



# eastwest interconnector



# Background

- Key Strategic Project
  - Priority Interconnector Project - EU January 2007
  - ‘..Critical National Strategic Importance..’ – NDP 2007-2013
- CER to arrange for design of competition for construction of a 500MW interconnector at earliest possible date (2012 or earlier)
- Upon completion, I/C to be owned by EirGrid.



# Facts & Figures

- ABB HVDC Light© Technology
- 500MW Continuous Rated Power
- Connected at 400kV
- DC Cable Voltage  $\pm 200\text{kV}$
- Reactive Power Capability
- Black Start Capability
- Completion Date Q3 2012



## The Route

Moyle Interconnector

- Connects To Irish Grid At Woodland 400kV Substation
- Irish Land Cable Route – Approx 45km

Proposed  
East West Interconnector

- Marine Cable Route – Approx 186km

Woodland

Rush

Dublin

Irish Sea

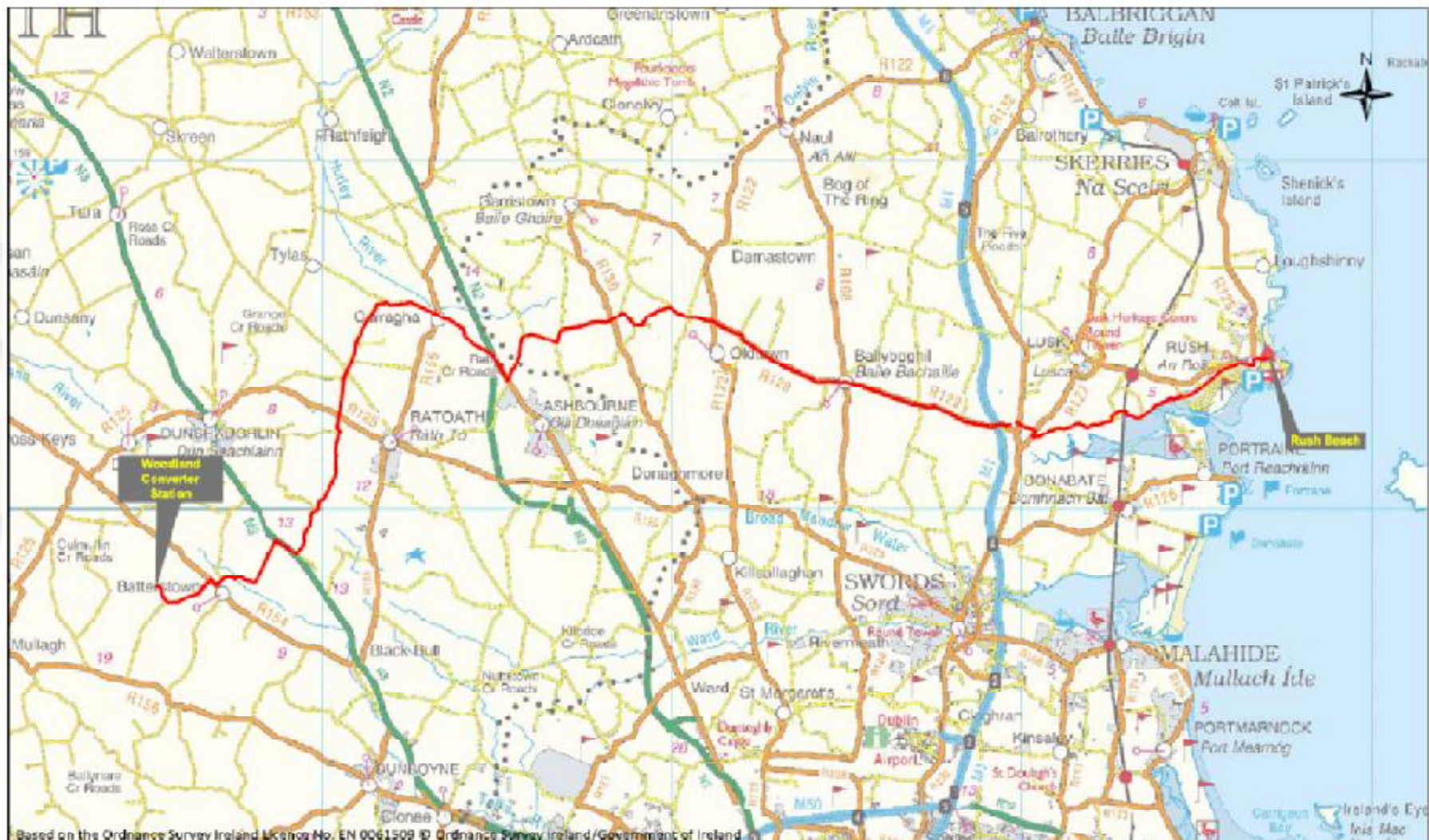
Holyhead

Liverpool

Deeside

- Connects To UK Grid At Deeside 400kV Substation
- Welsh Land Cable Route – Approx 30km

# Irish Land Route



**EirGrid Plc**  
 Block 2, The Oval  
 160 Shelbourne Rd  
 Gallesbridge  
 Dublin 4, Ireland

**EAST - WEST  
 INTERCONNECTOR PROJECT**

Date:	08/01/10	Scale:	1:200,000	Title:	<b>Key Plan</b>
Drawn:	A.A.	Sheet:	A3	Drawing Number:	
Checked:	J.K.	Figure No:	n/a	Rev:	00
Approved:	J.P.				

# Welsh Land Route



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Green

**EirGrid Plc**

Block 2, The Oval  
180 Shebourne Rd  
Ballisbridge  
Dublin 4, Ireland

**EAST - WEST  
INTERCONNECTOR PROJECT**

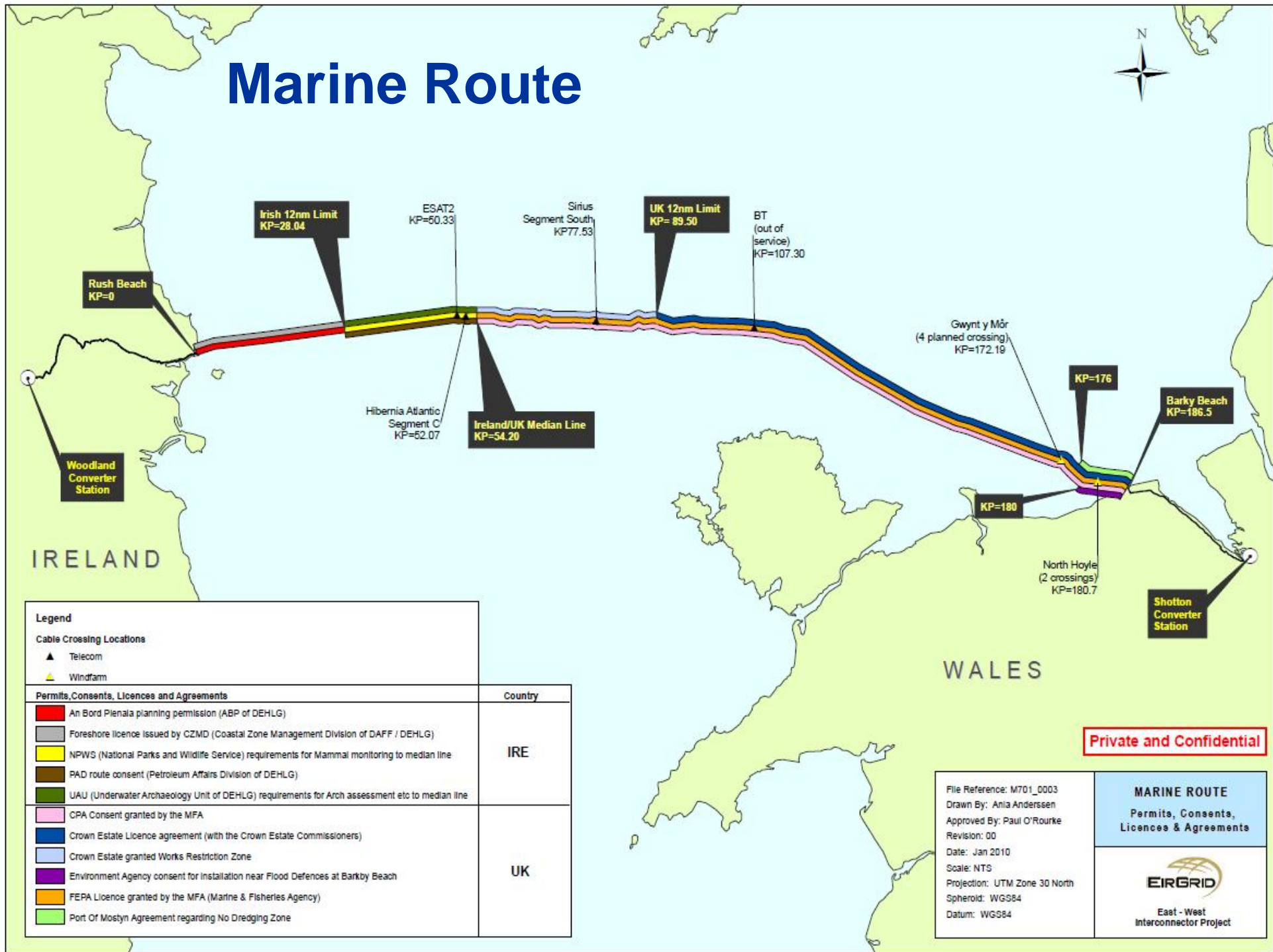
Rev	By	Date	Description	Date:	23/05/08	Scale:	1:100,000
				Drawn:	A.A.	Sheet:	A3
				Checked:	A. MC.	Figure No:	n/a
				Approved:	J.S.		

Title: Proposed Wales Cable Route  
Shotton Converter Station to Barkby Beach

Drawing Number: W701\_0002

Rev: 00

# Marine Route



Legend	
<b>Cable Crossing Locations</b>	
▲	Telecom
▲	Windfarm
Permits, Consents, Licences and Agreements	Country
<span style="display:inline-block; width:15px; height:10px; background-color:red; border:1px solid black;"></span> An Bord Pleanála planning permission (ABP of DEHLG)	IRE
<span style="display:inline-block; width:15px; height:10px; background-color:grey; border:1px solid black;"></span> Foreshore licence issued by CZMD (Coastal Zone Management Division of DAFF / DEHLG)	
<span style="display:inline-block; width:15px; height:10px; background-color:yellow; border:1px solid black;"></span> NPWS (National Parks and Wildlife Service) requirements for Mammal monitoring to median line	
<span style="display:inline-block; width:15px; height:10px; background-color:blue; border:1px solid black;"></span> PAD route consent (Petroleum Affairs Division of DEHLG)	
<span style="display:inline-block; width:15px; height:10px; background-color:green; border:1px solid black;"></span> UAU (Underwater Archaeology Unit of DEHLG) requirements for Arch assessment etc to median line	
<span style="display:inline-block; width:15px; height:10px; background-color:purple; border:1px solid black;"></span> CPA Consent granted by the MFA	UK
<span style="display:inline-block; width:15px; height:10px; background-color:orange; border:1px solid black;"></span> Crown Estate Licence agreement (with the Crown Estate Commissioners)	
<span style="display:inline-block; width:15px; height:10px; background-color:lightblue; border:1px solid black;"></span> Crown Estate granted Works Restriction Zone	
<span style="display:inline-block; width:15px; height:10px; background-color:darkblue; border:1px solid black;"></span> Environment Agency consent for installation near Flood Defences at Barky Beach	
<span style="display:inline-block; width:15px; height:10px; background-color:lightgreen; border:1px solid black;"></span> FEPA Licence granted by the MFA (Marine & Fisheries Agency)	
<span style="display:inline-block; width:15px; height:10px; background-color:lightyellow; border:1px solid black;"></span> Port Of Mostyn Agreement regarding No Dredging Zone	

**Private and Confidential**

<p>File Reference: M701_0003                  Drawn By: Ania Andersen                  Approved By: Paul O'Rourke                  Revision: 00                  Date: Jan 2010                  Scale: NTS                  Projection: UTM Zone 30 North                  Spheroid: WGS84                  Datum: WGS84</p>	<p><b>MARINE ROUTE</b>                  Permits, Consents,                  Licences &amp; Agreements</p>  <p>East - West                  Interconnector Project</p>
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# Road Works in Wales

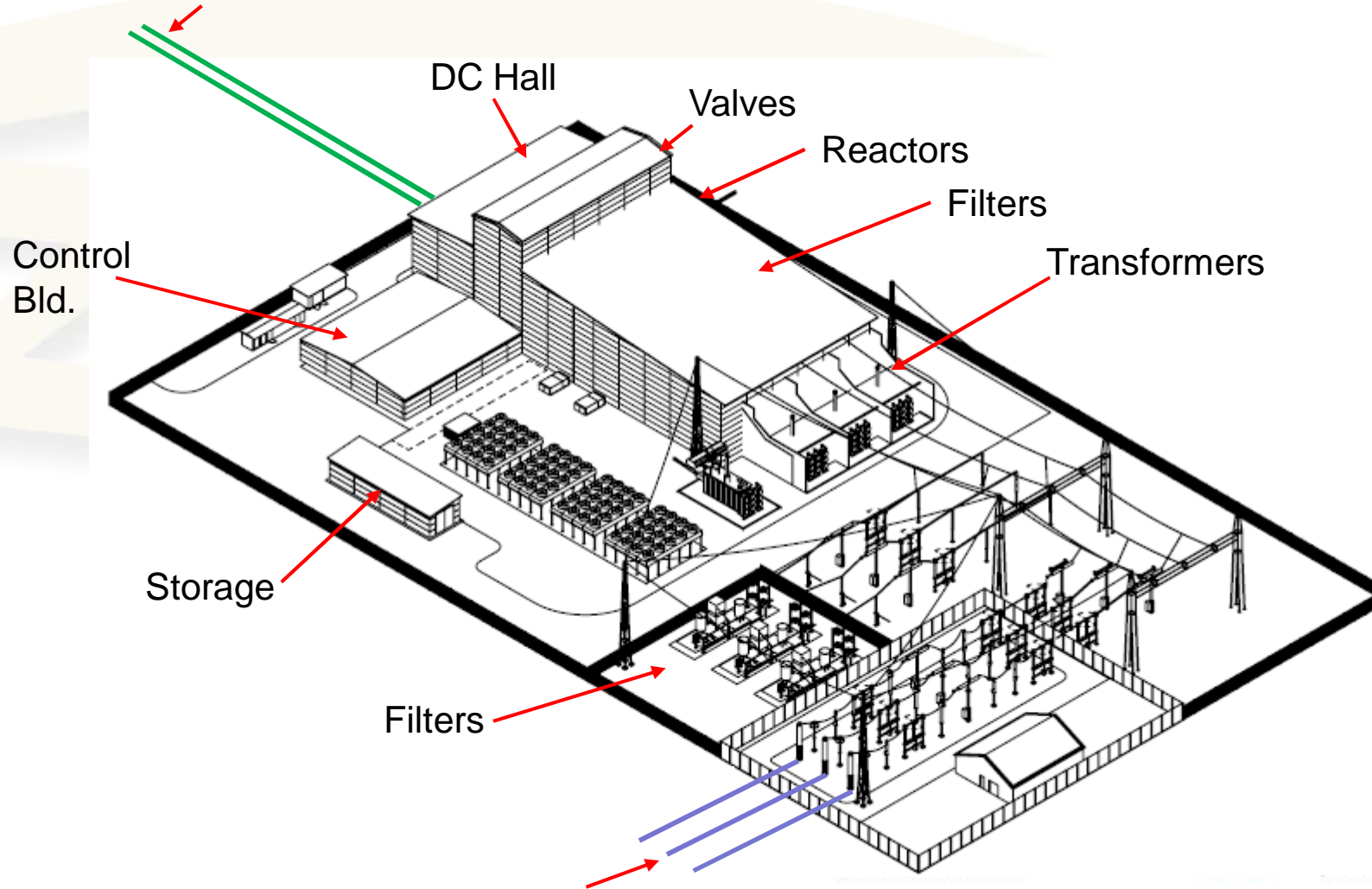


# Aker Connector Cable Laying Vessel

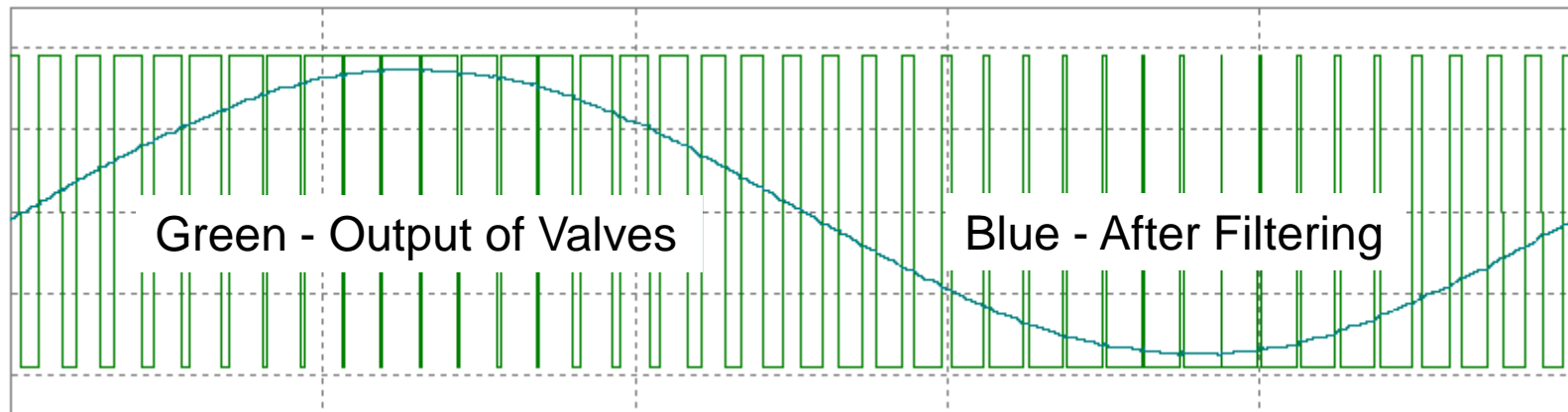
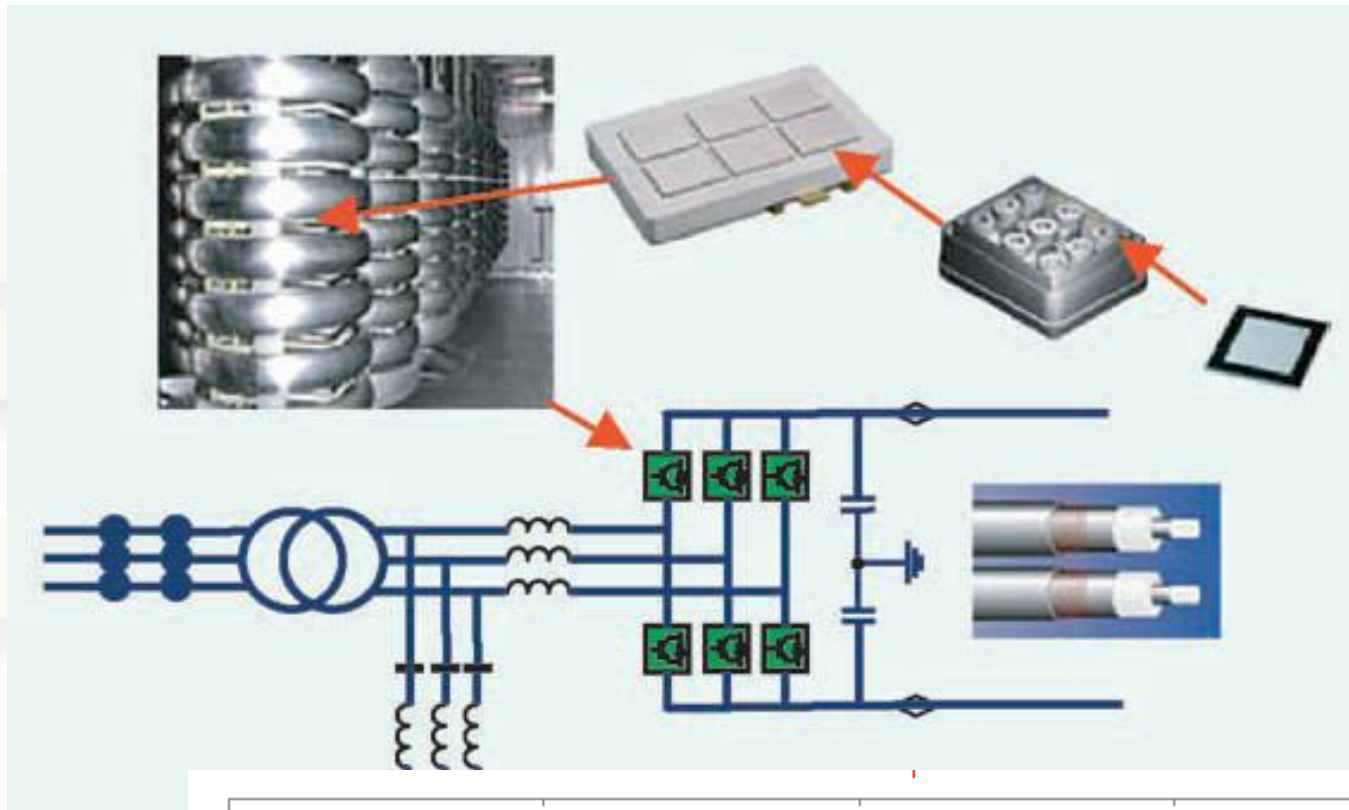


# ABB HVDC Light© - EWIC General Layout

+/- 200kV DC Cables



# HVDC IGBT Converter



# HVDC - LCC “Classic” and VSC “Light ©”

Capability	LCC	VSC
Bulk Power Transmission	Up to 3000 MW	Up to 500 MW (present)
Black start	No	Yes
Weak networks	No	Yes
Dynamic reactive control	No	Yes
Reactive damping	No	Yes
Power reversal (time)	Limited	Fast
Dynamic power control (including run-back)	Yes	Yes
Real-power damping	Yes	Yes
Frequency response	Yes	Yes
Harmonic filters required	Yes	Yes (less)
Losses	Yes (less)	Yes

# Operation of EWIC

- EWIC will be owned and operated by EirGrid.
- The interconnector schedule will be determined by SEM based on the prices and quantities submitted by interconnector traders.
- EirGrid will set the flow on the interconnector to follow this schedule.
- EirGrid is publishing a consultation on the Interconnector Access Rules next week.

