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Wales Coastal Flooding Review: Project 10 Report - Recommendations - 18, 43, 44, 45, 46 & 47

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Context

Following the coastal flooding of late December 2013 and early January 2014, the Minister for Natural Resources, asked Natural Resources Wales (NRW) to undertake a two stage Review into the coastal flooding events. The Minister requested that the Review be undertaken in collaboration with all Risk Management Authorities in Wales. Phase 2 of this Review identified 47 Recommendations for future progression and in January 2015 NRW published a Delivery Plan outlining a proposed way forward to address each Recommendation. The Minister directed NRW to collaboratively implement the Delivery Plan in 2015/16 with supporting funding made available.

Thirty of the Recommendations have been packaged into ten Projects to reflect common themes. The remaining seventeen Recommendations stand independently outside of these projects with individual leads for progression.

The 10 Projects and their broad technical themes are listed below:

- Project 1 – Flood Forecasting and Coastal Design
- Project 2 – Flood Warning and Forecasting
- Project 3 – Community Resilience
- Project 4 – Operational Response
- Project 5 – Coastal Defences
- Project 6 – National Coastal Defence Dataset and Inspection
- Project 7 – Skills and Capacity Audit and Roles and Responsibilities
- Project 8 – Review of Coastal Groups
- Project 9 – Coastal Adaptation
- Project 10 – Infrastructure Resilience**

This report is focused on Project 10 – Infrastructure Resilience. Recommendations 18, 43, 44, 45, 46 & 47 form Project 10.

Within the Delivery Plan, Recommendation 18 was included in Project 4. However, due to its links to infrastructure resilience, practical implementation placed Recommendation 18 within Project 10 for greater effectiveness.

Project 10 – Infrastructure Resilience Introduction

The aim of Project 10 was to review the resilience of infrastructure providers and utility operators in Wales to coastal flooding and erosion risk. The infrastructure providers cover highways and rail. Utility providers cover water (supply and sewerage), energy (electric and gas) and communications (fixed and mobile).

The project consists of six Recommendations and covers the following broad areas:

- The flood and coastal erosion risk management incident response process for infrastructure and utility operators and their responsibilities.
- The role of infrastructure and utility operators in the coordination between RMAs in daily operations.
- The role and remit of the Wales Utility Group.
- Identifying areas of mutual interest between organisations.
- Investigating climate change planning and local adaptation planning.
- National assessment of infrastructure resilience plans.

The six Recommendations are defined as follows:

Rec. Number	Recommendation Text
18	Review and identify how to improve involvement of infrastructure operators and managers in the coastal flood risk incident management process.
43	Review and make Recommendations for how Risk Management Authorities and infrastructure and utility operators can work together operationally more efficiently and effectively. This should consider a range of working agreements to ensure clarity of roles and responsibilities between professional partners and for communities.
44	Review and make Recommendations if more needs to be done to enable infrastructure and utility operators to effectively work together and interact on issues of mutual interest. This may include a review of the role and remit of the Wales Utility Group and other options.
45	Encourage and support the development of programmes of works to increase resilience of infrastructure and utility assets. These must be aligned with local community adaptation planning. Review where appropriate if there are regulatory barriers to obstruct this process of adaptation and identify regulatory improvements which could help adaptation.
46	Review and evaluate at the national Wales level, the impacts of climate change scenarios on Network Rail infrastructure and highways infrastructure around the Welsh coastline and the long-term adaptation options.
47	Undertake a periodic national assessment of infrastructure and utility resilience across Wales, in order to provide assurance of a national progress towards increased resilience to coastal flooding and erosion risks.

Project 10 Methodology

The Wales Coastal Flooding Review Delivery Plan indicated that the relevant infrastructure and utility groups be consulted to inform Project 10. Separate questionnaires were created depending upon the target consultees and were issued to the following groups to gather feedback on Recommendations 18 and 43 to 47:

- Four Local Resilience Fora (LRFs); (North Wales LRF, South Wales LRF, Gwent LRF and Dyfed Powys LRF);
- 15 Coastal Risk Management Authorities (RMAs);
- Wales Utility Group (WUG) consisting of 18 members (British Telecom, Dee Valley Water, Dwr Cymru Welsh Water, the four LRF Co-ordinators in Wales, Inexus, National Grid Wales, West Utilities, WLGA, Welsh Government, Severn Trent Water, Scottish Power, Royal Mail, O2, Vodafone and Western Power).
- Infrastructure operators of Network Rail (NR) and Trunk Road Agents (TRAs) comprising of the South Wales Trunk Road Agent (SWTRA) and North & Mid Wales Trunk Road Agent (NMWTRA).

Response rates were generally good: 100% from LRFs, RMAs and infrastructure operators and over 40% from the members of WUG. All WUG members were given the opportunity to comment.

The questionnaires can be found in Appendix 1 of this report.

Evidence was also gathered through meetings (with Network Rail, SWTRA, NMWTRA and Welsh Government - Department for Economy, Science and Transport) and through stakeholder feedback from the Wales Coastal Flooding Review: Delivery Plan workshops.

The following section summarises the responses and the key themes for each Recommendation. The report concludes with a list of proposals to further improve infrastructure and utility resilience across Wales to flood and coastal erosion risk management.

Project 10 Consultation summary responses

The following section sets out each of the Project 10 Recommendations and a summary of the consultation feedback received.

Recommendation 18:	Review and identify how to improve involvement of infrastructure operators and managers in the coastal flood risk incident management process.
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The following statement has been taken from the Wales Coastal Flooding Review Phase 2 Report to highlight the issue of concern regarding this recommendation:

‘There is a need to improve involvement of infrastructure operators and managers in the incident management process (where appropriate)’

Below is a summary of the responses received from each target group for Recommendation 18.

1. LRFs – Summary responses for Recommendation 18

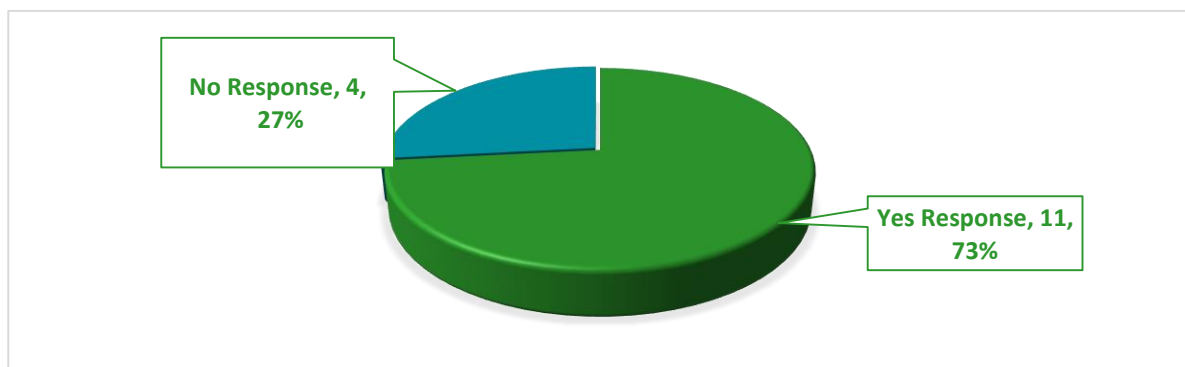
The responses received indicate that some LRF areas in Wales have well established links with the main infrastructure operators and utility providers, while other LRF areas struggle to get the involvement they want or need.

Overview of key points from the responses:

- There are issues with limited involvement and communication with WUG (further information on WUG is on page 10 of this report).
- There is a lack of legal requirement on infrastructure operators and utility providers to be involved in the coastal flood risk incident management process, however water companies are Risk Management Authorities under the Civil Contingencies Act 2004.
- There is a need for more local involvement. The responses have indicated a greater focus is currently given at a national level.
- There is a need for awareness training and more regular contact between infrastructure and utilities parties to all RMAs.

2. RMAs – Summary responses for Recommendation 18

Do you feel you need improved involvement from infrastructure companies and utilities operators for routine coastal business and / or during the coastal flood risk incident management process? – Yes or No



Out of 15 responses, 73% of respondents felt there needs to be greater involvement from infrastructure providers and utilities operators. RMA's would like to establish a contact network with infrastructure providers and utility operators and share knowledge and data on roles and responsibilities.

Overview of key points from the responses:

- Infrastructure operators, utility providers and RMA's should be able to share appropriate contact details.
- There should be improved sharing and understanding of infrastructure and utility asset inspection and maintenance regimes at a local level such as at a local Authority level.
- There should be a greater shared understanding at a local level of infrastructure and utility assets that are at risk of flooding.
- There should be greater involvement from infrastructure providers and utility operators for incident response planning.

It is noted that current links between RMA's and both infrastructure providers and utility operators are described as poor to reasonable. This is something that can be improved via sharing data, contacts, work programmes, asset information, and holding more joint training and exercises.

3. WUG – Summary responses for Recommendation 18

The WUG members felt that more could be done to improve the involvement of infrastructure providers and utility operators in the flood risk management process.

Overview of key points from the responses:

- Most utility operators are not RMA's and there is no formal relationship between them and other RMA's to encourage collaborative working. There needs to be a forum established to help develop understanding between infrastructure operators, utility providers and RMA's.
- Natural Resources Wales' live data should be used within infrastructure providers' and utility operators' own systems to provide better clarity on flood risk through offering greater information to their organisations.
- More effective local and national working relationships should be developed.
- There should be clearer communication of a plan being activated during an incident and what kind of response is expected from others.

- There should be opportunity for infrastructure providers and utility operators to share their information with local resilience partners.
- There needs to be a better understanding of the Flood Forecasting Centre's daily Flood Guidance Statement amongst WUG members.

Summary for Recommendation 18

All groups consulted felt that more needed to be done, and could be done, to improve the involvement of infrastructure providers and utility operators in the flood risk management process from forward planning to incident response. The starting point for improved involvement was suggested to be better information sharing between organisations.

**Recommendation
43**

Review and make Recommendations for how Risk Management Authorities and infrastructure and utility operators can work together operationally more efficiently and effectively. This should consider a range of working agreements to ensure clarity of roles and responsibilities between professional partners and for communities.

The following statement has been taken from the Wales Coastal Flooding Review Phase 2 Report to highlight the issue of concern regarding this recommendation:

‘There is a need to do more to enable RMAs and infrastructure and utility operators to work together and interact operationally more efficiently and effectively’

Below is a summary of the responses received from each target group for recommendation 43.

1. RMA – Summary responses for Recommendation 43

Many RMAs felt they would like improved involvement from infrastructure providers and utilities operators during the flood and coastal risk management process.

Overview of key points from responses:

- There needs to be greater clarity on roles and responsibilities in flood incident management processes.
- There needs to be better working relationship between RMAs and Infrastructure providers and utility operators.
- There needs to be improved mechanisms in place that will enable links to share data between organisations.

2. WUG members – Summary responses for Recommendation 43

Overview of key points from responses:

- All infrastructure providers and utilities operators should be given RMA (for flood risk management) status and not just the water companies.
- There should be better data sharing and communications between RMAs, infrastructure providers and utility operators.
- There should be stronger relationships between RMAs, infrastructure providers and utility operators locally and nationally.
- There should be an annual commitment to developing and undertaking flooding exercises.
- There should be an annual event to encourage awareness of roles and responsibilities.
- There should be clarity on roles and responsibilities and this should be published and shared.

3. Infrastructure Providers – Summary responses Recommendation 43

Network Rail and Natural Resources Wales are developing a Memorandum of Understanding to enable a closer working relationship that should ultimately lead to more effective strategic

planning and operational delivery by both organisations. This is something that could be replicated between other organisations.

The Trunk Road Agencies have already established a good working relationship with all RMAs. This is down to the daily demand of overlapping work areas and long developed communication links with all parties.

Summary for Recommendation 43

The responses on how RMAs, infrastructure providers and utilities operators can work together more efficiently and effectively provided a variety of Recommendations. The recurring themes were clarity on roles and responsibilities, the status of infrastructure operators (e.g. possibly as RMAs) to enable more effective involvement of these partners in the incident process, working agreements between organisations, a mechanism to store and share information and annual exercises or training undertaken jointly.

**Recommendation
44:**

Review and make Recommendations if more needs to be done to enable infrastructure and utility operators to effectively work together and interact on issues of mutual interest. This may include a review of the role and remit of the Wales Utility Group and other options.

The following statement has been taken from the Wales Coastal Flooding Review Phase 2 Report, which outlines the issue of concern regarding this recommendation:

‘There is a need to review if more needs to be done to enable infrastructure and utility operators to effectively work together and interact on issues of mutual interest: This may include reviewing the role and remit of the existing Wales Utility Group to determine whether these should be revised. It should also consider alternative and additional options.’

The aim for this recommendation was to consider the role, remit and current effectiveness of WUG and whether more needs to be done to enable infrastructure provider and utility operators to be more effective.

The WUG Terms of Reference state the current aim is: - *To bring together utilities bodies operating in Wales in a single pan-Wales Group to work together to promote good communication with other responders and the enhancement of emergency preparedness across all utilities.*

Below is a summary of the responses received from each target group for recommendation 44.

1. LRF – Summary responses for Recommendation 44

Respondents felt there was a need for clarity on the role and remit of WUG. It was also flagged that there needed to be a reinvigoration of the group to include the transport sector.

2. RMA – Summary responses for Recommendation 44

RMAs were asked if they were aware of the WUG and how effective they feel the group is. Just under 50% of respondents were not aware of the role and remit of WUG. Of those that were aware, nearly 90% of respondents felt that the group is ineffective at present.

Overview of key points from responses:

- RMAs were generally unsure of how WUG promotes collaborative working between RMAs, infrastructure providers and utility operators.
- RMAs reported limited awareness and interaction with WUG.
- Many RMAs felt that the all Wales remit of the WUG is too broad, with many issues requiring discussion and addressing at a local rather than national level.

3. WUG members – Summary responses for Recommendation 44

There were varied responses from WUG members as to the effectiveness of the group with no clear theme emerging.

Overview of key points from responses:

- WUG has mainly been focused on collaborative working between members, which means there is a limited understanding of the roles of RMAs, which can restrict collaborative working.
- The group is of limited effectiveness at present, not helped by irregular meetings.
- WUG can be a good forum if the right members are together.
- When WUG is meeting regularly, it can be very effective although it is currently suffering a decline. It was suggested that the group needs to meet at least every six months.

4. Infrastructure Providers - Summary responses for Recommendation 44

In meetings held with all four parties (Network Rail, SWTRA, NMWTRA and Welsh Government Transport department), it was clear that there is no knowledge of WUG. Network Rail and the Trunk Road Agents do however regularly talk to many of the WUG members over matters of mutual interest.

Summary for Recommendation 44

Responses in relation to this recommendation were focused on the role and remit of WUG. There was limited awareness amongst those not part of WUG of the role and remit of the group. There were mixed views from within the group as to the effectiveness of the group. The key emerging theme was that when operating regularly, WUG can be a good forum for utility operators. However, it was acknowledged that as this only covers utility providers, the effectiveness at enabling close working with other infrastructure providers and RMAs is limited. A major theme emerging from this recommendation is that WUG needs to be reinvigorated with regular meetings, a revised purpose, potentially a broadened membership and effective dissemination of minutes and work of the group.

**Recommendation
45:**

Encourage and support the development of programmes of works to increase resilience of infrastructure and utility assets. These must be aligned with local community adaptation planning.

Review where appropriate if there are regulatory barriers to obstruct this process of adaptation and identify regulatory improvements, which could help adaptation.

The following statement has been taken from the Wales Coastal Flooding Review Phase 2 Report, which highlights the issue of concern regarding this recommendation:

‘This needs to be set within the context of a longer term strategic framework and where necessary, aligned with the broader community based adaptation plans. Where there are regulatory ‘barriers’ or ‘improvements’ which either currently obstruct this process of adaptation, or could potentially help it should be identified.’

To address this, meetings were held with Network Rail and the two Trunk Road Agents in Wales to find out what programmes of work are in place to increase the resilience of their infrastructure assets and with a focus on the risk of flooding.

Network Rail is currently developing a programme of works to address the condition and flood resilience of coastal rail infrastructure based upon recent development work they commissioned from JBA Consulting. The second edition Shoreline Management Plans are taken into account with this new approach.

Both Trunk Road Agents have developed maintenance and engineering enhancement programmes to increase the resilience of locations known to flood repeatedly. Significant stretches of the trunk road network were not designed with modern drainage standards aimed at providing flood resilience. To retrospectively upgrade them all would require very significant investment. This would be due to the engineering, financial, and environmental constraints that are key limiting factors.

Neither of the Trunk Road Agents has a tailor made document reflecting their flood resilience planning. However, both Agents have contingency plans in place across the trunk road network for road closures, whether due to flooding, accidents or other causes. This therefore provides a degree of resilience to the network.

There were no views provided by any respondents on what they would perceive to be regulatory barriers that obstruct adaptation in building in resilience with regards to flooding.

WUG members – examples of work programmes to increase flood resilience. These are direct comments lifted from the questionnaire returns.

Dwr Cymru	Welsh Water's AMP6 investment Programme will increase the flood resilience of both water treatment/supply and waste water assets
British Telecom	BT say they have a proactive / preventative approach, backed up by an enhanced reactive capability. Better training, exercising, enhanced resources and incident management processes are key objectives.
Wales & West Utilities	Flood impact assessments have been carried out on key sites.
Western Power	Western Power has ongoing programmes of work as agreed with the electricity regulator (OFGEM). This work forms part of a work programme for 2015-23 (RIIO-ED1).
National Grid	National Grid are undertaking an investment programme of flood mitigation works in line with an energy sector agreement produced by the Energy Networks Association. This agreement aims to present a risk-based methodology that provides guidance to improve the resilience of electricity sub stations to a target resilience level, which is acceptable to customers, OFGEM and Government. This takes account of a cost/benefit assessment for each site.

Summary for Recommendation 45

Most of the infrastructure providers and utility operators in Wales have work programmes to some extent to help increase resilience to flooding. Opportunities could be gained through joint forward planning between infrastructure providers, utility operators and RMAs. This would enable wider multiple benefits in sharing of best practices, whilst also driving potential for greater efficiencies and effectiveness.

**Recommendation
46:**

Review and evaluate at the national Wales level, the impacts of climate change scenarios on Network Rail infrastructure and highways infrastructure around the Welsh coastline and the long-term adaptation options.

The following statement has been taken from the Wales Coastal Flooding Review Phase 2 Report, which highlight the issue of concern regarding this recommendation:

'In many locations Network Rail and highway assets play an important part of the coastal defence infrastructure. Long-term plans for local sections of the coast will have significant impacts on the Network Rail infrastructure and potentially highways infrastructure. These impacts need to be discussed and considered at a national scale, as they cannot solely be addressed locally.'

Network Rail's and highway longer-term adaptation plans must be set within the overall strategic framework and aligned with local community adaptation plans as necessary.'

This Recommendation focuses on climate change and the impacts around the Welsh coastline on Network Rail and highways infrastructure.

Network Rail has created 'Weather Resilience and climate change Adaptation Plans' for all their Routes, including specifically for the Wales Route. These plans cover actions in Control Period 5 (CP5) 2014 to 2019 and aim to address any vulnerabilities to operations through identifying where additional actions could further enhance weather and climate change resilience. These plans can be found at <https://www.networkrail.co.uk/publications/weather-and-climate-change-resilience/>

The recent development work by Network Rail on their Coastal and Estuarial Asset Management Plans addresses the predicted impact of climate change sea level rise upon coastal assets. Short-term management and long term strategic plans are currently being developed to understand and prioritise all of the coastal structures owned by Network Rail. This will ensure continuity of operational safety and reduce the negative performance impact through increasing numbers of storm events.

For the Trunk Road Agents, current new design schemes for longer-term improvements consider climate change when designing their drainage systems and alignments. An allowance for climate change increase is added to the normal levels of protection considered for the individual drainage asset being designed. Whilst making allowances for flood flows e.g. in culvert capacity, might be advantageous for increased volumes of water, it might have some undesirable consequences as well that need to be considered during the design phase.

Summary for Recommendation 46

Both Network Rail and the Trunk Road Agents are reviewing the impact of climate change scenarios on their infrastructure around the Welsh coastline. Both are also considering long-term adaptation options to protect their networks in the future.

**Recommendation
47:**

Undertake a periodic national assessment of infrastructure and utility resilience across Wales, in order to provide assurance of a national progress towards increased resilience to coastal flooding and erosion risks.

The following statement has been taken from the Wales Coastal Flooding Review Phase 2 Report, which highlights the issue of concern regarding this recommendation:

'This should consider locally important and nationally important assets and services. It should also consider infrastructure that contributes directly to coastal flood and erosion risk management or has a potential to contribute to flood risk. It should also consider other assets and services, which are impacted by flood and erosion risks and the consequential impacts on communities locally and elsewhere.'

This should be periodically reviewed to help provide public assurance of progress towards increased resilience.'

The aim of this recommendation is to demonstrate that as a nation, resilience to flood risk is improving. Most operators plan assessment on cycles (for example Network Rail's CP5) so any annual assessment would need to take this into consideration and have a common scale to show level of improvement and resilience.

A desk-based study was undertaken to assess evidence of resilience plans for climate change, flood and/or erosion risk online for the main infrastructure providers and utility operators in Wales. The results were captured in a spreadsheet, which is available in Appendix 2.

Summary for Recommendation 47

In order to demonstrate progression towards increased resilience to coastal flooding and erosion risks, this assessment should be undertaken annually with involvement from organisations to provide assurance of progress. This should be managed and coordinated at a Wales wide level. The results of any annual assessment should be shared with the public to highlight any progression in resilience towards flooding and erosion risks.

Project 10 Conclusions

The primary theme that came across through engagement with others on Project 10 was that there is an appetite and a need for better collaboration between RMAs, infrastructure providers and utility operators for routine business and incident response for flood and coastal erosion risk management. There are three suggested proposals below that can be taken forward by RMAs, LRFs, Welsh Government, infrastructure providers and utility operators to deliver the Wales Coastal Flooding Review Recommendations and improve current and future infrastructure resilience to flooding in Wales:

- The Wales Utilities Group (WUG) needs to be reinvigorated, perhaps as the Wales Infrastructure Group (WIG). This is due to restricted representation from infrastructure operators in Wales within WUG. The reformed group as WIG would need to include new members like Network Rail and the Trunk Road Agents. A representative for local authorities is also invited to attend on behalf of all 22 authorities across Wales. The broader membership will help establish better understanding and better working relationships between organisations. The reinvigoration needs to be supported by a new Chair elected within the group (currently being chaired temporarily by Welsh Government, the preference would not be to have a member of Welsh Government as chair), with Welsh Government taking on a supportive role by providing administrative and secretariat support to the group. WIG could be able take on the responsibility of undertaking an annual National assessment of infrastructure and utility resilience to flood and coastal erosion risks to demonstrate progress towards a more resilient Wales. This should be reported to the Welsh Government Resilience Department annually as evidence.
- The Wales Learning and Development Group (part of Welsh Government) to test strategies and develop greater links between organisations at a local or National level develop a structured programme of incident response exercises. This will also help to identify gaps or improvements needed.
- Resilience Direct (a secure web based system to allow the sharing of knowledge and data) is explored as an option for all parties to share and store information at the 'official sensitive' level.

Appendix 1 - Project 10 engagement questionnaires

LRF Questionnaire

- Q1- Which infrastructure and utility owners and operators attend regular LRF group meetings.
- Q2- Which infrastructure and utility owners and operators are missing from regular LRF group meetings?
- Q3- Of those identified in your answer to the previous question, which infrastructure and utility owners and operators would be most important to attend the regular LRF group meetings?
- Q4- During an incident, which infrastructure and utility owners and operators attend and participate in the civil response (i.e. attends Gold / Silver / Bronze command)?
- Q5- During an incident, what information is shared by infrastructure and utility owners and operators?
- Q6- In general, during an incident, is information shared in a timely manner and is it of use for responding to the incident?
- Q7- In your opinion, which infrastructure and utility owners and operators are of most importance to be involved during an incident?
- Q8- In your opinion, what can be done to improve involvement from infrastructure and utility owners and operators?
- Q9- Do you have any other suggestions and / or relevant information?

WUG Questionnaire

- Q1- Do you think that more can be done to help Risk Management Authorities, Infrastructure companies and utilities operators work together more efficiently and effectively during routine business, or more specifically, during the flood risk incident management process?
- Q2- What working agreements are currently in place that encourage and help Risk Management Authorities, Infrastructure companies and utilities operators to work together during routine business, or more specifically, during the flood risk incident management process?
- Q3- What new or revised agreements are needed to encourage and help Risk Management Authorities, Infrastructure companies and utilities operators to work better together during routine business or operationally through the flood risk incident management process?
- Q4- What can be done to improve clarity of roles and responsibilities between professional partners?
- Q5- How effective do you feel the Wales Utility Group is at encouraging collaborative working between Risk Management Authorities, infrastructure companies and utilities operators?
- Q6- Do you feel the role of the Wales Utility group could be extended to enable better collaborative working between Risk Management Authorities, infrastructure companies and utilities operators?
- Q7- Are there any regulatory barriers that prevent effective and efficient collaborative working between Risk Management Authorities, infrastructure companies and utilities operators and with other organisations?
- Q8- Are you undertaking work programmes to increase the resilience of your infrastructure or utility assets?

Trunk Roads Agencies and Network Rail Questions

- Q1 - Do you feel you need improved involvement from other infrastructure and utilities operators plus Risk Management Authorities for routine coastal business and / or during the coastal flood risk incident management process?(If not affected by coastal flooding, please answer on fluvial flooding)

Q2 - What working agreements are currently in place that encourage and help Risk Management Authorities, infrastructure companies and utilities operators to work together through routine coastal business and / or during the coastal flood risk incident management process? (If not affected by coastal flooding please answer on fluvial flooding)

Q3 - What new or revised working agreements do you think are needed to ensure clarity of roles and responsibilities between professional partners and for communities which can enable better interaction on mutual interests?

Q4 - Has your work programme been developed to increase resilience and align with local adaptation plans? If not, are there any barriers that restrict your organisation from doing this?

Q5 - Does your organisation assess / plan for the impacts of climate change scenarios for the short and long-term options? Please expand beyond a Yes or No answer.

Q6 - Does your organisation work close with Risk Management Authorities, and other infrastructure utility operators? If so, please expand on why and how you do this?

Q7 - If your organisation was to work closer with Risk Management Authorities, infrastructure utility operators, which ones would you consider as a priority to be more effective and efficient? Please expand on why and how this can be done?

RMA Questionnaire

Q1 - Do you feel you need improved involvement from infrastructure companies and utilities operators for routine coastal business and / or during the coastal flood risk incident management process?

Q2 - What working agreements are currently in place that encourage and help RMAs, infrastructure companies and utilities operators to work together through routine coastal business and / or during the coastal flood risk incident management process?

Q3 - What new or revised working agreements do you think are needed to ensure clarity of roles and responsibilities between professional partners and for communities?

Q4 - Are you aware of the Wales Utility Group?

Appendix 2 - Project 10 Infrastructure resilience assessment

Organisati on name	Website	Notes on websites to Natural Resources Wales	Contact number	Emergency Contact number	Hyperlinks to Flood Resilience	Flood resilience measures (brief summary)	Hyperlinks for Climate change considerations	Climate change considerations (brief summary)
BT	www.btplc.com/	Reasonable links through individual projects	0207 356 5000	0843 479 0295	www.btplc.com/civilresilience/index.htm	BT accomplishes this through its Emergency Response Team (ERT) – a 40-strong band of fully equipped and highly skilled engineers. Largely volunteers, the team’s on permanent standby, ready to respond to emergencies right around the world	www.btplc.com/Betterfuture/news/cdp.htm	Have recognised the change in the climate and have put investment in place.
Welsh Water	www.dwrcymru.com/	Very good - links to Natural resources websites as regulators	Sewerage services and emergencies - 0800 085 3968	Water services and emergencies - 0800 052 0130	www.dwrcymru.com/eng/library/company_reports/pr09/_pdf/B6%20narrative%20FBP%20WSH.pdf	Welsh Water have identified the need to look at asset resilience to flooding which is covered in the hyperlink.	www.dwrcymru.com/en/Environment/Prepared-Enabling-Change.aspx	Welsh Water is the only UK Water and Sewerage Company represented in PREPARED, a €7m European project examining adaptation to climate change.
Dee Valley Water	www.deevallywater.co.uk/	Very good - links to Natural resources websites as regulators	Wrexham (01978) 846946	Wrexham (01978) 846946	www.deevalleywater.co.uk/article_files/186/english/dvw_ccp_report_issue_d_2-12-13.pdf	Flood resilience – The sites that were considered to be at risk from flooding will be protected during 2014/15 and we have not included for any further flood defence improvements during 2015-2020.	No Links	No mention of climate change
Severn Trent	www.stwater.co.uk/	Very Poor links on website to Natural Resources Wales	0800 783 4444	0800 783 4444	No links found - some projects reflect the effort to reduce flooding but no overall business strategy	No links found - some projects reflect the effort to reduce flooding but no overall business strategy	www.stwater.co.uk/about-us/environment/climate-change/	Good links about climate change plus their business plan covers it.
Scottish Power	www.scottishpower.co.uk/	Very Poor No links on website to Natural Resources Wales	0800 027 0072 from a landline / 0345 270 0700 from mobile	0800 001 5400 Landline / 03301010400 Mobile	No links found - some projects reflect the effort to reduce flooding but no overall business strategy	No links found - some projects reflect the effort to reduce flooding but no overall business strategy	www.scottishpower.com/news/pages/scottishpower_welcomes_the_newly_created_department_of_energy_and_climate_change.asp www.scottishpower.com/news/pages/scottishpower_join_2020_delivery_group_on_climate_change.asp	Scottish power have created an internal department to deal with climate change. However, no document on website yet.
Western Power	www.westernpower.co.uk/	Very Poor No links on website to Natural Resources Wales	South Wales - 08456013341	0800 6783 105 OR 0800 052 0400 Landline / South Wales 0330 123 5002 Mobile	www.westernpower.co.uk/docs/power-cuts/WPD-Flood-leaflet.aspx	No resilience plan on the website.	www.westernpower.co.uk/docs/social-responsibility/Environment/Climate-Change-Adaptation.aspx	Shows commitment. But no strategy clearly stated

Inexus	www.gtc-uk.co.uk/	Very Poor No links on website to Natural Resources Wales	01359 243311		No links found - no overall business strategy	No links found - no overall business strategy	No Links	No information found on the website
O2	www.o2.co.uk/	No Links	General number with limited open hrs - 034448090202	protect@o2.com	No Links Found - no overall business strategy found on website	No Links Found - no overall business strategy found on website	www.o2.co.uk/thinkbig/blueprint/commitments	No main page dealing with climate change but have recognised the need to adapt.
Vodafone	www.vodafone.co.uk/	No Links	General number with limited open hrs - 0333 3046464		No Links Found - no overall business strategy found on website	No Links Found - no overall business strategy found on website	No link	No plan for climate change stated on website
Wales and West Utilities (gas)	www.wwutilities.co.uk/	No Links	General Enquiries limited opening hrs 0800 912 29 99		No Links Found - no overall business strategy found on website	No Links Found - no overall business strategy found on website	www.wwutilities.co.uk/Environment.aspx?GroupKeyPos=02.05	Very little stated on climate change on website
Royal Mail	www.royalmail.com/	No Links	General Enquiries limited opening hrs 03457 740 740		No Links Found - no overall business strategy found on website	No Links Found - no overall business strategy found on website	www.royalmailgroup.com/sites/default/files/RMG%20CDP%20Response%202014.pdf	Very little, found except link on different website.
National Grid	www.nationalgrid.com/uk/	Very Good - links to Natural resources websites as regulators	General Enquiries Limited opening hrs - 0845 835 1111		www.nationalgridconnect.com/staying-high-and-dry/	Very aware of flooding resilience and have taken great steps to be prepared for flooding. Indicated further investment.	www.nationalgrid.com/responsibility/how-were-doing/grid-data-centre/climate-change/	Very good information. Going into great depth.
Network Rail	www.networkrail.co.uk/	Very Good - links to Natural resources websites as regulators	08457 48 49 50	08457 11 41 41	www.networkrail.co.uk/western-route-wrcca-plan.pdf	Very aware of flooding resilience and have taken great steps to be prepared for flooding. Indicated further investment.	www.networkrail.co.uk/wales-route-wrcca-plan.pdf	Very good information on website. In addition, great depth.
Trunk Roads Agency - North /Mid	www.nmwtra.org.uk/	No Links	01286) 685 186	0300 123 1213	No Links Found - no overall business strategy found on website	No Links Found - no overall business strategy found on website	No Links	No information on website
Trunk Roads - South	www.swtra.co.uk/	No Links	0300 123 1213	0300 123 1213	No Links Found - no overall business strategy found on website	No Links Found - no overall business strategy found on website	No Links	No information on website

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