

# Rhyl Flats Offshore Wind

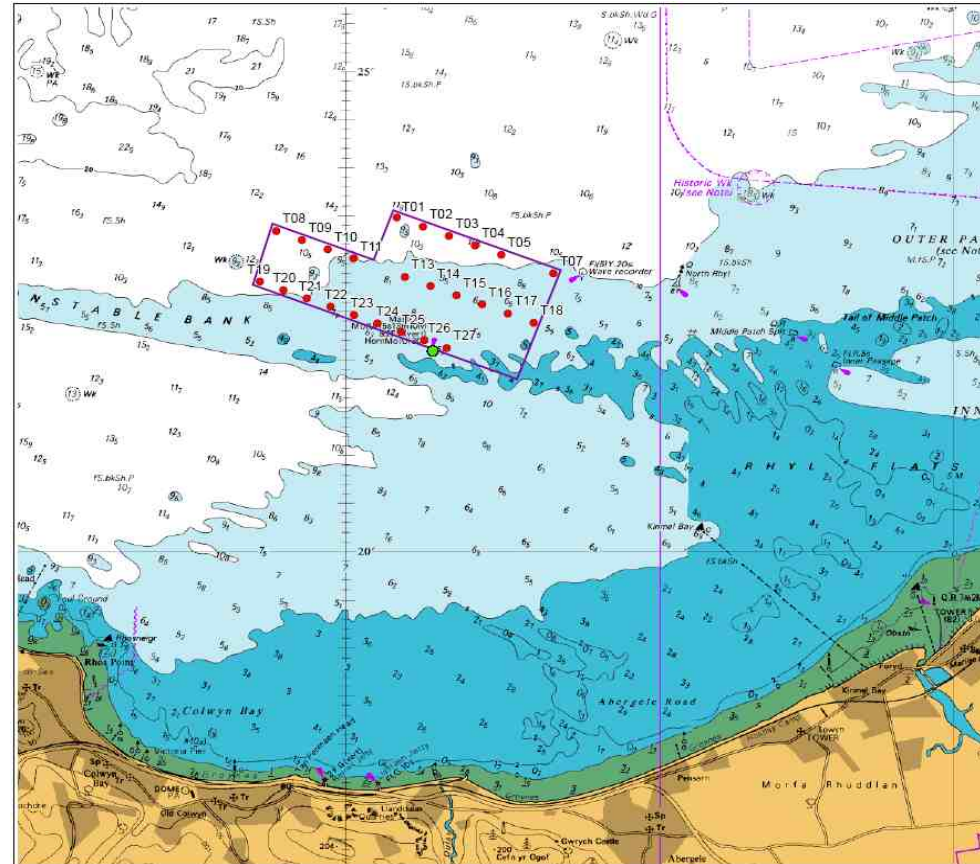
## Project Delivery – a Client's Perspective

**23 October 2008**

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# The Project

- Round 1, located 8 km of North Wales coast
- 90 MW, 25 No. 3.6 MW WTG's
- Located west of North Hoyle
- Installation from Port of Mostyn
- Onshore 33/132kV substation
- Monopile foundations
- Grid connection via tee into Manweb 132kV line



# Project Status

- All 25 foundations, transition pieces and switchgear installed
- Offshore export cables installed and array cables ongoing
- Onshore 132kV substation close to completion
- 132 kV grid connection complete
- Turbines in port awaiting installation by 2 jack up vessels



# Project Challenges

- Tight offshore install programme 2008
- Working within the consent limitations
- Managing contract interfaces
- Undertaking Principal Contractor duties
- Resourcing and ensuring robust safety culture
- Unseasonable weather

# Multi- contracts

- Strategic shift from “standard” EPC approach to multi-contract was decided in 2006
- Project was split into 10 key contracts
- Another 10-20 smaller but no less important contracts were created as the works progressed.



# Resourcing multi- contracts

- Creation of a skilled project team as early as possible from procurement through construction.
- Ensure that interfaces across all contracts were managed effectively
- Recognised the need to set up a project office in port of Mostyn, Wales, to allow close liaison with
  - Contractors
  - Port authority
  - Marine coordination
- Site based Project team over 30 personnel with another 20 plus technical, PR, health and safety and financial support staff.
- Additional team to manage onshore substation and beach works

# Working within the Consent

## Key Issues

- Implementation of industry best practice post consent can present difficulties.
- Ensure Regulators are kept aware and up to date on construction methods and procedures.
- Noise Issues – working within consent limits is not the only solution to good public relations
- Understanding the requirements for seasonal working restrictions – Rhyl Flats main construction season is April to Dec in any year.



# Quality

- Offshore structures demand the highest quality of build – marine environments are unforgiving
- Essential to maintain quality down through supply chain
- Regular audits and inspections of contractors and sub-contractors
- Key focus areas:
  - Offshore cable manufacture
  - Transformers
  - Coatings
  - Welding (eg Gwynt y Mor met mast boat fender weld failed and structure dropping to seabed)



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# Health and Safety

- Projects are real and require 24hr vigilance by all. It is not a cosy world of desk tops studies!
- Marine operations are a step change from onshore works and requires skilled personnel and experienced contractors
- Emergency plans and co-operation with MCA – ensuring all contractors work within ERCoP Guidelines.
- Working within operational ports
- Cross industry reporting on incidents – we all need to understand what works and what fails



# Health and Safety

## Principal Contractor

- Health and Safety – CDM and Client responsibilities – who is best placed to be Principal Contractor (PC), vessel control and marine coordinator?
- We are undertaking offshore PC role during turbine and offshore cable installation and commissioning.
- Significant effort required by project team to set up site facilities at port and new management systems.
- Requires 24hr cover



# Vessels and Ports

- Foundation vessel - restricted installation period due to high tidal range.
- Port space and quayside access is always at a premium
- Do not under estimate number of vessel movements
  - Service vessels
  - Installation vessels and support tugs
  - Ship deliveries
  - Scour vessels
- Jack –up vessels are always scarce – can there be a mechanism for coordination between clients and projects?



# Looking forward

- We expect to be installing turbines this year
- Grid connection and first generation is expected late Dec 08.
- Balance of installation to be completed by end of May 09.
- Thought needs to be given to lessons learnt between clients and contractors



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# Rhyl Flats Offshore Wind Farm

Thank you



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