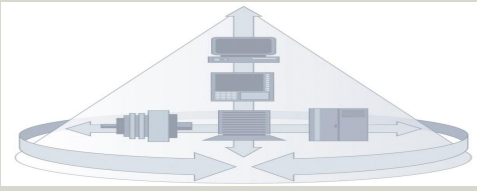


SIEMENS



Gary Palmer

**Pro Tide Conference
Total Engineered Connection Solution.**

Restricted / © Siemens AG 2013. All Rights Reserved.

SIEMENS

Agenda

- **Introduction**
- **Understanding Your connection Needs**
- **The Benefits of proven workable Solution**
- **Typical proven applications**

Restricted / © Siemens AG 2013. All Rights Reserved.

SIEMENS

Introductions

SIEMENS PD & DF Industry

Siemens PLC
Industry Sector
Sir William Siemens House
Princess Road
Manchester, M20 2UR
Tel. +44 (0) 780 882 2825
gary.palmer@siemens.com

Gary Palmer
Application Specialist
Service BDM

Restricted / © Siemens AG 2013. All Rights Reserved.

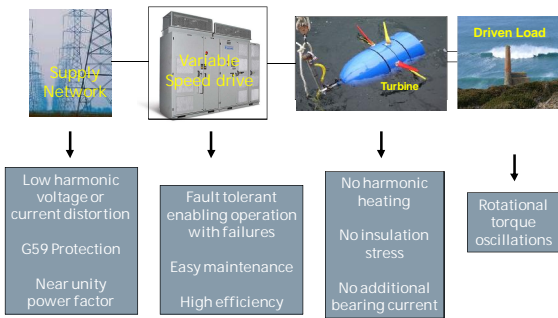
Introductions – Meeting Procedure

- Please keep the meeting informal and ask questions at the end
- The objectives of the presentations are:
 - To raise your awareness of Siemens UK capabilities and support
 - For us to begin to understand your issues and to provide a Total Engineered solution !



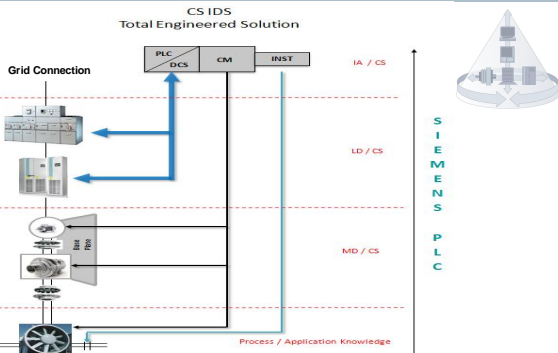
Restricted / © Siemens AG 2013. All Rights Reserved.

Ideal Tidal Distribution System



Restricted / © Siemens AG 2013. All Rights Reserved.

IDS – Integrated Drive Systems Solution



Restricted / © Siemens AG 2013. All Rights Reserved.

Benefits of using SIEMENS drive technologies for tidal and grid connection

SIEMENS

- High power factor, low starting currents
- Very Low Harmonic's Generated
- No fault contribution to main system
- Improved power flow control
- Compliance to G59
- increases mechanical plant life
- Comprehensive Protection Features
- Simplifies automation
- improved overall control
- lower operating costs with Improved RoC Values

Restricted / © Siemens AG 2013. All Rights Reserved.

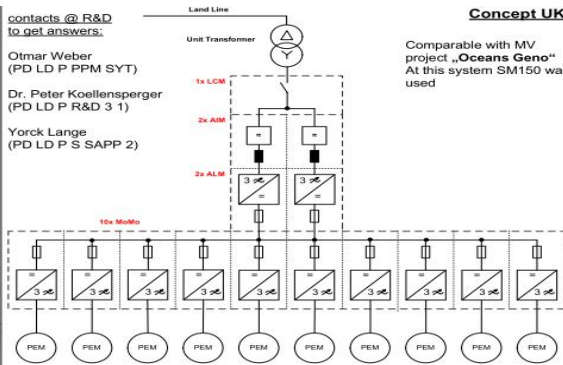
SIEMENS

contacts @ R&D to get answers:

- Otmar Weber (PD LD P PPM SYT)
- Dr. Peter Koellensperger (PD LD P R&D 3 1)
- Yorck Lange (PD LD P S SAPP 2)

Concept UK

Comparable with MV project „Oceans Geno“
At this system SM150 was used



R1

G59 Connection

SIEMENS

For larger systems (above 16A/phase at LV), these must comply with G.59/1. This standard covers parallel generation connected at or below 20kV, and with a maximum output power of 5MW. The same parameters are monitored, but the design of the system is usually a specific design for an application with parameters set by the DNO on a case-by-case basis, rather than an "off the shelf unit" that will comply. The DNO will also request to witness certain tests to prove that the protection system behaves as stated before it is accepted for connection, as there are implications on the safety and integrity of the public electricity supply system. With a larger output power, the requirements for it to react correctly under all circumstances are more stringent.

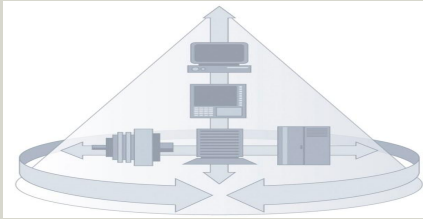
Energy Networks Association (ENA) – A Guide for connecting Generation that fall under G59/2 to the distribution network

Restricted / © Siemens AG 2013. All Rights Reserved.

SIEMENS



SIEMENS



With the Integrated Drive Systems approach, we want to provide you added business benefits to your the organisation.

Restricted / © Siemens AG 2013. All Rights Reserved.
