



## RHO-CEE/ PSP

Name of person filing the form

N.A. Brown

Date submitted

15/05/2012

**Project name:** Taming the Columbia River Bar - Rho-Cee integrated with Float's Pneumatically Stabilised Platform (PSP)

**Project description**

*Project Developer:* Float Incorporated

*Technology type:* Floating Offshore Ocean Energy Breakwater System - "Rho-Cee WEC" (PC) "The Impedance –Matched

Terminator"

*Resource:* Wind and Wave

*Project scale:* 3 modules, 1040m aperture each

*Installed capacity (MW)* 3 X 72 MW

*Additional Description:* The PSP forms an essential offshore floating support base for the "Rho-Cee" WEC and can simultaneously provide a stable supporting platform for, and ready maintenance access to, both large offshore Wind Turbines and submerged Ocean Current Turbines.

The name Rho-Cee derives from the expression for the characteristic impedance of water gravity waves; the product of water mass density,  $\rho$ , with the length-dependent velocity of such waves, C. It is the base principle of the WEC design that its input impedance matches the characteristic impedance of the targeted waves. Impedance matching maximises the capture of wave energy; with minimum reflection.

*Project Support:* Sought via Oregon Wave Energy Trust

*Project Website:* TBD

**Location:**

*Ocean/Water body* Off Mouth of Columbia River

*Closest city:* Astoria

*Country:* Oregon, USA

*Coordinates (please use Mercator)* 124°07' W; 46° 12' N

*Depth* 12- 20

**Process status:**

*Current status of the project implementation and future developments:* In feasibility proposal

*Expected operation date (if project is under way please indicate the start date).* TBD

**Licensing information (brief description):**

*Listing the organizations involved, licenses needed and duration of consent process.*

Float Incorporated, OWET, Port of Portland, USACE, USCG, Columbia R. Pilots, Berger/ABAM

**Key Environmental issues:** *brief description on the most important environmental issues raised by the project (e.g. Sensitive species/habitats/areas that were of particular concern and/or received special protection) and how they were addressed.* TBD

**Environmental webpage:** *link to project official environmental webpage (if available). You can also include here the contacts for the project environmental issues.*

| <b>Baseline and project effects studies:</b> |   |  |                                       |   |
|--|---|--|---------------------------------------|---|
| To be included in Feasibility Study Proposal |   |  |                                       |   |
| <b>General description</b>                   |   |  |                                       |   |
| <b>Receptor</b>                              | <b>Study description including question and/or objective</b><br>(several can be listed per receptor)  | <b>Design and methods</b><br>(brief description) | <b>Results</b><br>(brief description) | <b>Status</b><br>(planned, underway, completed, with dates) |
| <b>Physical environment</b>                  |   |  |                                       |   |
| <b>Benthos</b>                               |   |  |                                       |   |
| <b>Fish and fisheries</b>                    |   |  |                                       |   |
| <b>Large vertebrates</b>                     |   |  |                                       |   |
| <b>Birds</b>                                 |   |  |                                       |   |
| <b>Marine uses / users</b>                   |   |  |                                       |   |
| <b>Other (can be named)</b>                  |   |  |                                       |   |
| <b>Reports and papers</b>                    | <ul style="list-style-type: none"> <li>- When possible the files themselves can be made available in downloadable PDF format, alternatively links to the files or project website can be provided when available e.g. SeaGen.</li> <li>- Key papers on the areas addressed should be listed here</li> </ul> |  |                                       |   |
| <b>Research projects</b>                     | Past or on-going environmental research projects at the site  |  |                                       |   |

| <b>Monitoring and adaptive management</b> |   |                           |                          |                            |
|---|---|---------------------------|--------------------------|----------------------------|
| <b>General description</b>                |   |                           |                          |                            |
| <b>Receptor</b>                           | <b>Monitoring program description including</b> | <b>Design and methods</b> | <b>Results</b><br>(brief | <b>Status</b><br>(planned, |
|   |   |                           |                          |                            |



|                             | <b>question and/or objective</b><br>(several can be listed per receptor)  | (brief description) | description) | underway, completed, with dates) |
|-----------------------------|---|---------------------|--------------|----------------------------------|
| <b>Physical environment</b> |   |                     |              |                                  |
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