

A Northern Ireland company working for consumers



Sam Gibson

Moyle Operations Manager



Sam Gibson

- Moyle Interconnector Operations Manager
(2 ½ years)
- Northern Ireland Electricity Networks
(lots more years)
- What floats my boat?
 - Asset Management (PM for PAS55 & ISO55001)
 - Operations
 - Asset systems



500MW HVDC Interconnector
providing market link between Irish
& GB electricity wholesale markets

Northern
Ireland

Scotland

England

premier
TRANSMISSION

Scotland to Northern Ireland High
Pressure natural gas transmission
pipeline, BGTP, GTTW

Source: Esri, DigitalGlobe,
swisstopo, and the GIS User Community

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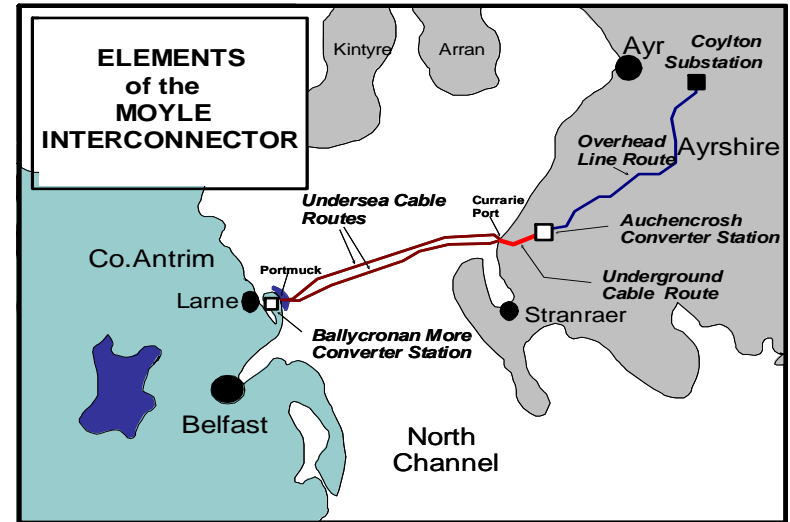




Company	Activity	Mutualised	Bond	Term	Rate real
Moyle Interconnector	500MW DC link Scotland to NI	2003	£135m	30year	2.94%
Premier Transmission	Scotland to Northern Ireland gas pipeline ~8 mscm/day	2005	£107m	25year	2.46%
Belfast Gas Transmission	Phoenix transmission gas pipeline Islandmagee to Belfast	2008	£109m	40year	2.21%
West Transmission	Mutual Energy transmission pipeline to west of NI	2018	£200m	40year	tba

Moyle Interconnector – The Asset

- Link between the 275kV electrical transmission networks of Scotland and Northern Ireland
 - Pan-European energy market flows
 - Reserve
 - Ancillary services



- Delivers circa £100m benefit per annum by a combination of market forces and more efficient system operation



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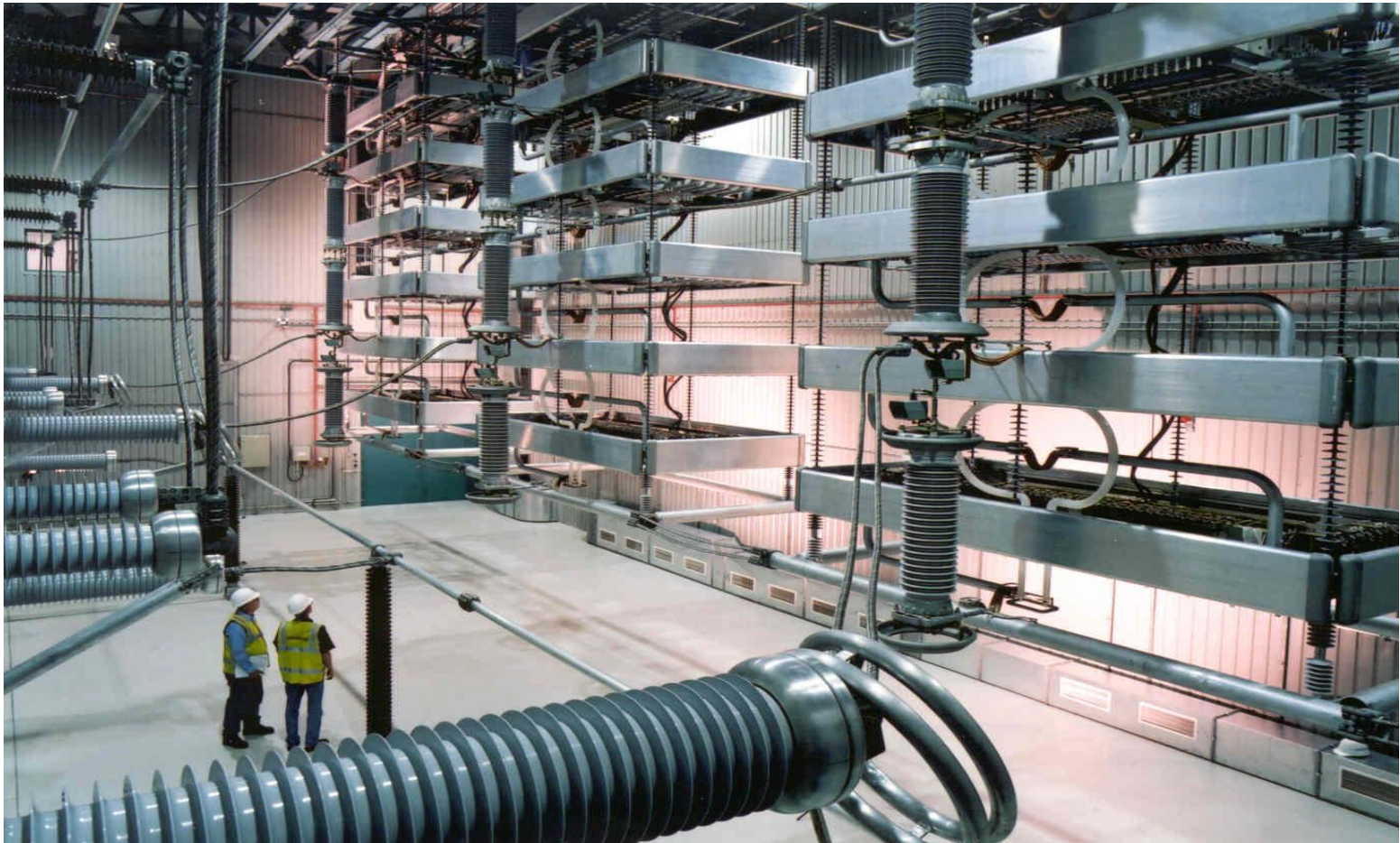
Asset Parameters

- 64 km, 250KV DC , relatively low voltage and relatively short distance
- 1000mm² Integrated return conductor cable (IRC) – originally one cable instead of two per pole
- Additional Moyle Return Cables (MRC) now added
- IRC Cables buried nominally 1m depth (or rock dumped if necessary)
- All DC electrical components indoors
- 2 x 250MW poles – bi-pole trips unusual
- Light triggered thyristors – no hard wiring to valve hall
- Siemens standard valve hall design – suitable to withstand earthquakes
- 12 x single phase transformers (plus one spare) instead of 4 x 3 phase transformers



How we operate the asset

- Maintenance Management
 - Three full time engineers supported by expertise on consultancy when required
 - Manage the Siemens converter station maintenance contract
 - Manage the Nexans cable support contract
- Operations - carried out by SONI under “Operating and Agency Agreement”
 - Schedule transferred to Moyle automatic controls
 - Release of plant for maintenance
 - Liaison with National Grid
 - Regular setting of parameters (Run back, Static Reserve)
 - SONI monitor alarms and initiate response
- Converter Station Maintenance (Long Term Maintenance Agreement)
 - Carried out by Siemens UK with Siemens Germany technical support
 - 7 full time personnel split between two sites
 - Response and availability are embedded in contract
 - Routine maintenance/ testing; bi-annual shutdown maintenance; replacement/ refurbishment works; provide SAP services
 - Manage consumables and strategic spares



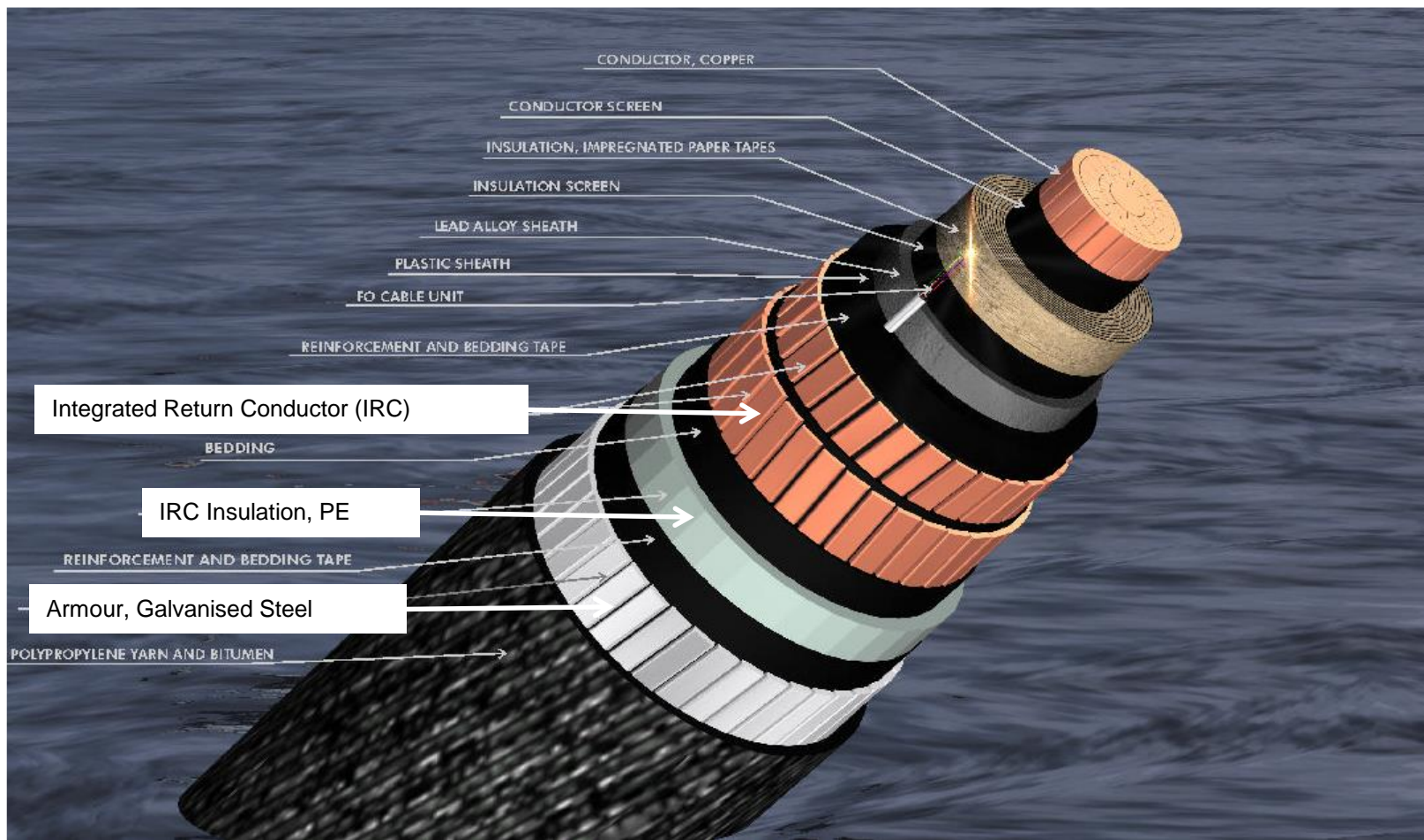
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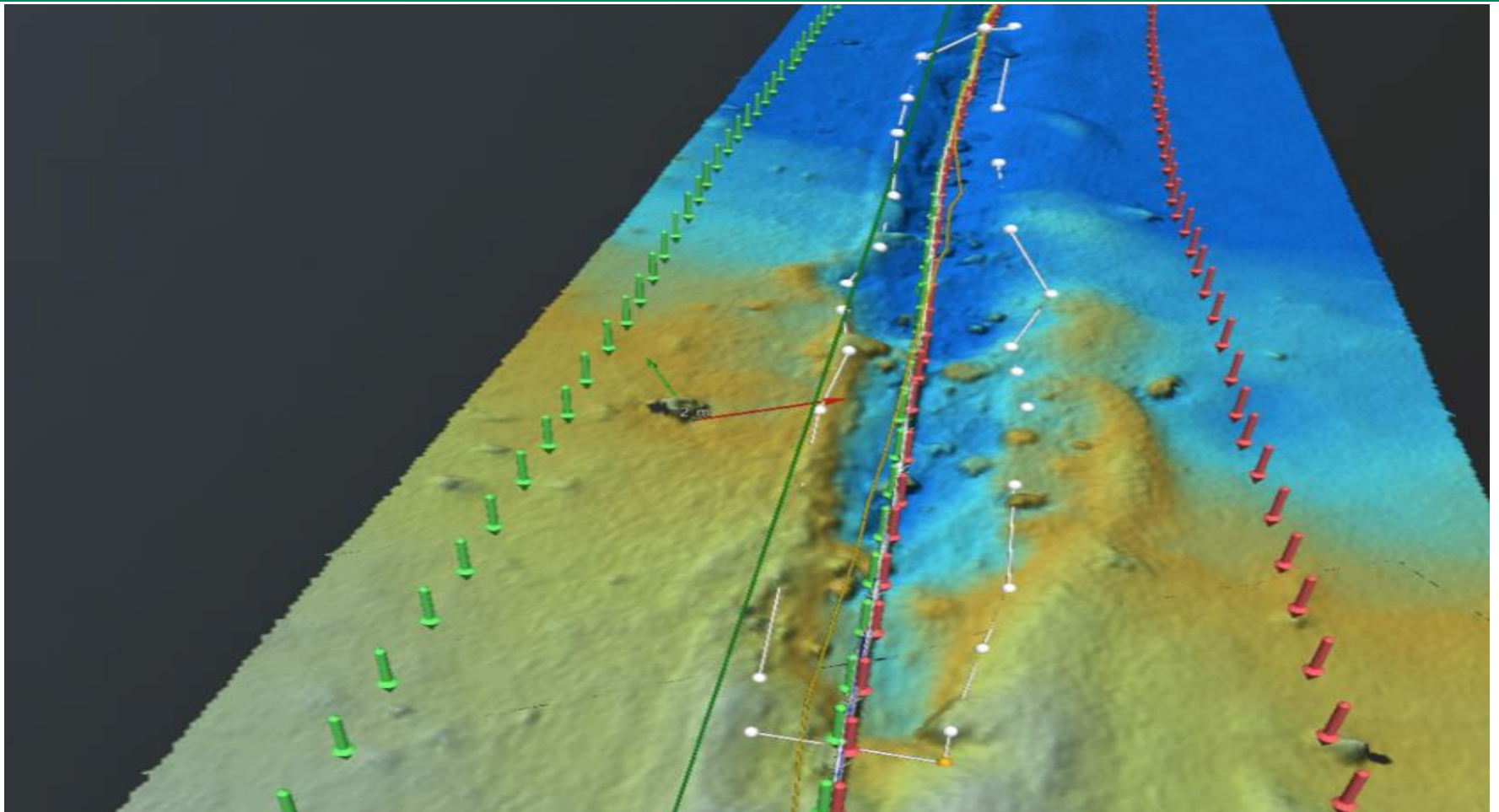


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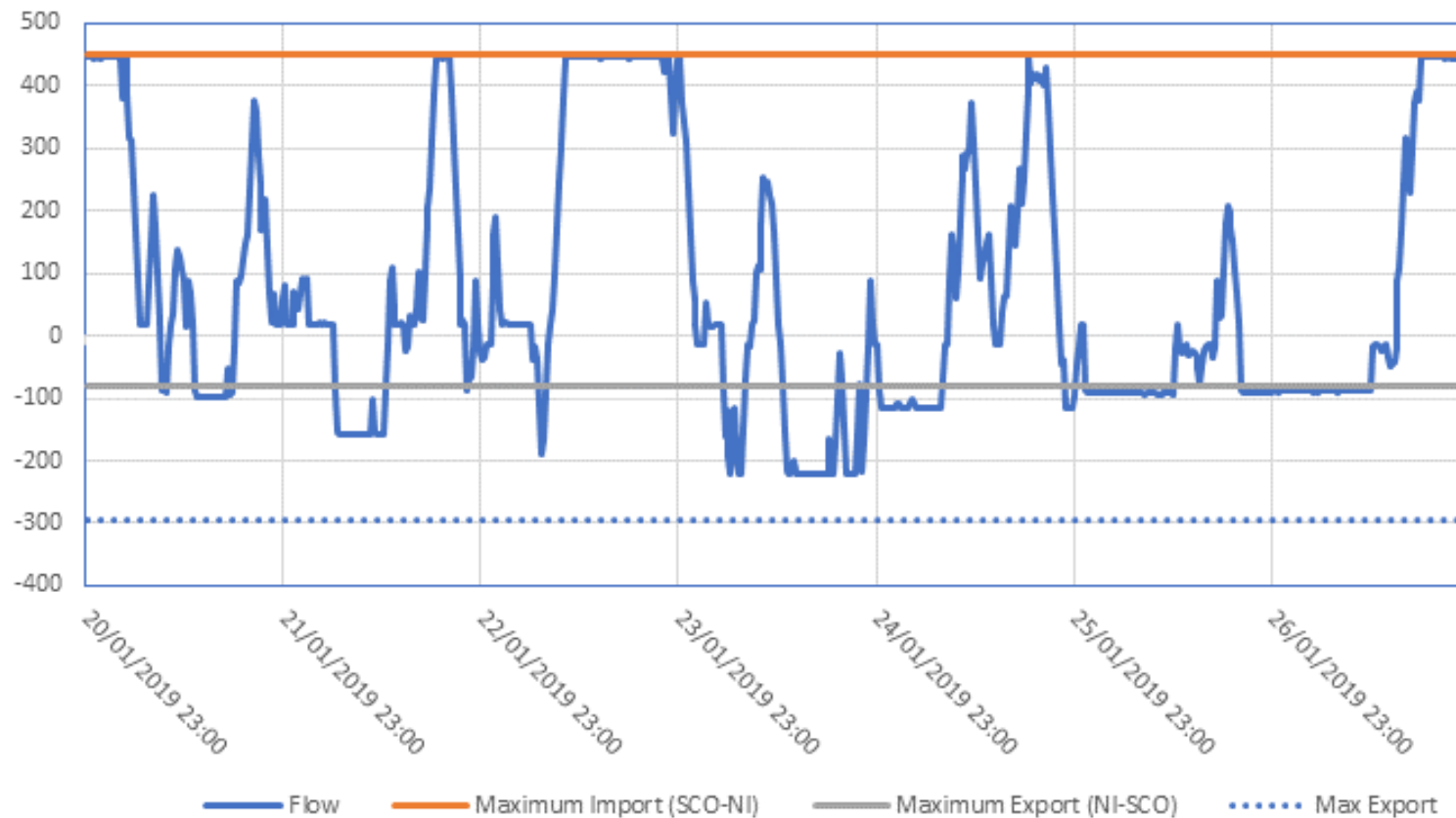


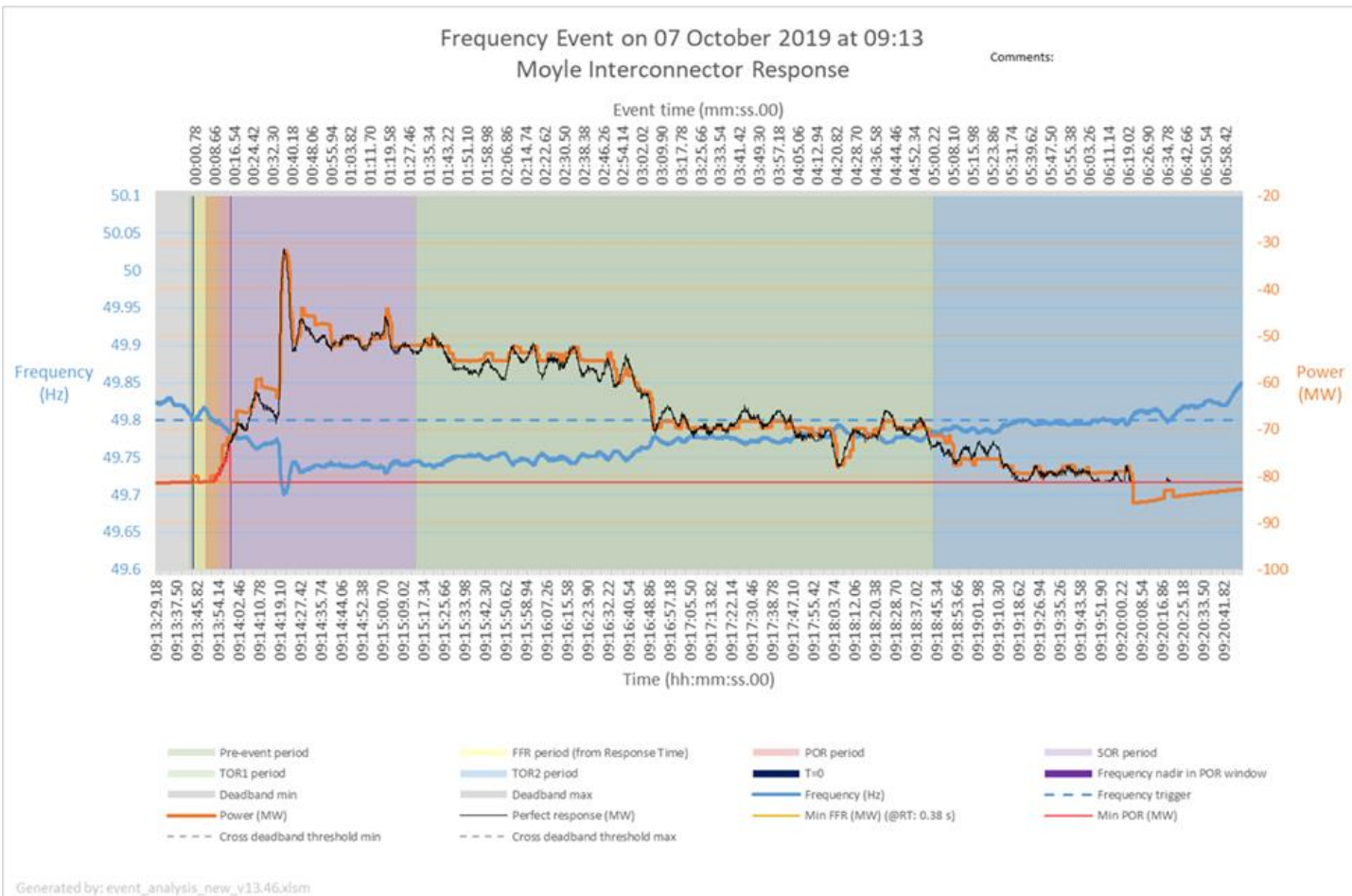
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Moyle Flow 2300 Sun 20th January to 2245 Sun 27th January







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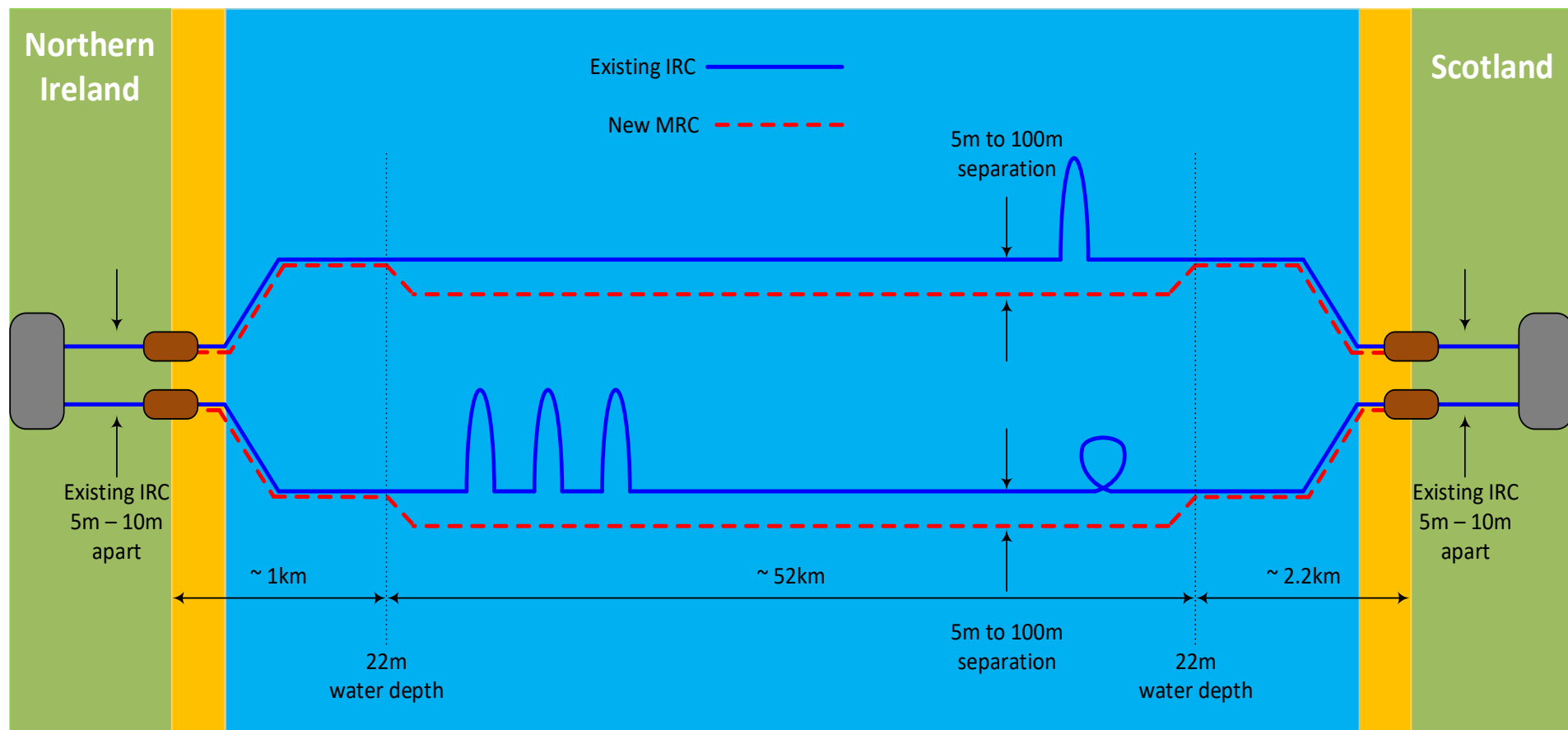




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So what are we doing?

- Maximising capacity and ancillary services
- Emergency Readiness – plant, offshore cables, onshore cables
- Investment planning – mid-life refurbishment
- Decision support as required
- Enterprise Asset Management system?
- ISO 55001 certification
- Benchmarking



Questions?

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