28 m</td>
<td>4 ft 02 in</td>
</tr>
<tr>
<td>Volume</td>
<td>3.90 m³</td>
<td>137.7 ft³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BAGGAGE COMPARTMENT</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max length (with optional baggage ext.)</td>
<td>2.30 m</td>
<td>7 ft 07 in</td>
</tr>
<tr>
<td>Max width</td>
<td>1.10 m</td>
<td>3 ft 07 in</td>
</tr>
<tr>
<td>Max height</td>
<td>0.71 m</td>
<td>2 ft 04 in</td>
</tr>
<tr>
<td>Volume*</td>
<td>0.90 m³</td>
<td>31.8 ft³</td>
</tr>
</tbody>
</table>

* Max load: 120 kg – 265 lb

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
Grand internal dimensions

Pilot Cabin

Pax Cabin

Baggage Compartment

2.30 m / 7 ft 7 in

0.71 m / 2 ft 4 in

1.28 m / 4 ft 2 in

1.61 m / 5 ft 3 in

1.29 m / 4 ft 3 in

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
2.4 WEIGHTS

The Basic Empty Weight takes account of the main aircraft structure and all the essential equipment. The complete description of the basic configuration is given in Section 3.1 (Para. 3.1.1a to 3.1.1j included). The Maximum Gross Weight, relating to internal loads, equals the JAR/FAR 27 certification limit (3175 kg – 7000 lb).

<table>
<thead>
<tr>
<th>Weights</th>
<th>kg</th>
<th>lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIC EMPTY WEIGHT(^1)</td>
<td>1660</td>
<td>3660</td>
</tr>
<tr>
<td>MAX GROSS WEIGHT (internal loads)</td>
<td>3175</td>
<td>7000</td>
</tr>
<tr>
<td>MAX GROSS WEIGHT (external loads)</td>
<td>3200</td>
<td>7055</td>
</tr>
</tbody>
</table>

2.5 SLING LOAD CAPACITY

On request, the helicopter can be equipped with a single/dual cargo hook and/or a rescue hoist. The maximum sling load capabilities are shown in the table below.

<table>
<thead>
<tr>
<th>Lifting capacity</th>
<th>kg</th>
<th>lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary cargo hook</td>
<td>1150</td>
<td>2535</td>
</tr>
<tr>
<td>Secondary cargo hook</td>
<td>500</td>
<td>1102</td>
</tr>
<tr>
<td>Rescue hoist</td>
<td>272</td>
<td>600</td>
</tr>
</tbody>
</table>

\(^1\) Weight tolerance ±2%
2.6 FUEL CAPACITY

The fuel system is of modular-type with different capacities. The basic system is made of 3 crash-resistant cells, while other two optional configurations are available with the addition of the fourth and the fifth crash-resistant fuel cell. Refuelling is performed by gravity through a single point positioned on the starboard side of the fuselage.

<table>
<thead>
<tr>
<th></th>
<th>Total capacity*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kg</td>
</tr>
<tr>
<td>3-CELL fuel system</td>
<td>460</td>
</tr>
<tr>
<td>4-CELL fuel system</td>
<td>535</td>
</tr>
<tr>
<td>5-CELL fuel system</td>
<td>644</td>
</tr>
</tbody>
</table>

2.7 POWERPLANT

Manufacturer and type: Pratt & Whitney Canada PW207C

<table>
<thead>
<tr>
<th>Rating (Sea level, ISA)</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kW</td>
</tr>
<tr>
<td>AEO Takeoff power (5 min)</td>
<td>2 × 548</td>
</tr>
<tr>
<td>AEO Maximum continuous power</td>
<td>2 × 466</td>
</tr>
<tr>
<td>OEI 2' 30'' Contingency power</td>
<td>608</td>
</tr>
<tr>
<td>OEI Maximum continuous power</td>
<td>548</td>
</tr>
</tbody>
</table>

2.8 TRANSMISSION

Manufacturer: Agusta

<table>
<thead>
<tr>
<th>Rating**</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kW</td>
</tr>
<tr>
<td>AEO Takeoff power (5 min)</td>
<td>716</td>
</tr>
<tr>
<td>AEO Maximum continuous power</td>
<td>671</td>
</tr>
<tr>
<td>OEI 2' 30'' Contingency power</td>
<td>545</td>
</tr>
<tr>
<td>OEI Maximum continuous power</td>
<td>448</td>
</tr>
</tbody>
</table>

* Unusable fuel: 10 kg – 22.0 lb for all three tank configurations. Fuel density is assumed at 0.8 kg/l
** Rating applicable at 100% rotor speed (384 rpm)
2.9 OPERATIONAL ENVELOPE

2.9.1 Maximum operational flight speed – ISA Sea level

Never exceed speed $V_{NE}$: 168 kts
Maximum sideward speed: 30/40 kts
Maximum rearward speed: 30 kts

2.9.2 Wind envelope

The maximum wind speed for rotor engagement tested up to 40 kts (74 km/h). The wind/ground speed azimuth envelope depicted below is applicable to all loading conditions for hover in ground effect up to takeoff power.

---

1 At Sea level – ISA. For a different condition refer to the RFM
2.9.3 Flight load factors

The flight load factor limits that apply to the *Grand* operations at MGW are:

- 2.3 g POSITIVE
- 0.5 g NEGATIVE

2.9.4 Slope landing

Takeoff and landing on terrain with slope is possible, within the weight envelope, up to the following limits:

- 10° LONGITUDINAL
- 10° LATERAL

2.9.5 Static landing gear loading

The loads reported below refer to the helicopter in the *Grand* mid-CG configuration.

<table>
<thead>
<tr>
<th>Gross weight: 3175 kg – 7000 lb</th>
<th>Loading</th>
<th>Contact Area</th>
<th>Contact pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>715 kg</td>
<td>0.0115 m²</td>
<td>6.10 bar</td>
</tr>
<tr>
<td></td>
<td>1578 lb</td>
<td>17.9 in²</td>
<td>88.4 psi</td>
</tr>
<tr>
<td>Nose Landing Gear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Landing Gear</td>
<td>2 x 1230 kg</td>
<td>0.0198 m²</td>
<td>6.10 bar</td>
</tr>
<tr>
<td></td>
<td>2 x 2711 lb</td>
<td>30.7 in²</td>
<td>88.4 psi</td>
</tr>
</tbody>
</table>

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
2.9.6 Temperature and altitude

The helicopter and its components are designed to operate in the air temperature and altitude range defined in the diagram below.

![Temperature - Altitude operational envelope](image)

- Maximum pressure altitude for takeoff and landing: 16000 ft (4877 m)
2.10 CG ENVELOPE

The following charts show the centre of gravity range limits.

2.10.1 CG longitudinal and lateral envelope

\* Station 0.0 mm is situated 718 mm aft the radome tip

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
2.11 PERFORMANCE SUMMARY TABLES

2.11.1 Twin-engine operation (AEO) – Sea level

<table>
<thead>
<tr>
<th>Gross weight</th>
<th>2900 kg – 6393 lb</th>
<th>3175 kg – 7000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA</td>
<td>ISA+20°C</td>
</tr>
<tr>
<td>MAXIMUM CRUISE SPEED (TAS)</td>
<td>kts</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>km/h</td>
<td>298</td>
</tr>
<tr>
<td>RECOMMENDED CRUISE SPEED&lt;sup&gt;1&lt;/sup&gt; (TAS)</td>
<td>kts</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>km/h</td>
<td>261</td>
</tr>
<tr>
<td>RATE OF CLIMB (TOP)</td>
<td>ft/min</td>
<td>2120</td>
</tr>
<tr>
<td></td>
<td>m/s</td>
<td>10.77</td>
</tr>
<tr>
<td>3-CELL MAX RANGE&lt;sup&gt;2&lt;/sup&gt;</td>
<td>nm</td>
<td>310</td>
</tr>
<tr>
<td></td>
<td>km</td>
<td>574</td>
</tr>
<tr>
<td>3-CELL MAX ENDURANCE</td>
<td>h:min</td>
<td>2:54</td>
</tr>
<tr>
<td>450 kg usable fuel – no reserve</td>
<td>450 kg usable fuel – no reserve</td>
<td></td>
</tr>
<tr>
<td>5-CELL MAX RANGE</td>
<td>nm</td>
<td>459</td>
</tr>
<tr>
<td></td>
<td>km</td>
<td>850</td>
</tr>
<tr>
<td>5-CELL MAX ENDURANCE</td>
<td>h:min</td>
<td>4:16</td>
</tr>
</tbody>
</table>

2.11.2 Twin-engine operation (AEO) – 5000 ft

<table>
<thead>
<tr>
<th>Gross weight</th>
<th>2900 kg – 6393 lb</th>
<th>3175 kg – 7000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA</td>
<td>ISA+20°C</td>
</tr>
<tr>
<td>MAXIMUM CRUISE SPEED (TAS)</td>
<td>kts</td>
<td>161</td>
</tr>
<tr>
<td></td>
<td>km/h</td>
<td>298</td>
</tr>
<tr>
<td>RECOMMENDED CRUISE SPEED&lt;sup&gt;2&lt;/sup&gt; (TAS)</td>
<td>kts</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>km/h</td>
<td>250</td>
</tr>
<tr>
<td>RATE OF CLIMB (TOP)</td>
<td>ft/min</td>
<td>2100</td>
</tr>
<tr>
<td></td>
<td>m/s</td>
<td>10.67</td>
</tr>
<tr>
<td>RANGE&lt;sup&gt;1&lt;/sup&gt;</td>
<td>nm</td>
<td>343</td>
</tr>
<tr>
<td></td>
<td>km</td>
<td>635</td>
</tr>
<tr>
<td>ENDURANCE</td>
<td>h:min</td>
<td>3:13</td>
</tr>
<tr>
<td>450 kg usable fuel – no reserve</td>
<td>450 kg usable fuel – no reserve</td>
<td></td>
</tr>
<tr>
<td>MAX RANGE</td>
<td>nm</td>
<td>501</td>
</tr>
<tr>
<td></td>
<td>km</td>
<td>926</td>
</tr>
<tr>
<td>MAX ENDURANCE</td>
<td>h:min</td>
<td>4:42</td>
</tr>
</tbody>
</table>

<sup>1</sup> The Recommended cruise speed represents, at given environmental condition and weight, the speed corresponding to the 99% of the best specific range (nm/kg).

<sup>2</sup> The maximum range is evaluated at the Best range speed, that is the speed corresponding to the lowest specific fuel consumption (kg/nm) for given environmental condition and weight.
2.11.3 Twin-engine operation (AEO) – Altitude performance

<table>
<thead>
<tr>
<th>Gross weight</th>
<th>2900 kg – 6393 lb</th>
<th>3175 kg – 7000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA</td>
<td>ISA+20°C</td>
</tr>
<tr>
<td>HIGE (TOP)</td>
<td>ft</td>
<td>18200</td>
</tr>
<tr>
<td></td>
<td>m</td>
<td>5550</td>
</tr>
<tr>
<td>HOGE (TOP)</td>
<td>ft</td>
<td>13800</td>
</tr>
<tr>
<td></td>
<td>m</td>
<td>4210</td>
</tr>
<tr>
<td>SERVICE CEILING (MCP)</td>
<td>ft</td>
<td>18950</td>
</tr>
<tr>
<td>(100 ft/min ROC)</td>
<td>m</td>
<td>5775</td>
</tr>
</tbody>
</table>

2.11.4 One engine inoperative (OEI) – 2'30” Contingency power

<table>
<thead>
<tr>
<th>Gross weight</th>
<th>2900 kg – 6393 lb</th>
<th>3175 kg – 7000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA</td>
<td>ISA+20°C</td>
</tr>
<tr>
<td>RATE OF CLimb (SL)</td>
<td>ft/min</td>
<td>1320</td>
</tr>
<tr>
<td></td>
<td>m/s</td>
<td>6.71</td>
</tr>
<tr>
<td>SERVICE CEILING</td>
<td>ft</td>
<td>14400</td>
</tr>
<tr>
<td>(100 ft/min ROC)</td>
<td>m</td>
<td>4390</td>
</tr>
</tbody>
</table>

2.11.5 One engine inoperative (OEI) – MCP power (3175 kg)

<table>
<thead>
<tr>
<th>Gross weight</th>
<th>2900 kg – 6393 lb</th>
<th>3175 kg – 7000 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA</td>
<td>ISA+20°C</td>
</tr>
<tr>
<td>CRUISE SPEED (TAS – SL)</td>
<td>kts</td>
<td>135</td>
</tr>
<tr>
<td></td>
<td>km/h</td>
<td>250</td>
</tr>
<tr>
<td>CRUISE SPEED (TAS – 5000 ft)</td>
<td>kts</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>km/h</td>
<td>246</td>
</tr>
<tr>
<td>RATE OF CLimb (SL)</td>
<td>ft/min</td>
<td>830</td>
</tr>
<tr>
<td></td>
<td>m/s</td>
<td>4.22</td>
</tr>
<tr>
<td>SERVICE CEILING</td>
<td>ft</td>
<td>12400</td>
</tr>
<tr>
<td>(100 ft/min ROC)</td>
<td>m</td>
<td>3780</td>
</tr>
</tbody>
</table>

2.11.6 Cat. A takeoff and landing performance

See Section 4.2 herewith.
2.12 ENVIRONMENTAL IMPACT

2.12.1 External noise level


<table>
<thead>
<tr>
<th>Flight condition (MGW)</th>
<th>Grand EPNdB</th>
<th>ICAO noise limits EPNdB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>90.5</td>
<td>92.0</td>
</tr>
<tr>
<td>Fly-over</td>
<td>88.4</td>
<td>90.0</td>
</tr>
<tr>
<td>Approach</td>
<td>91.2</td>
<td>95.0</td>
</tr>
</tbody>
</table>

2.12.2 Internal noise level

The internal noise level may vary according to the internal soundproofing configuration, as indicated in the table¹.

<table>
<thead>
<tr>
<th>Soundproofing type</th>
<th>Weighted Level dB(A)</th>
<th>Speech Interference Level SILdB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Soundproofing</td>
<td>92</td>
<td>84</td>
</tr>
<tr>
<td>Silent Soundproofing</td>
<td>89</td>
<td>81</td>
</tr>
<tr>
<td>SuperSilent Soundproofing</td>
<td>85</td>
<td>77</td>
</tr>
</tbody>
</table>

2.12.3 Engine smoke and emissions

Engine smoke emission meets the requirements defined by ICAO Annex 16, Vol. II – *Aircraft engine emissions*. Moreover, an ecology system is installed to prevent fuel leakage after engine shutdown, and combustion chamber drains are provided for the fuel accumulating in case of false start or no-light.

¹ Preliminary data applicable to a VIP/Corporate layout for the following flight condition: 140 KTAS cruise speed – 3000 kg average gross weight – 3000 ft altitude

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
3 STANDARD CONFIGURATION AND OPTIONAL EQUIPMENT LIST

This section provides information on the aircraft standard configuration and optional interior and equipment available for the Grand and includes the following:

- Section 3.1: Description of the Grand Standard configuration
- Section 3.2: Completions, available as options for the interior and the external painting
- Section 3.3: Optional equipment, available to customise the aircraft for specific applications

3.1 STANDARD CONFIGURATION (EASA/FAA IFR)

The helicopter Standard configuration incorporates the following main subsystems described in detail in this section:

- Basic aircraft
- Standard equipment
- EASA/FAA Single pilot IFR avionic package (Garmin – Bendix/King)
- Avionic equipment
- Utility equipment
- Interior
- Miscellaneous/ground equipment

3.1.1 Basic aircraft

1660 kg (3660 lb)

The Grand basic configuration, which the BASIC EMPTY WEIGHT refers to (see Para. 2.4), is inclusive of all the equipment listed in this section, from point (a) to (j).

a. Airframe

- Aluminium alloy and bonded panel fuselage
- Semimonocoque aluminium alloy tail boom
- Two hinged jettisonable wide crew doors (on both sides)
- Two sliding passenger doors on both sides, 1.40 m opening, with jettisonable windows
- Acrylic windshield and side windows
- Acrylic overhead windows
- Quick removable tail rotor drive shaft cover
- Three wheel retractable landing gears
- Separate baggage compartment with hinged door

1 Weight tolerance ±2% - Basic aircraft weight includes transmission and engine oil as well as unusable fuel
- Jacking and hoisting points
- Removable fairing and cowlings, for complete accessibility to the controls and drive components
- Swivelling front wheel with tow bar attachment
- Quick opening hinged inspection doors, to allow visual check of engine oil levels and maintenance inspection points
- Grounding points

b. **Rotors and controls**

- Fully articulated corrosion-protected titanium main rotor hub with 4 composite grips, 4 elastomeric bearings, 4 individually interchangeable composite blades with swept tips and dampers.
- Two composite tail rotor blades, semi-rigid delta hinged type, individually interchangeable
- Cyclic and collective controls powered by two separate hydraulic systems
- Hydraulically powered anti-torque T/R control system
- Adjustable friction devices on cyclic and collective system
- Force trim and artificial feel system
- Adjustable directional control pedals
- Dynamic main rotor blade flapping lock mechanism

c. **Power plant and fuel system**

- Two Pratt & Whitney PW207C turboshaft engines
- Two independent electronic control systems (FADEC) with normal, emergency and training operation modes and autostart
- Engine-mounted Fuel Management Unit (FMU), fuel pump and filter assembly
- Engine-mounted oil pump and filter assembly
- Lubrication and cooling system
- Engine oil chip detectors (one per engine)
- Engine control panel
- Two independent fuel systems, with cross-feeding valve and control panel
- 3-cell crash-resistant fuel system (460 kg – 152 USG)
- Submerged fuel boost pump (one per system)
- Airframe mounted easy access fuel filter
- RH refuelling point
- Locking fuel cap
- Ground fuel drains
d. **Transmission drive system**
   - 960 shp for take off and 900 shp continuous operation main transmission, with two direct drive engine inputs
   - Three stage transmission
   - Two free wheeling units
   - Two transmission mounted hydraulic pumps with separate reservoir
   - Internal dry sump transmission lubrication with pressure and scavenge pump, and oil filter
   - Two transmission oil chip detectors
   - Single stage, bevel gear T/R 90° gear box including oil level sight glass and chip detector
   - Transmission cooling and lubrication system
   - Transmission shafts (engines to transmission, transmission to tail rotor)

e. **Electrical system**
   - 24 volt DC 27 Ah nickel cadmium battery with temperature probe
   - Two 160 A self-cooled starter generators
   - Two voltage regulators
   - Battery relay
   - Two interconnecting bus relay
   - External power relay
   - Distribution buses (1 battery bus, 2 essential buses, 2 emergency buses, 2 main buses)
   - External power receptacle
   - Position lights
   - Two 150 W taxing lights
   - Two 250 W landing lights
   - Two cockpit utility lights
   - Two anti collision lights
   - Instrument lights with dimming switch
   - Radio master switch

f. **Flight instruments – pilot**
   - Airspeed indicator
   - Instantaneous vertical speed indicator
   - Barometric encoding altimeter
   - 2nd Barometric Pilot Altimeter
   - Two Magnetic compass indicator
   - Clock, 8 days and elapsed time
   - LC Integrated Display System (IDS)
g. **Instrumentation (on IDS display)**

- Dual gas generator speed indicator (N1 %)
- Dual turbine outlet temperature indicator (°C)
- Dual torque meter indicator (TRQ %)
- Dual power turbine speed indicator (N2 %)
- Rotor speed indicator (NR %)
- Transmission oil temperature (°C) and pressure (PSI) indicator
- Two engine oil temperature (°C) and pressure (PSI) indicators
- Two fuel pressure indicators (PSI)
- Two fuel quantity indicators (KG)
- Two flight controls hydraulic system pressure indicators (PSI)
- Two utility hydraulic system pressure indicators (PSI)
- Outside air temperature indicator (°C)
- Two fuel flow indicators (KG/HR)
- Two DC voltmeters (VDC)
- Two AC voltmeters (VAC)
- Two DC ammeters (AMP)

h. **Warning/caution advisory and Usage Monitoring System (integrated in IDS)**

- Master Warning lights
- Master Caution lights
- Warning/Caution advisory (on IDS display)
- Engine fire detection system
- Aural Warning Generator system
- Usage Monitoring System (on IDS display)

i. **Interior arrangement**

- Two individual crash-resistant pilot seats, fore and aft adjustable, with lap belts and headrests
- Aluminium alloy honeycomb reinforced floor with anti-skid finishing
- Ventilation ram air inlets
- Anti reflection instrument panel
- Primer finished cabin walls
j. Exterior finishing
   - Finishing in accordance with manufacturer specification NTA893A
   - Primer exterior painting

3.1.2 Standard equipment 17.9 kg (39.5 lb)
   - Pilot and copilot shoulder harness with inertia reel
   - Baggage compartment lights
   - Crew open door actuators
   - Quick disconnecting chip detectors
   - Portable fire extinguisher
   - Internal provision for utility equipment (emergency floats, rescue hoist, cargo hook, weather radar, engine fire extinguisher, flight director, AFCS)
   - Fuel drain electrical valves
   - Tail boom strake
   - First aid kit
   - Airframe hourmeter
   - Pilot and copilot Active Noise Reduction (ANR) headsets

3.1.3 EASA/FAA Single pilot IFR avionic package (Garmin – Bendix/King) 99.7 kg (219.8 lb)
   - Pilot navigation instruments (LCD EADI and EHSI, stand-by ADI)
   - Gyrocompass C14A Honeywell
   - Vertical gyro #1 46060-11 Flightline System
   - Vertical gyro #2 VG-208 JET Electronics
   - 3-axis duplex AFCS SP711 Honeywell
   - ADF KR-87 Bendix/King
   - Transponder (mode S) KT-73 Bendix/King
   - VHF #1 COM/NAV/GPS GNS530 Garmin
   - VHF #2 COM/NAV/GPS GNS430 Garmin
   - Pilot ICS (including pilot/copilot control panel, mode controller, audio cabin control)
   - DME KDM706A Bendix/King
   - Marker beacon KMR675 Bendix/King
   - AC power supply system (two inverters)

* Weight tolerance ±2%
3.1.4 Avionic equipment

- Copilot flight/navigation instruments (LCD EADI and EHSI, barometric altimeter, airspeed indicator, VSI)
- Flight director FZ 702 Honeywell with autotrim
- Radio altimeter AA 300 Honeywell
- ELT C406-2HM Artex
- Moving map KMD 550 Bendix/King
- Radio master switch with ground function
- EFIS pilot/copilot in command switch

3.1.5 Utility equipment

- Dual control
- Rotor brake
- Retractible/rotating landing light
- Pilot and copilot windshield wipers with wiper switch on cyclic grip (pilot)
- Engine compartment fire extinguishers
- Baggage compartment extension (1.9 m)

3.1.6 Interior¹

- Air conditioning
- Primer finished cabin walls
- Passive vibration absorber

3.1.7 Painting

- Single colour painting scheme, solid colours

**STANDARD CONFIGURATION WEIGHT**

1905.9 kg (4201.7 lb)²

(Para. 3.1.1 to 3.1.7)

¹ Weight tolerance ±2%
² This Standard Configuration does not include interior completion/mission equipment. Refer to the subsequent paragraphs for available options.

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
3.1.8 Miscellaneous/ground equipment

- Air intake/exhaust covers
- Pitot tubes covers
- Tie-down fittings provisions
- Rotorcraft Flight Manual and technical publications
- Ground tools kit (including tow bar, lifting tool, wheel chocks)

*Typical Garmin – Bendix/King cockpit for the standard configuration*
3.2 COMPLETIONS

Versatility of the Grand is reflected by the number of roles in which it can be employed. The following interior layout configurations and painting options are available as additional selection to the Standard Configuration, as detailed in section 3.1.

3.2.1 Executive interior

- Silent soundproofing
- Leatherette covered liners
- All seats crash resistant covered with fabric
- 3 fwd facing seats with foldable armrest
- 3 aft facing seats
- 4-point shoulder harness with inertia reels and black coloured safety belts for all passenger seats
- Reading lights, Advisory lights, Floor courtesy lights
- Cabin loudspeakers
- Floor carpeting
- Standard finishing

160.4 kg (353.6 lb)*

* Weight tolerance ±2%

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
3.2.2 VIP interior (6 seats)  158.1 kg (348.5 lb)*

- Silent soundproofing
- Leatherette covered liners
- Cabin double layer acrylic windows
- All seats crash-resistant covered with leather or fabric/leather
- 3-seat aft facing with see-through modification
- 3-seat fwd facing with foldable armrest and glass holder
- 4-point shoulder harness with inertia reels and safety belts for all seats
- Seat covers
- Reading lights, Advisory lights, Floor courtesy lights
- Leather bellows on flight controls
- Floor carpeting
- Carpentry protection
- Cabin loudspeaker
- 6 Active Noise Reduction (ANR) headsets
- Customised finishing from VIP optional Equipment available selection

3.2.3 VIP interior (5 seats)  157.5 kg (348.5 lb) *

- Silent soundproofing
- Leatherette covered liners
- Cabin double layer acrylic windows
- All seats crash-resistant covered with leather or fabric/leather
- 3-seat aft facing with see-through modification
- 2-seat fwd facing with central cabinet
- 4-point shoulder harness with inertia reels and safety belts for all seats
- Seat covers
- Reading lights, Advisory lights, Floor courtesy lights
- Leather bellows on flight controls
- Floor carpeting
- Carpentry protection
- Cabin loudspeaker
- 5 Active Noise Reduction (ANR) headsets
- Customised finishing from VIP optional Equipment available selection
3.2.4 Offshore/Passenger Transport interior 117.0 kg (257.9 lb) *
- Light soundproofing
- Painted liners
- All seats crash resistant covered with vinyl fabric
- 2 x 3 fwd facing seats covered with vinyl fabric
- 4-point shoulder harness with inertia reels and black coloured safety belts on all seats
- Reading lights, Advisory lights, Floor courtesy lights
- Cabin loudspeakers
- 6 Active Noise Reduction (ANR) headsets
- Emergency floats provisions
- Helicopter Emergency Egress Lighting System (HEELS)

3.2.5 HPS (Harbour Pilot Shuttle) interior 102.7 kg (226.4 lb) *
- Light soundproofing
- Painted liners
- Crash resistant sliding and rotating aft facing seat covered with vinyl fabric
- 3 fwd facing crash resistant aft seats
- 4-point shoulder harness with inertia reels and black coloured safety belts on all seats
- Reading lights, Floor courtesy lights, Advisory lights
- Special cabin floor with rails and drains
- Sliders on cockpit and cabin doors window
- 3rd ICS station in passenger cabin
- Cabin loudspeakers
- Emergency floats provisions
- External hoist (272 kg) – provisions including step bar
- Helicopter Emergency Egress Lighting System (HEELS)

* Weight tolerance ±2%

THE DATA CONTAINED IN THIS DOCUMENT ARE GENERAL IN NATURE AND MAY VARY WITH CONDITIONS. FOR PERFORMANCE DATA AND OPERATING LIMITATIONS FOR ANY SPECIFIC FLIGHT MISSION, REFERENCE MUST BE MADE TO THE APPROVED FLIGHT MANUAL. THIS SPECIFICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.
November 16, 2007

Connect Oregon II
Review Committee
555 13th Street NE, Suite 2
Salem, Oregon 97301

Re: Bar Pilot Helicopter Project

Dear Members of the Review Committee:

This letter is offered in strong support for the grant application submitted by Saddle Mountain, Inc. and the Columbia River Bar Pilots LLC, seeking funding for the acquisition of a new state-of-the-art helicopter to serve ships crossing the Columbia River Bar. As a former helicopter pilot, I am familiar with the tremendous capabilities of this type of aircraft and I have been a keen observer of the Bar Pilots’ helicopter operations since they began in 1999. At present, the Bar Pilots own their pilot boats, but secure their helicopter service from an outside contractor.

The Bar Pilots are a critical first link in the Columbia River maritime transportation system serving this entire region. Acquisition of the helicopter by the Bar Pilots would ensure stability in this system. The movement of products over the Columbia River Bar, along the Columbia River channel and into the Port of Portland distribution network is absolutely vital to the economic health of the Pacific Northwest, if not our nation. I strongly support this grant application.

Very truly yours,

Betsy Johnson
November 2, 2008

State of Oregon, Department of Transportation
Pilot Transport Infrastructure
Columbia River Bar Pilots

Re: InterModal Grant Request

I am writing in support of the InterModal grant request of the Columbia River Bar Pilots. The bar pilots services are crucial to our operation.

Kalama Export Co. is a high volume exporter of grain on the Columbia River. Our operation depends on reliable service from the pilots. Our facility in Kalama exports between 7 and 9 million metric tons of grain each year. We load between 150 and 170 vessels annually.

The synchronized arrival of vessels and rail cars are crucial for an efficient operation. Our operation transfers grain from rail and barge to vessels. We unload between 70,000 and 90,000 rail cars per year. As you can imagine, delays in vessel arrivals would have a very adverse effect on the PNW rail corridor.

The costs of such delays are certainly prohibitive. Six trains are required to load each vessel. If trains must be shut down enroute, we are instantly accessed a fee of $11,000.00 per train. Then on top of the shut down fee, we are subject to regular demurrage of $11,000.00 per train, per day. To stop the entire consignment of one vessel can cost sixty, to seventy thousand dollars per day.

The impact goes beyond the costs to Kalama Export Co. When cars are shut down enroute, it affects the whole corridor. These cars are put on sidings that are meant for other traffic. This can cause congestion and can slow transit times for everything in the PNW area.
Kalama Export Co. depends on efficient vessel transits. This of course means a safe, efficient, dependable system to transport Bar Pilots in all types of weather. We support the grant request which will help ensure reliable service.

Very Truly Yours,
Steve Oakes

Vice President of Operations.
Kalama Export Company
Captain Gary Lewin
Administrative Pilot
100 16th St.
Astoria, OR 97103

Dear Captain Lewin

We represent the Inland Boatmen's Union of the Pacific-Marine division of the ILWU. Our Union and affiliates provide the human span between various intermodal forms of transportation. We provide employment for over 500 highly skilled workers directly on the Columbia River system.

The IBU provides trained and skilled crew for tug, barge and ship, as well as petroleum sites and warehousing units tied directly to the rivers economic system.

Our work, as well as the overall competitiveness of the River, is dependant upon time-efficient and safe arrivals and departures of vessels across the Columbia River Bar. The Bar pilots have the unique task of keeping commerce flowing over one of the most dangerous river entrance's in the world.

We endorse the Bar Pilots grant request for equipment that will facilitate timely arrivals and departures of vessels at the mouth of the river. The ability of the Bar Pilots to minimize delays while keeping our port safe is an important component of a competitive intermodal transportation system. Much of the cargo we work is pre-scheduled and time sensitive. Unnecessary delays to ship traffic can adversely affect the entire system.

Michael Conradi
Director IBU/CRR
November 7, 2007

To Whom It May Concern

RE: Arctic Air Service, Inc.
    Astoria Operations

Gentlemen:

Arctic Air Service, Inc. ("Arctic") is a certified Federal Aviation Administration ("FAA") Part 135 helicopter operator. Pursuant to a services contract with the Columbia River Bar Pilots ("CRBP"), Arctic provides flight crews, maintenance personnel and operations logistics based at Astoria Airport in support of offshore helicopter operations utilizing a twin engine Augusta 109E helicopter.

Arctic’s CRBP operations transfer Bar Pilots to and from commercial vessels entering and departing the Columbia River by hoisting or landing on the deck of the ship. The hoisting operation requires a helicopter with single engine performance capabilities specified by FAA Part 133 (D) such as the Augusta 109E in order to safely and efficiently transfer Bar Pilots to and from vessels in open sea conditions.

In addition to providing safe, rapid transfer of Bar Pilots in support of commercial maritime operations on the Columbia River, Arctic has conducted search and rescue missions in the Astoria area that resulted in saving 2 lives within the last 3 years, and has positioned salvage crews on vessels in distress off the Oregon coast. Recently, Arctic received a recognition award from the State of Washington for its role in helping to prevent grounding of the Tanker Atigun Pass off the Oregon and Washington coasts.

Arctic’s Astoria operations include 8 employees that live in the local area earning an average salary of $60,000 per year. Arctic’s helicopter operations further contribute to the local economy by consuming an average of 45,000 gallons of jet fuel per year purchased at the Airport as well as other consumables purchased locally.

Sincerely,

Jeff Attebery
President