

EIRGRID

East West Interconnector Remedial Works

Water Framework Directive Assessment



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DOCUMENT RELEASE FORM

EirGrid

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East West Interconnector Remedial Works

Water Framework Directive Assessment

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1. INTRODUCTION

The East West Interconnector (EWIC) is a 500 MW High Voltage Direct Current (HVDC) electricity interconnector linking the Irish and British electricity markets. Following post-installation inspections, incorporating a marine survey and geophysical condition survey, one cable exposure and three areas of low sediment cover (less than 0.5m) were identified along the EWIC cable route which need remedial works to reinstate the cable back to a level of acceptable risk. The remedial works will consist of the placement of external cable protection in the form of rock bags or concrete mattresses at four locations.

As part of the Marine Licence Application (MLA) for the remedial works, Natural Resources Wales (NRW) have requested the project complete a Water Framework Directive (WFD) assessment. The aim of the WFD is for all water bodies to be at good status, meaning activities will be assessed to see if they will:

- cause or contribute to deterioration of status, and/or
- jeopardise the water body achieving good status.

This report includes the screening, scoping and impact assessment required for the WFD assessment.

2. SCREENING

A Method Statement for the proposed survey activities has been included with the MLA as part of the Environmental Supporting Information (Document Reference: P2226K_R6309_Rev0). The remedial activities will include the placement of external cable protection measures along one area of exposed cable and three areas of low sediment cover and will be supported by geophysical surveys pre and post installation to assess the completed works. The cable protection measures will consist of concrete mattresses and rock bags.

As the geophysical survey is exempt from marine licencing, and it will not physically interact with the seabed, it has been screened out of the assessment. No remedial works are planned to take place within any WFD waterbodies. The closest area of remedial works to the shore is 46m in length and is located approximately 5.6km from the nearest coastal waterbody, North Wales, and is therefore not within the 1nm of mean high water springs (MHWS) required for assessment. However, as the chemical status of waterbodies is assessed out to 12nm, the scoping stage has been carried out for three locations of remedial works for impacts on water quality – Area 4 for the North Wales water body and Areas 2 and 3 for The Skerries water body.

3. SCOPING

Water Framework Directive assessment: scoping template for activities in estuarine and coastal waters

Use this template to record the findings of the scoping stage of your Water Framework Directive (WFD) assessment for an activity in an estuary or coastal water.

If your activity will:

- take place in or affect more than one water body, complete a template for each water body
- include several different activities or stages as part of a larger project, complete a template for each activity as part of your overall WFD assessment

The [WFD assessment guidance for estuarine and coastal waters](#) will help you complete the table.

Your activity	Description, notes or more information
Applicant name	EirGrid
Application reference number (where applicable)	N/A
Name of activity	East West Interconnector Remedial Works
Brief description of activity	<i>One area of exposed cable and three areas of low sediment cover have been identified during routine survey operations of the East West Interconnector (EWIC). The installation of cable protection measures is planned at these locations to reduce the risk of damage to the cable. Cable protection will include concrete mattresses and rock bag placement.</i>
Location of activity (central point XY coordinates or national grid reference)	<i>Please see attached coordinates listing for the remedial works.</i>
Footprint of activity (ha)	Area 4 = 99m ²
Timings of activity (including start and finish dates)	The works will take approximately 14 days for all works to be completed.

Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	As detailed above. The works will be a one off installation with no discharges.
Use or release of chemicals (state which ones)	No chemical release.

Water body ¹	Description, notes or more information
WFD water body name	North Wales
Water body ID	GB641011650000
River basin district name	Western Wales
Water body type (estuarine or coastal)	Coastal
Water body total area (ha)	146.25
Overall water body status (2015)	Moderate
Ecological status	Moderate
Chemical status	Moderate
Target water body status and deadline	Good by 2033
Hydromorphology status of water body	Not assessed
Heavily modified water body and for what use	Yes: "Wider environment - nature protection and other ecological uses"
Higher sensitivity habitats present	Blue mussel beds, polychaete reef, saltmarsh
Lower sensitivity habitats present	Intertidal soft sediments, subtidal soft sediments
Phytoplankton status	Moderate
History of harmful algae	Not reported
WFD protected areas within 2km	Liverpool Bay Special Protection Area (SPA)

¹ Water body information can be found in the Environment Agency's catchment data explorer and the water body summary table. Magic maps provide additional information on habitats and protected areas. Links to these information sources can be found in the WFD assessment guidance for estuarine and coastal waters.

Specific risk information

Consider the potential risks of your activity to each of these receptors: hydromorphology, biology (habitats and fish), water quality and protected areas. Also consider invasive non-native species (INNS).

Section 1: Hydromorphology

Consider if hydromorphology is at risk from your activity.

Use the water body summary table to find out the hydromorphology status of the water body, if it is classed as heavily modified and for what use.

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	Screened out due to distance from water body.
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	Screened out due to distance from water body.
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	Screened out due to distance from water body.

Record the findings for hydromorphology and go to section 2: biology.

Section 2: Biology

Habitats

Consider if habitats are at risk from your activity.

Use the water body summary table and Magic maps, or other sources of information if available, to find the location and size of these habitats.

Higher sensitivity habitats ²	Lower sensitivity habitats ³
chalk reef	cobbles, gravel and shingle
clam, cockle and oyster beds	intertidal soft sediments like sand and mud
intertidal seagrass	rocky shore
maerl	subtidal boulder fields
mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

² Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

³ Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.

Consider if the footprint ⁴ of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km ² or larger	Yes to one or more – requires impact assessment	No to all – impact assessment not required	Screened out due to distance from water body.
1% or more of the water body's area			Screened out due to distance from water body.
Within 500m of any higher sensitivity habitat			Screened out due to distance from water body.
1% or more of any lower sensitivity habitat			Screened out due to distance from water body.

⁴ Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

Fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s)
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Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	Screened out due to location of activity.
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	

Record the findings for biology habitats and fish and go to section 3: water quality.

Section 3: Water quality

Consider if water quality is at risk from your activity.

Use the water body summary table to find information on phytoplankton status and harmful algae.

Consider if your activity:	Yes	No	Water quality risk issue(s)
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)	Requires impact assessment	Impact assessment not required	No – the proposed remedial works involve placing cable protection onto the seabed. This may result in localised sediment suspension, however this will disperse quickly and will not continually affect any of the listed receptors.
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	Yes - The phytoplankton status of the North Wales water body is assessed as moderate.

Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	No – the North Wales water body does not have a history of harmful algae.
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Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	Yes	No	Water quality risk issue(s)
The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No – No chemical will be discharged during the proposed remedial works.
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	No – As only very small areas of sediment may be disturbed, it is not anticipated that any sediment contaminants will be disturbed.

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment ⁵	Impact assessment not required	No chemicals will be released during the remedial works.

⁵ Carry out your impact assessment using the Environment Agency's surface water pollution risk assessment guidance, part of Environmental Permitting Regulations guidance.

Record the findings for water quality go on to section 4: WFD protected areas.

Section 4: WFD protected areas

Consider if WFD protected areas are at risk from your activity. These include:

- special areas of conservation (SAC)
- special protection areas (SPA)
- shellfish waters
- bathing waters
- nutrient sensitive areas

Use Magic maps to find information on the location of protected areas in your water body (and adjacent water bodies) within 2km of your activity.

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area ⁶	Requires impact assessment	Impact assessment not required	Whilst the remedial works are located within the Liverpool Bay SPA, the HRA included in the Marine Licence application assessed that there will be no significant effect to any designated species so no further impact assessment is required.

⁶ Note that a regulator can extend the 2km boundary if your activity has an especially high environmental risk.

Record the findings for WFD protected areas and go to section 5: invasive non-native species.

Section 5: Invasive non-native species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	The concrete mattresses and rock bags will be new introductions to the marine environment and so will not introduce any INNS. The equipment to be used for installation will have been cleaned prior to use for the remedial works.

Record the findings for INNS and go to the summary section.

Summary

Summarise the results of scoping here.

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	
Biology: habitats	No	
Biology: fish	No	

Water quality	Yes	Phytoplankton status
Protected areas	No	
Invasive non-native species	No	

If you haven't identified any receptors at risk during scoping, you don't need to continue to the impact assessment stage and your WFD assessment is complete.

If you've identified one or more receptors at risk during scoping, you should continue to the impact assessment stage.

Include your scoping results in the WFD assessment document you send to your activity's regulator as part of your application for permission to carry out the activity.

Water Framework Directive assessment: scoping template for activities in estuarine and coastal waters

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The [WFD assessment guidance for estuarine and coastal waters](#) will help you complete the table.

Your activity	Description, notes or more information
Applicant name	EirGrid
Application reference number (where applicable)	N/A
Name of activity	East West Interconnector Remedial Works
Brief description of activity	<i>One area of exposed cable and three areas of low sediment cover have been identified during routine survey operations of the East West Interconnector (EWIC). The installation of cable protection measures is planned at these locations to reduce the risk of damage to the cable. Cable protection will include concrete mattresses and rock bag placement.</i>
Location of activity (central point XY coordinates or national grid reference)	<i>Please see attached coordinates listing for the remedial works.</i>
Footprint of activity (ha)	Area 2 = 27m ² Area 3 = 15m ²
Timings of activity (including start and finish dates)	The works will take approximately 14 days for all works to be completed.

Extent of activity (for example size, scale frequency, expected volumes of output or discharge)	As detailed above. The works will be a one off installation with no discharges.
Use or release of chemicals (state which ones)	No chemical release.

Water body ¹	Description, notes or more information
WFD water body name	The Skerries
Water body ID	GB611010390000
River basin district name	Western Wales
Water body type (estuarine or coastal)	Coastal
Water body total area (ha)	4725
Overall water body status (2021)	High
Ecological status	High
Chemical status	High
Target water body status and deadline	High by 2027
Hydromorphology status of water body	Not assessed
Heavily modified water body and for what use	No
Higher sensitivity habitats present	Blue mussel beds, polychaete reef, saltmarsh
Lower sensitivity habitats present	Intertidal soft sediments, subtidal soft sediments
Phytoplankton status	Not assessed
History of harmful algae	Not reported
WFD protected areas within 2km	North Anglesey Marine / Gogledd MÃ´n Forol Special Area of Conservation (SAC)

¹ Water body information can be found in the Environment Agency's catchment data explorer and the water body summary table. Magic maps provide additional information on habitats and protected areas. Links to these information sources can be found in the WFD assessment guidance for estuarine and coastal waters.

Specific risk information

Consider the potential risks of your activity to each of these receptors: hydromorphology, biology (habitats and fish), water quality and protected areas. Also consider invasive non-native species (INNS).

Section 1: Hydromorphology

Consider if hydromorphology is at risk from your activity.

Use the water body summary table to find out the hydromorphology status of the water body, if it is classed as heavily modified and for what use.

Consider if your activity:	Yes	No	Hydromorphology risk issue(s)
Could impact on the hydromorphology (for example morphology or tidal patterns) of a water body at high status	Requires impact assessment	Impact assessment not required	Screened out due to distance from water body.
Could significantly impact the hydromorphology of any water body	Requires impact assessment	Impact assessment not required	Screened out due to distance from water body.
Is in a water body that is heavily modified for the same use as your activity	Requires impact assessment	Impact assessment not required	Screened out due to distance from water body.

Record the findings for hydromorphology and go to section 2: biology.

Section 2: Biology

Habitats

Consider if habitats are at risk from your activity.

Use the water body summary table and Magic maps, or other sources of information if available, to find the location and size of these habitats.

Higher sensitivity habitats ²	Lower sensitivity habitats ³
chalk reef	cobbles, gravel and shingle
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mussel beds, including blue and horse mussel	subtidal rocky reef
polychaete reef	subtidal soft sediments like sand and mud
saltmarsh	
subtidal kelp beds	
subtidal seagrass	

² Higher sensitivity habitats have a low resistance to, and recovery rate, from human pressures.

³ Lower sensitivity habitats have a medium to high resistance to, and recovery rate from, human pressures.

Consider if the footprint ⁴ of your activity is:	Yes	No	Biology habitats risk issue(s)
0.5km ² or larger	Yes to one or more – requires impact assessment	No to all – impact assessment not required	Screened out due to distance from water body.
1% or more of the water body's area			Screened out due to distance from water body.
Within 500m of any higher sensitivity habitat			Screened out due to distance from water body.
1% or more of any lower sensitivity habitat			Screened out due to distance from water body.

⁴ Note that a footprint may also be a temperature or sediment plume. For dredging activity, a footprint is 1.5 times the dredge area.

Fish

Consider if fish are at risk from your activity, but only if your activity is in an estuary or could affect fish in or entering an estuary.

Consider if your activity:	Yes	No	Biology fish risk issue(s)
Is in an estuary and could affect fish in the estuary, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the estuary	Continue with questions	Go to next section	Screened out due to location of activity.
Could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)	Requires impact assessment	Impact assessment not required	
Could cause entrainment or impingement of fish	Requires impact assessment	Impact assessment not required	

Record the findings for biology habitats and fish and go to section 3: water quality.

Section 3: Water quality

Consider if water quality is at risk from your activity.

Use the water body summary table to find information on phytoplankton status and harmful algae.

Consider if your activity:	Yes	No	Water quality risk issue(s)
Could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for	Requires impact assessment	Impact assessment not required	No – the proposed remedial works involve placing cable protection onto the seabed. This may result in localised

longer than a spring neap tidal cycle (about 14 days)			sediment suspension, however this will disperse quickly and will not continually affect any of the listed receptors.
Is in a water body with a phytoplankton status of moderate, poor or bad	Requires impact assessment	Impact assessment not required	No - The phytoplankton status of The Skerries water body has not been assessed.
Is in a water body with a history of harmful algae	Requires impact assessment	Impact assessment not required	No – The Skerries water body does not have a history of harmful algae.

Consider if water quality is at risk from your activity through the use, release or disturbance of chemicals.

If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if:	Yes	No	Water quality risk issue(s)
The chemicals are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment	Impact assessment not required	No – No chemical will be discharged during the proposed remedial works.
It disturbs sediment with contaminants above Cefas Action Level 1	Requires impact assessment	Impact assessment not required	No – As only very small areas of sediment may be disturbed, it is not anticipated that any sediment contaminants will be disturbed.

If your activity has a mixing zone (like a discharge pipeline or outfall) consider if:	Yes	No	Water quality risk issue(s)
The chemicals released are on the Environmental Quality Standards Directive (EQSD) list	Requires impact assessment ⁵	Impact assessment not required	No chemicals will be released during the remedial works.

⁵ Carry out your impact assessment using the Environment Agency's surface water pollution risk assessment guidance, part of Environmental Permitting Regulations guidance.

Record the findings for water quality go on to section 4: WFD protected areas.

Section 4: WFD protected areas

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- special protection areas (SPA)
- shellfish waters
- bathing waters
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Use Magic maps to find information on the location of protected areas in your water body (and adjacent water bodies) within 2km of your activity.

Consider if your activity is:	Yes	No	Protected areas risk issue(s)
Within 2km of any WFD protected area ⁶	Requires impact assessment	Impact assessment not required	Whilst the remedial works are located within the North Anglesey Marine / Gogledd Mŷn Forol SAC, the HRA included in the Marine Licence application assessed that there will be no significant effect to any designated species so no further impact assessment is required.

⁶ Note that a regulator can extend the 2km boundary if your activity has an especially high environmental risk.

Record the findings for WFD protected areas and go to section 5: invasive non-native species.

Section 5: Invasive non-native species (INNS)

Consider if there is a risk your activity could introduce or spread INNS.

Risks of introducing or spreading INNS include:

- materials or equipment that have come from, had use in or travelled through other water bodies
- activities that help spread existing INNS, either within the immediate water body or other water bodies

Consider if your activity could:	Yes	No	INNS risk issue(s)
Introduce or spread INNS	Requires impact assessment	Impact assessment not required	The concrete mattresses and rock bags will be new introductions to the marine environment and so will not introduce any INNS. The equipment to be used for installation will have been cleaned prior to use for the remedial works.

Record the findings for INNS and go to the summary section.

Summary

Summarise the results of scoping here.

Receptor	Potential risk to receptor?	Note the risk issue(s) for impact assessment
Hydromorphology	No	
Biology: habitats	No	
Biology: fish	No	

Water quality	No	
Protected areas	No	
Invasive non-native species	No	

If you haven't identified any receptors at risk during scoping, you don't need to continue to the impact assessment stage and your WFD assessment is complete.

If you've identified one or more receptors at risk during scoping, you should continue to the impact assessment stage.

Include your scoping results in the WFD assessment document you send to your activity's regulator as part of your application for permission to carry out the activity.

4. IMPACT ASSESSMENT

4.1 Scoping summary

This section details the impact assessment of the proposed survey activity on water quality, which was a receptor identified during the scoping stage as being at risk in the North Wales water body.

The risk assessment follows the advice from the Environment Agency (Environment Agency, 2017) as recommended by NRW.

No receptors were identified as requiring further assessment in The Skerries water body.

4.2 Water quality

The phytoplankton status of the North Wales water body is assessed as moderate, so has been scoped in for further assessment.

There is the potential that any suspended sediment caused by disturbance of the seabed during installation of cable protection could affect phytoplankton levels through a reduction in light availability (Schallenberg and Burns, 2004). However, the temporary nature of the disturbance, combined with the small seabed footprint of the installation, means any sediment suspension and associated effects on light penetration will be highly localised and short-term with any changes expected to be restricted to a single tidal cycle. As a result, it is not considered that the remedial will pose a risk to the phytoplankton status of the North Wales water body.

5. CONCLUSION

The WFD assessment has considered the impacts of the proposed EWIC remedial works on water quality, which was subsequently screened in for further risk assessment due to the phytoplankton status of the waterbody.

The risk assessment concluded that due to the temporary nature of the sediment disturbance and the small footprint of the works, there would be no risk of deterioration of any quality elements of the North Wales water body or jeopardisation of the North Wales water body from reaching 'Good status'.

REFERENCES

1 Environment Agency (2017). Water Framework Directive assessment: estuarine and coastal waters [online]. Available at: <https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters#impact-assessment-consider-impacts-and-mitigation> [Accessed October 2023].

2 Schallenberg, M. and Burns, C.W., 2004. Effects of sediment resuspension on phytoplankton production: teasing apart the influences of light, nutrients and algal entrainment. *Freshwater Biology*, 49(2), pp.143-159.
