

Minutes of Meeting in the Partnership for Wave Power (Partnerskabet for Bølgekraft)

Time:

2016-11-29 09:00-13:00

Place:

Aalborg Universitet: NOTE new main campus in Aalborg Øst, room 1.222 (2. floor)
Thomas Manns Vej 23, 9220 Aalborg Ø

Participants:

<i>Name</i>	<i>Company/Organisation</i>	<i>Present? (Y = Yes, N = No)</i>
<i>Erik Skaarup</i>	Bølgekraftforeningen	Y
<i>Laurids Mortensen</i>	DanWEC	N
<i>Flemming Schlütter</i>	DHI	Y
<i>Søren Dath</i>	T/M Energi	Y
<i>Sarah Thomas</i>	Floating Power Plant	Y
<i>Frank Avard</i>	Faatek ApS	Y
<i>Jan Olsen</i>	Joltech APS, Nordborg	Y
<i>Christian Nereus Grant</i>	Octomar IVS	Y
<i>Hans A. Pedersen</i>	Offshoreenergy.dk	Y
<i>Christian Munk Jensen</i>	Offshoreenergy.dk	Y
<i>Kim Nielsen</i>	Rambøll	Y
<i>Per Resen Steenstrup</i>	Resen Waves	Y
<i>Erik Friis-Madsen</i>	Wave Dragon	Y
<i>Torben Ellegaard</i>	WEPTOS A/S	N
<i>Jens Peter Kofoed</i>	AAU	Y
<i>Michael Stadi</i>	Resen Waves	Y
<i>Adi Kurniawan</i>	Aalborg University	Y
<i>Amèlie Têtu</i>	Aalborg University	Y
<i>Morten Thøtt Andersen</i>	Aalborg University	Y
<i>Morten Kramer</i>	Aalborg University	Y
<i>Victor Winands</i>	Aalborg University	Y

Agenda

09:00	-	09:15	Velkomst og Introduktion, v/ Jens Peter Koefoed og Kim Nielsen
09:15	-	09:30	Introduktion af deltagere
09:30	-	09:45	Status on the mooring project by Jonas Berg, AAU
09:45	-	10:00	The Ressource project, Marinet 2 – Marinagi v Amelie Tetu, AAU
10:00	-	10:15	DanWEC/Cristian Grant & Morten Kramer
10:15	-	10:30	Alternative materials by Christian Munk for Henrik Böhmer
10:30	-	10:45	Break
10:45	-	11:00	Resen Waves, by Per Resen
11:00	-	11:15	Floating Power Plant by Sara Thomas
11:15	-	11:30	OES Task 10 by Kim Nielsen
11:30	-	11:45	Wave Piston by Kim Nielsen
11:45	-	12:00	New initiatives in the partnership
12:00	-	12:15	Orientation reg. EWTEC / PhD course by Jens Peter Kofoed
12:15	-	12:25	The new empty wavetank
12:25	-	13:25	Lunch
13:25	-	14:05	Floating Power Plant in the old wave tank (transport to be coordinated on the day)

Notes

Status på forankring projektet, v Jonas Berg, AAU

- Early analysis showed that either tree point mooring or one point mooring with buoyancy devise showed the most promise.
- Tests in the wave tank with a floating power plant model showed that less stiff ropes resulted in lower forces.
- Following calculations with a quasi-static model showed that it calculated only half the forces that were measured (in some points)
- As a result a more sophisticated model had to be used, OrcaFlex combined with NEMOH was chosen. Calculations tests shows the calculations are close to the real tests.
- The results should be useful for all large floating structures i.e. not the ones with the mooring connected to the power take off.

OES Task 10 v. Kim Nielsen

- Meetings twice a year on ocean energy and presents an annual report where Kim tries to gather all the input from the Danish developers.
- It differs how much information there is from each country, but in total there is always a significant amount of news.
- You can sign up for news on the website and get other news there. You can go there now ???
- The recommendation from wind simulations where to start simulating something very basic with all the models and see if they all do it right. Then we will proceed with more complex structures.
- Download link for the yearly reports: [link](#)

Wavepiston v. Kim Nielsen (video)

- Kim showed a video of the Wavepiston device: [link](#)

DanWEC/Christian Grant og Morten Kramer

- Morten Kramer
 - Morten Kramer will work quarter time at DanWEC and quarter time at AAU going forward.
 - The DanWEC office will be moving to Aalborg, because of the current low activity at Hanstholm.
 - Wavestar has learned a lot from testing at Hanstholm and this will give Morten a good base for helping others.
- The Incident with Wavepistons WEC
 - The testing area is marked with IAS. This was in place at the incident.
 - After the incident we have tried to make it a banned area for sailing
 - Working on using drones as a cheaper alternative for guard ships.
- Getting a Monopile
 - The most likely scenario for getting a monopile scenario is when Nemos will be testing at DanWEC in 2019.
 - As long as no-one has a specific need for a monopile, there is little motivation for getting one.

Alternative Materials v. Christian Munk on behalf of Henrik Böhmer

- Offshoreenergy.dk has a new project focusing on using alternative materials. Currently the focus is on oil and gas, but perhaps it could also be a benefit for some of the members of the partnership. This would be especially true for the application areas where there are overlaps with oil and gas.
- See the attached presentation.

Resen Waves, v. Per Resen

- One key part is that it is a small machine that can survive in large waves.
- See the attached presentation.

Floating Power Plant v. Sara Thomas

- Tests were carried out 4 times with the test prototype
- 5 Naval architects have been working on the subsea design for 5 months, so now it has a new design.
- See the attached presentation.

Ressource project, EUDP and EU project Marinet 2 v Amelie Tetu, AAU

- Forecast of wave climate at DanWEC
 - every 12 hours the forecast is updated for the next 6 days.
- The green line (the forecast) is produced based on the weather forecast and the wind cast. In that way the forecast is completely disconnected from the actual on site measurements
- Exxtreme Events analysis at Hanstholm
 - Traditional analysis
 - You try to fit your data to a probability function
 - Principal component analysis
 - Better covers extreme events

- The purpose here is to give operators 6 days instead of 3 days planning horizon for maintenance of the WEC.
- See the attached presentation.

News about the partnership

- EUDP funding denied, what do we do now?
 - AAU: Apply funding in other projects to fund dissemination through the partnership
 - Should we try again?
 - Suggestion, make specific applications, that also solve needs from other industries (e.g. mooring is also needed. See the minutes from the board meeting.
- Web page
 - It is important to have a good and simple URL (input from Morten Kramer)

EWTEC v. Jens Peter Kofoed

- Planning to do a Ph.D. course again in relation with the EWTEC conference taking place in Cork end of August.
- We will send out a save the date when we know if it will be before or after the conference.