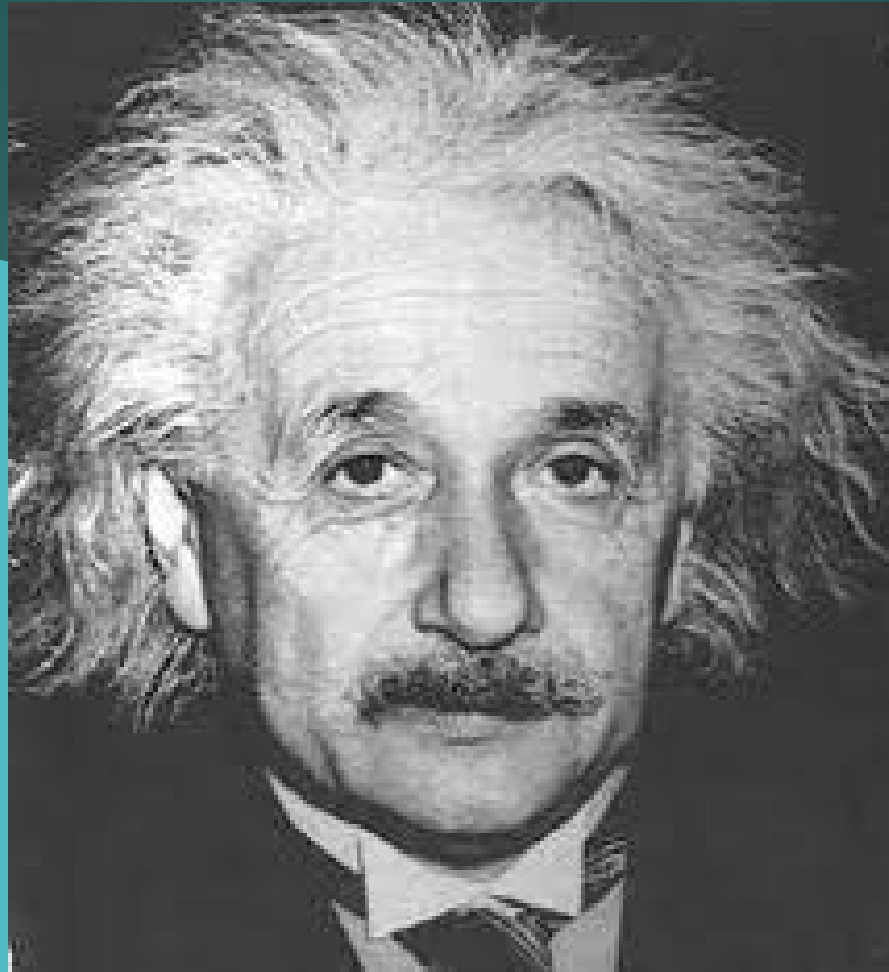


The UK's Nuclear Expansion Programme and..... Ireland



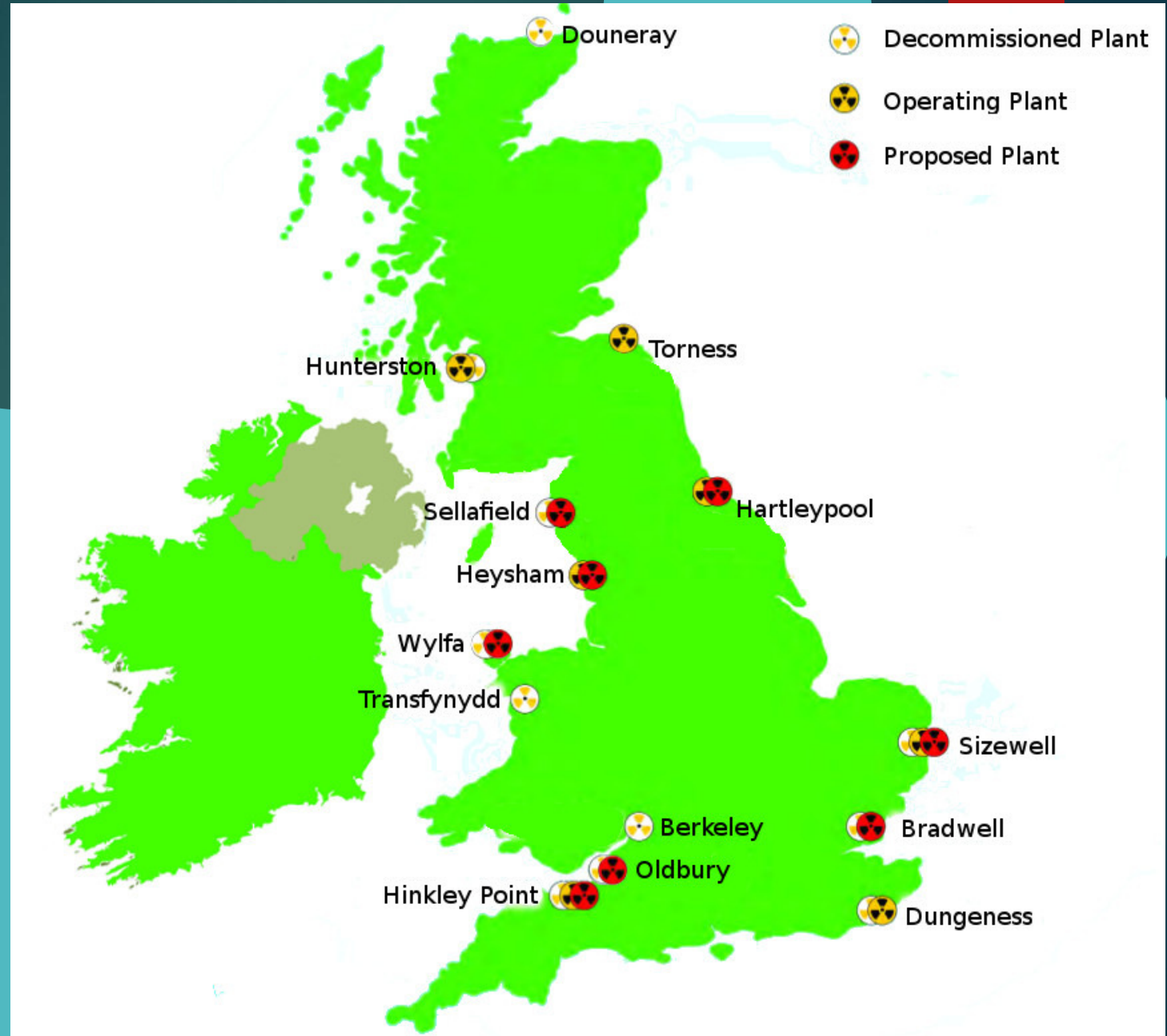
I am not a scientific boffin !



Overview

- ▶ What's happening?
- ▶ Key Dates:
 - ▶ **April 17th**, Tuesday week - Hinkley Point C Nuclear Power Plant
 - ▶ **April 19th & 20th** Thursday & Friday week – other elements
- ▶ Rights!
- ▶ Some concerns about the approach to the consultations
- ▶ Some specific considerations about the project proposals
- ▶ Call to action & Q&A & discussion
- ▶ **Not about panicking people this is about your rights & our preparedness**

UK Nuclear Power Plant Overview - Simplified



Criteria to select sites for deployments of > 1 GW post 2025 to 2035

- ▶ Consultation – concluded on 15th March 2018
- ▶ Irish Government was notified by the UK
- ▶ Consultation was not extended to the Irish public
- ▶ German Government extended it to the German public

Ooops ...

Nuclear Power meansNuclear Waste



- ▶ Massive legacy waste issue
- ▶ Expansion programme advanced without a solution in place
- ▶ Proposals now for Geological Disposal Facilities, GDF for radioactive waste – under ground and sea
- ▶ Consultation with communities “willing to participate in the siting process for a geological disposal facility”, specifically **includes Northern Ireland**



Consultations re Geological Storage of Radioactive Waste

- ▶ Consultation on Policy - concludes : **19th April 2018**
- ▶ UK Gov says no transboundary impact
- ▶ German public being consulted
- ▶ Irish Gov did not understand an SEA was involved
- ▶ <https://beis.gov.uk/citizenspace.com/civil-nuclear-resilience/gdf-nps/>

Calling on Irish Government to exercise its right to be consulted and for this to be extended to the Irish public

- ▶ Consultations with communities 'interested' in siting waste dumps – specifically includes Northern Ireland
- ▶ Consultation re Northern Ireland – **concludes: 19th April**
- ▶ <https://www.beis.gov.uk/consultations/working-with-communities-sal>
- ▶ Consultation re Wales – **concludes: 20th April**
- ▶ <https://beta.gov.wales/geological-disposal-radioactive-waste>

Calling for early and effective engagement when all options are open – proactive engagement by Irish Government to allow for Irish public & agencies input

Our real world reality



Consultation Rights?

▶ International UN Conventions:



▶ Espoo Convention

- ▶ “Environmental Impact Assessment in a Transboundary Context, 1991”
- ▶ SEA Protocol, 2003, “Kiev Protocol”

▶ Aarhus Convention

- ▶ “Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, 1998” (activities, projects, plans, policies, laws)

- ▶ Ireland, the UK are all parties to these conventions, and the EU ...

▶ EU Directives:

▶ (SEA Directive)



Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment

▶ (Environmental Impact Assessment Directive), EIA

“Directive 2011/92/EU, (codified) on the assessment of the effects of certain public and private projects on the environment”, amended by 2014/52/EU

Basis for 'transboundary' consultation

- *simplified*

- ▶ State of origin determines there's a risk of impacts, **or**
- ▶ Another state requires to be consulted regardless of the state of origin's assessment of risk
- ▶ Both engage to ensure public in state affected are consulted
- ▶ Some key considerations:
 - ▶ 'Early' participation 'when all options are open'
 - ▶ 'Effective' consultation
 - ▶ 'Without discrimination'

UK Position re Hinkley...

- ▶ “On the basis that licensing and monitoring conditions are effective, impacts will not be significant.” Screening Statement on transboundary impacts
- “ ..such accidents are so unlikely to occur it would not be reasonable to “scope in” such an issue for environmental impact assessment purposes”
Secretary of State's Decision Letter
- ▶ “Technically possible” to have GDF for waste, but no site agreed ...
- ▶ Differences in approach to theory v reality ...
 - ▶ Accidents = theoretical : discount
 - ▶ GDF Waste = theoretical : accept
- ▶ UK Regulatory approach so robust :



Court Challenges & Complaints

- Because accidents happen !



Sylvia Kotting-Uhl

Mitglied des Deutschen Bundestages

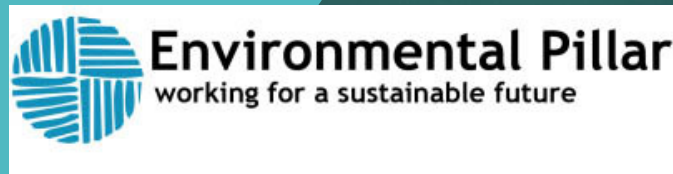


Brigitte Artmann



Sylvia Kotting-Uhl

Mitglied des Deutschen Bundestages



UN Committees found UK non-compliant

Espoo Implementation Committee recommendations:

- ▶ Contact with parties to see if they wished to be consulted, and if so to initiate the notification procedure
 - ▶ Party Consultation & Consultation with the Public
- ▶ July 28th 2017, UK initiated the consultation up to October 20th
- ▶ Public in Germany, Netherlands, Denmark consulted ..but not Ireland!
- ▶ Environmental Pillar tried to engage with UK & Irish Government requesting extension so Irish public would be consulted.
- ▶ Nov 2017 we escalated this failure by Ireland & the UK back to Espoo Committee
- ▶ Espoo Letter, Dec 22nd 2017 confirming the right of the Irish public to be consulted
- ▶ Current Consultation ..initiated February 20th – April 17th 2018
- ▶ 5 years late ...planning permission granted on March 19th 2013

Late.. BUT not too late

- ▶ Transboundary Impact Screening Flawed – analysis by Emeritus Prof John Sweeney, NUIM (follows)
- ▶ Transboundary Impact Assessment needed:
 - ▶ specification of additional requirements & mitigations, implications for other plants..
- ▶ What if....
 - ▶ ESRI 2016 Report: losses of “€161 Billion” – conservatively estimated
 - ▶ Agriculture : “Lost”

The Potential Economic Impact of a Nuclear Accident - An Irish Case Study, ESRI

<https://www.esri.ie/pubs/BKMNEXT313.pdf>

- ▶ HSE: Irish Times “No capacity” to deal with any nuclear incident

<https://www.irishtimes.com/news/irish-news/hse-has-no-capacity-to-deal-with-nuclear-or-biological-incident-1.383112>
January 22nd 2018

- ▶ RPII report: Assumes mitigation by sheltering - but how realistic ?

Proposed Nuclear Power Plants in the UK, Potential Radiological Implications for Ireland, RPII

http://www.epa.ie/pubs/reports/radiation/RPII_Proposed_Nuc_Power_Plants_UK_13.pdf

- ▶ Ireland’s capacity and readiness & response times for emergency response = ?
- ▶ Ability to independently assess adequacy of UK’s proposals?
- ▶ Resolution of outstanding issues – Flamanville and the extent to which the UK regulator is now arguably compromised
- ▶ Brexit...and withdrawal from Euratom treaty!
- ▶ Concerns re Waste from normal operational emissions & spent fuel

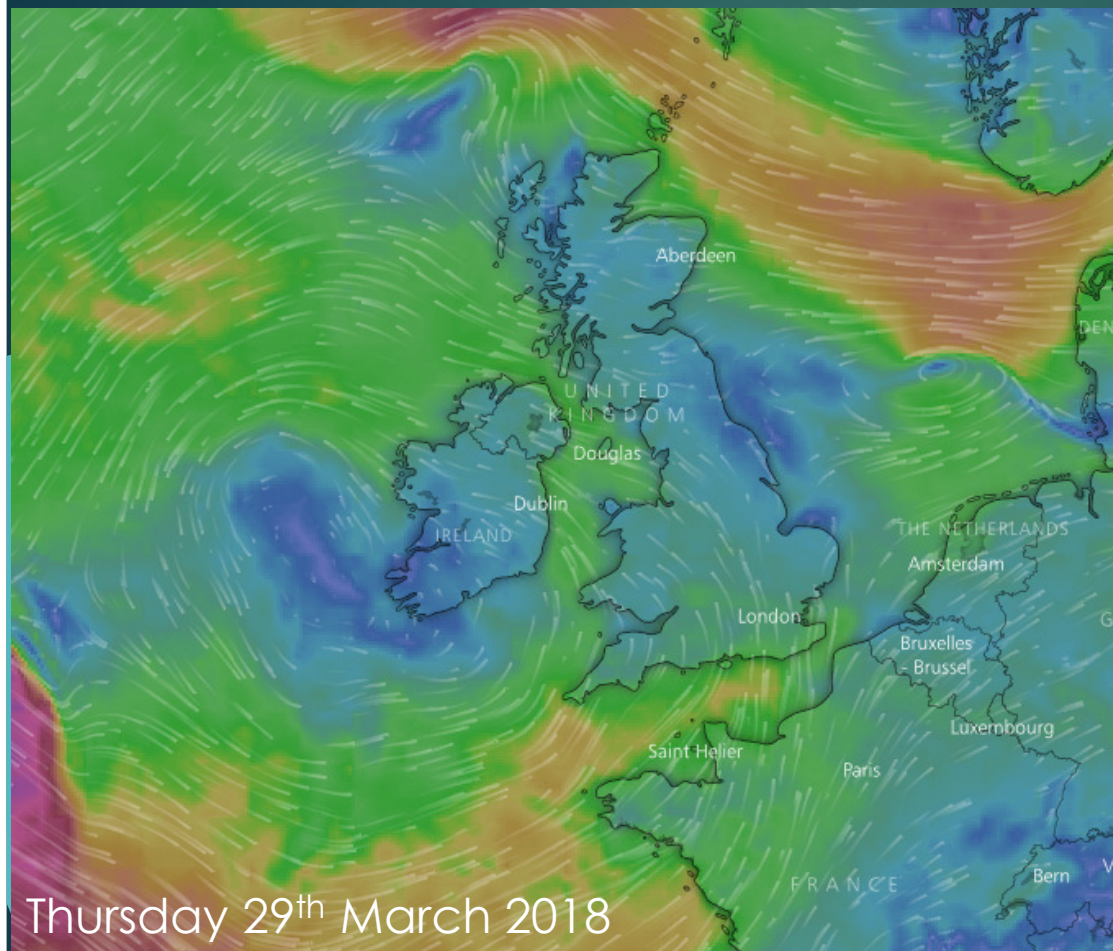
Emeritus Prof John Sweeney, NUIM

Conclusions:

- ▶ Founder and past Director of the Irish Climate Analysis and Research Unit (ICARUS), National University of Ireland Maynooth, NUIM;
- ▶ 35 years teaching and research experience in climatology, climate change and atmospheric pollution at NUIM (approximately 100 publications);
- ▶ Expert evaluator for several EU and international research projects;
- ▶ Contributing Author to the Intergovernmental Panel on Climate Change's 4th Assessment Report;
- ▶ University of Glasgow Ph.D in "The Meteorology and Climatology of Air Pollution in the Glasgow Basin"
- ▶ Former President of the Irish Meteorological Society
- ▶ Fellow of the Royal Meteorological Society

- ▶ **"Aspects of the Environmental assessment submitted by the UK authorities do not provide an adequate risk assessment for flooding and atmospheric dispersion of radioactive effluent in the unlikely event of a worst case scenario occurring."**
- ▶ **"A more active scrutiny of this & future applications for other nuclear power stations is required, particularly for some which will be much closer to major Irish centres of population."**

Hinkley C and Ireland: are the Transboundary Implications Satisfactorily Analysed?



Nominated sites for new nuclear power stations



Source: DECC



Maynooth University
National University
of Ireland Maynooth

ICARUS

Irish Climate Analysis and Research Units

John Sweeney, Emeritus Professor

UK EPR Hinkley Point C Site, Submission of General Data as Applicable under Article 37 of the Euratom Treaty, Secretary of State for Department of Energy and Climate Change, 2011

Comments on the extent to which this provides a satisfactory account of the potential transboundary impact of accidental release of radioactive effluent affecting Ireland

Relied upon in the transboundary screening and in the final decision

Comments confined largely to:

- The basis on which an adequate characterisation of the climatology is provided to underpin calculations of risks associated with changes in climate
- The validity of some model based approaches used to estimate transport potential of effluent to Ireland
- The failure to consider adequately worst case scenarios for Ireland

Considerations in Article 37 submission ..

Chapter 6.3 of the Article 37 submission sets out the “evaluation of the radiological consequences of the reference accidents”. Paragraph 870 states:

“The assessment considers the releases to atmosphere to reference groups in the vicinity of the facility, the Channel Islands, and to the nearest Member State, France”.

Ireland has simply been excluded from this assessment.

Yet the Planning Inspectorate’s Screening Document – acknowledges Ireland is the nearest state:

“The ES states that the distance to another EEA state as 230km (to Irish Territorial Waters) (see sections 7.10 and Table 7E.1 of Appendix 7E of the ES).”

....so why was Ireland omitted from the Art 37 report, who noticed? Who checked?

Characterisation of the wind regime provided by the applicants does not provide an adequate basis for risk calculation frequencies

ARTICLE 37 SUBMISSION FOR HINKLEY POINT C Chapter 1 – The site and its surroundings

Table 1.4 Wind speed and direction – 1999 – 2002 data from Hinkley Point

Start of sector (°)	Frequency of wind speeds in sector (%)							Total*
	Calm	0.5-1 m s ⁻¹	1-2 m s ⁻¹	2-3 m s ⁻¹	3-7 m s ⁻¹	7-13 m s ⁻¹	>13 m s ⁻¹	
0	0.03	0.07	0.28	0.26	0.85	0.17	0.00	1.66
15	0.02	0.07	0.28	0.36	1.20	0.29	0.00	2.22
30	0.02	0.06	0.29	0.37	1.57	0.45	0.00	2.75
45	0.01	0.06	0.26	0.43	2.06	0.67	0.01	3.50
60	0.03	0.05	0.29	0.43	2.31	0.79	0.00	3.90
75	0.02	0.07	0.27	0.41	1.86	0.51	0.00	3.14
90	0.03	0.05	0.27	0.38	1.35	0.28	0.00	2.36
105	0.02	0.09	0.30	0.37	1.35	0.20	0.00	2.33
120	0.02	0.06	0.29	0.50	1.49	0.29	0.00	2.65
135	0.01	0.06	0.26	0.53	1.83	0.28	0.00	2.98
150	0.02	0.05	0.27	0.50	1.81	0.41	0.00	3.06
165	0.01	0.07	0.27	0.61	2.28	0.61	0.00	3.85
180	0.02	0.05	0.28	0.63	3.08	0.81	0.01	4.87
195	0.02	0.05	0.28	0.61	3.34	1.01	0.00	5.30
210	0.02	0.05	0.25	0.52	3.05	0.86	0.00	4.74
225	0.02	0.04	0.23	0.45	2.83	0.94	0.00	4.51
240	0.02	0.05	0.20	0.35	2.58	1.27	0.03	4.49
255	0.02	0.05	0.20	0.35	2.61	1.85	0.08	5.15
270	0.02	0.06	0.24	0.41	2.64	2.56	0.35	6.27
285	0.03	0.05	0.29	0.60	6.14	4.47	0.32	11.89
300	0.02	0.08	0.37	0.96	5.62	2.91	0.07	10.03
315	0.01	0.06	0.33	0.69	2.56	0.91	0.02	4.58
330	0.02	0.05	0.33	0.42	1.00	0.23	0.00	2.04
345	0.02	0.07	0.31	0.36	0.70	0.12	0.00	1.58
All	0.46	1.41	6.62	11.49	56.06	22.91	0.91	99.85
Missing data								0.15

* total dataset – 87,670 hours

- ▶ Using just 3 years of data is wholly insufficient to characterise the wind climate at an individual location. Even if the title of the table is incorrect, a 10 year data set would not provide a satisfactory fingerprint of wind climatology, especially for rare or extreme events which are highly significant in risk analysis.
- ▶ Short-term wind datasets are unsafe as the period of observations may be non representative of conditions applying e.g. over the 60-year lifetime of the proposed development.
- ▶ Although easterly winds are not the prevailing wind directions in Ireland they do occur with significant frequencies and are known to bring atmospheric pollutants from the UK and Europe to Ireland.

Projections of Extreme Low and High Water fail to take adequate consideration of ongoing climate change and are highly relevant to accident potential especially for stored spent fuel

Table 1.7 Extreme high water levels

Return period (years)	AEP	Water levels (m AOD)
1 in 1	100%	7.7
1 in 10	10%	8.0
1 in 50	5%	8.2
1 in 100	1%	8.4
1 in 500	0.2%	8.6
1 in 1,000	0.1%	8.7
1 in 10,000	0.01%	9.0

Intensely radioactive spent fuel is intended expected be stored on site and to remain stored for up to a century after the plant is decommissioned.

After about 30 years operation more radioactivity would be present in spent fuel stored on site than in the reactor core.

Loss of power through flooding was the primary cause of Fukushima.

- ▶ Calculations are based on an assumption of “stationarity”, i.e. that there is not an underlying trend in the data from which the statistics are calculated. Examination of the annual trend in sea level shown by the tide gauge at Hinkley Point administered by the UK Permanent Service for Mean Sea Level shows a clear upward trend, in common with all tide gauges around the southern part of the UK.
- ▶ In addition to an ongoing rise in sea level, water level height is increased further by episodic storm surges. Uncertainty exists regarding how storm activity in the Atlantic Ocean will change over coming decades with climate change and accordingly the ability to calculate long return periods for water height is not possible to substantiate.
- ▶ Extrapolating from a small number of years to estimate chance occurrences over thousands of years is not valid when the database is itself changing all the time. The risk of extreme water levels inducing an accident is thus not validly quantified.
- ▶ The predicted difference between the annual return period and the once in 10,000 years return period is just 1.3m. However, in their recently published 5th Assessment Report the Inter Governmental Panel on Climate Change estimates of sea level rise alone over the next century or so (RCP8.5) is approximately 0.5-1m
- ▶ It is virtually certain that global sea level rise will continue for many centuries, with ultimate rises of up to 3m possible. This means that the high water levels risk table 1.7 cannot be considered credible in its estimates of an increase of 1.3m as a one-in-10,000 year occurrence.

Hinkley Flood Risk

Nuclear power generation, waste and decommissioning sites – Summary of data

Site	New site?	Waste Store?	NDA site?	In IFP? ¹	Elev. ²	HAT? ³	Flood Risk 2010	Flood Risk 2020s	Flood Risk 2050s	Flood Risk 2080s	Comment
Berkeley				Edge	0 to 10	8.6	Yes (low)	Yes	Yes	Yes (medium)	Coast. Sea wall 9.72m AOD
Bradwell				Edge	0 to 5.5	3.0	Yes (low)	Yes	Yes	Yes (high)	Coast. Sea wall 4.6 to 5m AOD
Capenhurst				No	High		No	No	No	No	
Chapelcross				No	High		No	No	No	No	
Culham				No	High		No	No	No	No	
Dounreay				Small	9 to 15	3.0	No	No	No	No	Coast. Long term erosion risk
Drigg				No	High	5.3	No	No	No	No	
Dungeness				Part	2 to 6	4.2	Yes (high)	Yes	Yes	Yes	Coast. Flood and erosion risk. Relies on defences
Hartlepool				Yes		3.3	Yes (high)	Yes	Yes	Yes	Coast
Harwell				No	High		No	No	No	No	
Heysham				No		5.6	Yes (low)	Yes	Yes	Yes	Coast
Hinkley Point				Edge	10 to 14	6.8	Yes (low)	Yes	Yes	Yes (high)	Coast. Relies on defences. Flood and erosion risk.
Hunterston				No	5 to 21	2.0	No	No	No	No	Coast. Erosion risk
Oldbury				Edge	4 to 10	8.4	Yes (medium)	Yes	Yes	Yes (high)	Coast. Relies on defences
Sellafield				No	5 to 30	5.3	Yes (medium)	Yes	Yes	Yes (medium)	Coast. Flood and erosion risk to part of the site.
Sizewell				Edge	3 to 10	1.7	Yes (high)	Yes	Yes	Yes	Coast. Flood and erosion risk. Relies on defences
Trawsfynydd				No	High		No	No	No	No	
Winfrith				No	High	1.5	No	No	No	No	
Wylfa				No	9 to 13	3.8	No	No	No	No	Coast

¹ Indicative flood plain

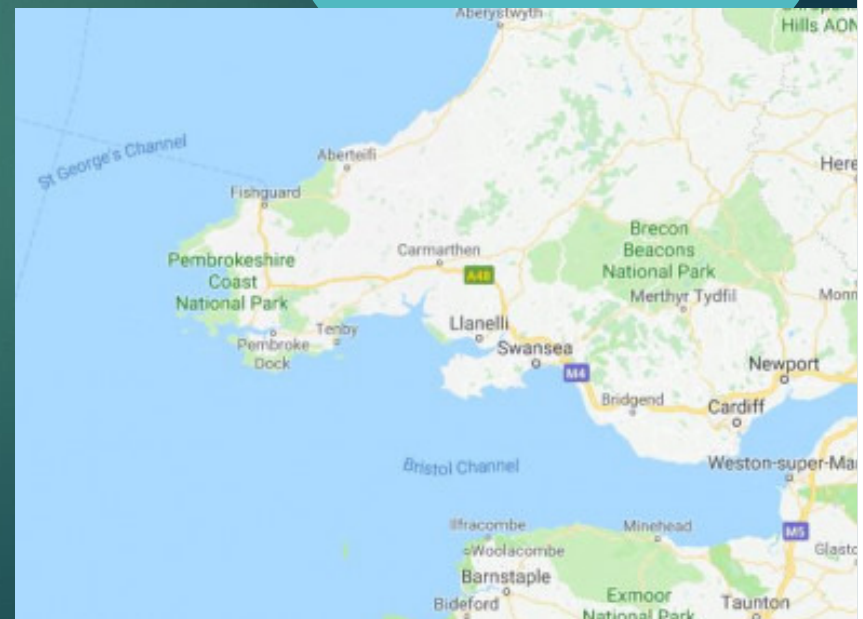
² Elevation in m Above Ordnance Datum (AOD)

³ Highest Astronomical Tide

Saturday 17 February 2018

An earthquake of 4.4 magnitude, thought to be Britain's largest for 10 years, has been felt across Wales and South-west England. Thousands of people reported the tremor, with its epicentre falling around eight miles northeast of Swansea city centre, close to the village of Clydach, according to the British Geological Survey (BGS). The quake was felt across South-west England, with residents in Bristol and Cornwall reporting the phenomenon, and as far away as Carisbrooke Castle on the Isle of Wight, more than 125 miles away.

<https://www.independent.co.uk/news/uk/home-news/swansea-earthquake-south-west-england-wales-a8215521.html>



A possible Tsunami event in the Bristol Channel in 1607



A contemporary wood-cut depicting the aftermath of the 1607 flood in the Bristol Channel.

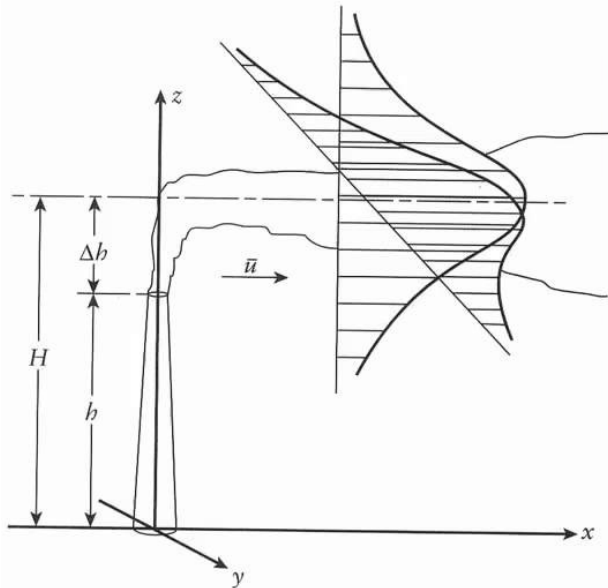
- The 1607 flood in the Bristol Channel and Severn Estuary was the worst ever recorded in the British Isles. Some 570km of coast were affected and 500 deaths occurred.
- 2 Earthquakes were felt in the weeks following the event and increased seismic activity seems to have been behind the tsunami. The most likely sequence of events was that seismic activity triggered a submarine landslide which caused the tsunami to develop.

Fracking and Seismic Risk

- ▶ The Oil & Gas Authority (OGA) announced licences for a **total of 159 blocks** were formally offered to successful applicants under the 14th Onshore Oil and Gas Licensing Round, 17 December 2015, (after the consent was granted to HPC back in 2013). Areas include around Hinkley!
 - ▶ <https://www.gov.uk/government/news/new-onshore-oil-and-gas-licences-offered>
- ▶ Blackpool quakes in April & May 2011 linked to Fracking
- ▶ “Initial studies by the British Geological Survey (BGS) suggested that [the quakes were linked to Cuadrilla’s fracking activities](#). The epicentre of the second quake was within 500 metres of the drilling site, at a depth of 2 kilometres. Less information was available on the first quake, but it seems to have been similar.”
- ▶ The link with fracking has now been confirmed by an independent report commissioned by Cuadrilla, [Geomechanical Study of Bowland Shale Seismicity](#), which states: “Most likely, the repeated seismicity was induced by direct injection of fluid into the fault zone.”
- ▶ “The two geologists who wrote the report ran detailed models to show that the fracking could – and most likely did – provoke the quakes.”

Gaussian Dispersion

- Spread of pollution is **horizontal and vertical**
 - Concentration at any point is related to the probability that a particle will disperse there



How much will it spread out?

“Two models were used to evaluate the consequences of releases of airborne radioactive effluents from the proposed Hinkley Point C facility. For the assessment of consequences to the nearest Member State(s) the atmospheric dispersion model described in National Radiological Protection board (NRPB) – 123 (Jones, 1981a) was used to determine the atmospheric concentrations and ground deposition values.

.. Both models are based on Gaussian plume models”

Guidance issued 5 years later by the model's author

Caveats

- ▶ “The models given in the first report are intended for application to dispersion over **flat terrain of uniform surface roughness** and heat flux. This restriction applies not only to the terrain over which the plume is dispersing but also to **the terrain for some distance upwind of the source.**”
- ▶ “Additionally there should be no nearby large areas where the underlying surface properties are sufficiently different to change the flow conditions significantly. Such situations can occur near to the **coast** or to **large urban areas.**”
- ▶ “The models in the first report are appropriate where the airflow at and downwind from the release point is not affected by **nearby buildings.**”

Relevance

- ▶ Hinkley is situated on the **coast**, adjacent to an **existing buildings complex** and with south easterly winds an area of **complex terrain can be considered to exist upwind** (Mendip Hills).
- ▶ It is not clear from the A37 document what consideration, if any, was given in the modelling exercise to the possible influence of **upwind topography in affecting westward transport and diffusion of an accidental release**

(Jones, 1986).

- Dispersion depends on stability of BL

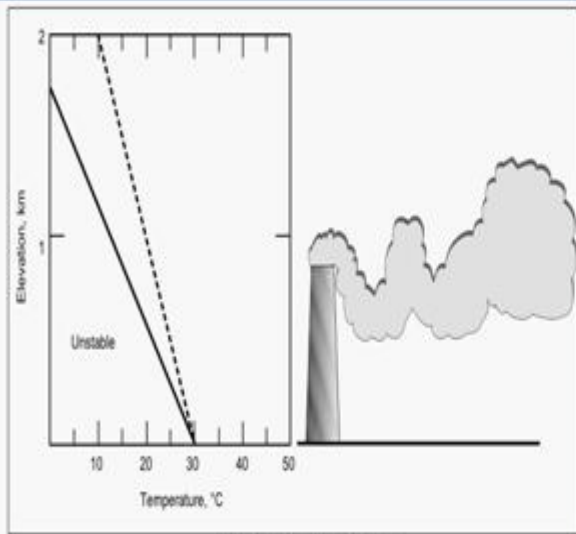


Figure 4-19. Looping plume

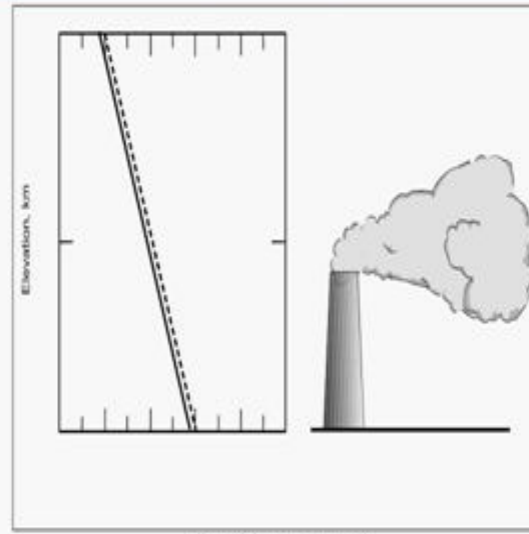


Figure 4-21. Coning plume

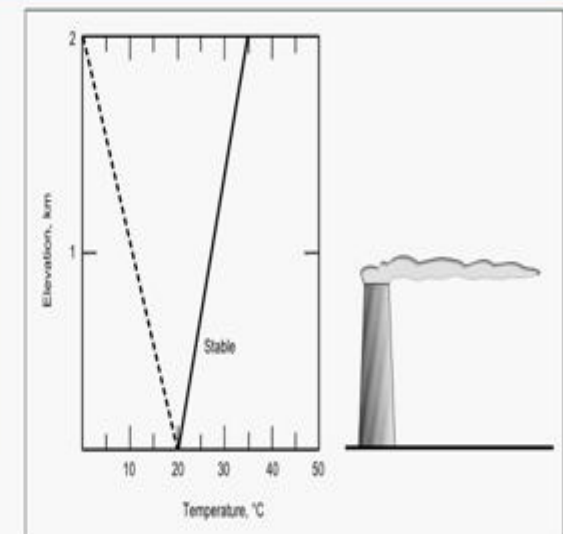


Figure 4-20. Fanning plume

Unstable

Neutral

Stable

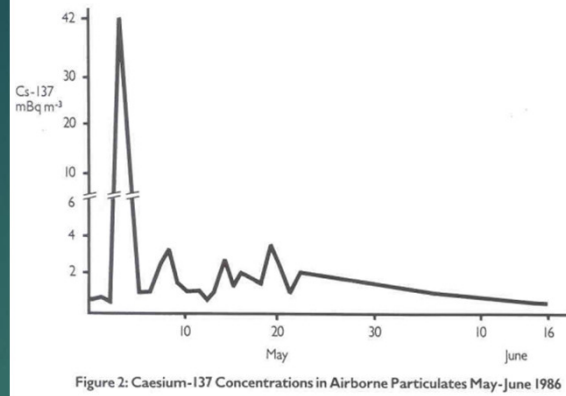
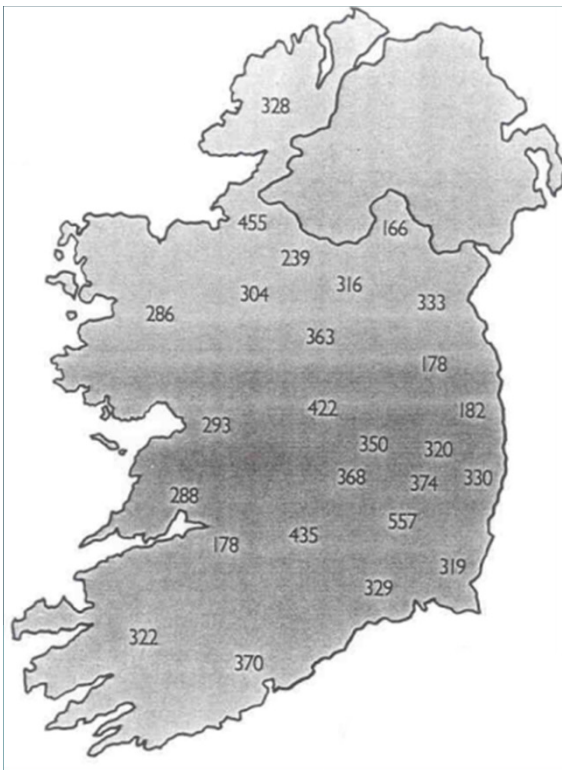


Figure 2: Caesium-137 Concentrations in Airborne Particulates May-June 1986

The level of caesium found in lamb across Ireland between May and June 1986, measured in Bqkg⁻¹.



In the aftermath of Chernobyl in 1986, almost 10,000 upland sheep farms in Wales, Cumbria, Scotland and Northern Ireland had restrictions put on animal movement.

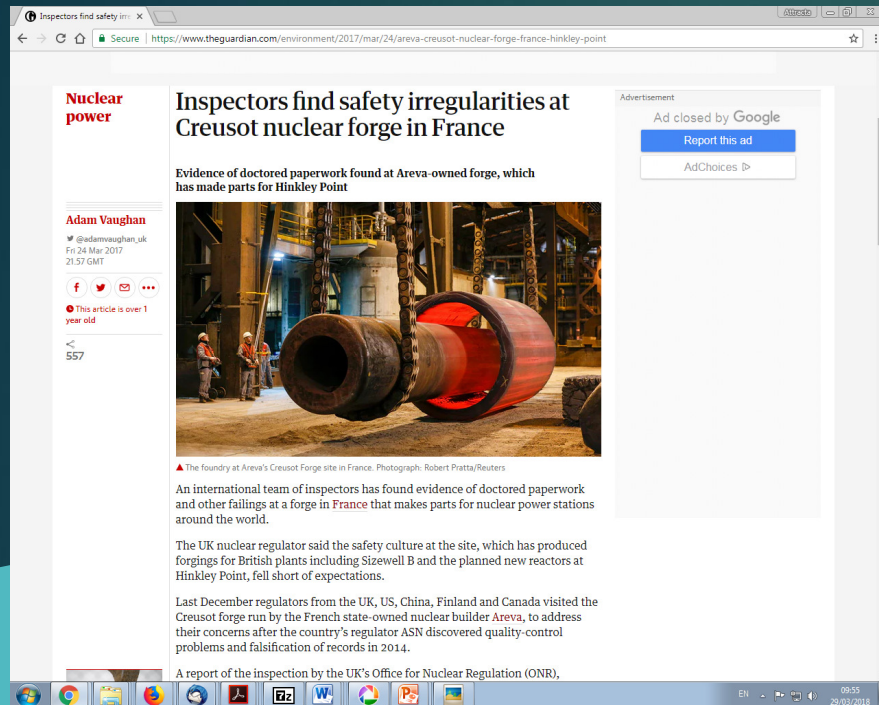
The curbs, which were put in place on food safety grounds, meant that sheep had to be tested for radiation if taken to market.

The last remaining post-Chernobyl restrictions on sheep movements were only lifted in 2012.

Gaussian model used by UK for Hinkley – would not have predicted impacts from Chernobyl to Ireland.

Some Considerations

- ▶ Failure by UK to assess the impacts on Ireland : Issues : ESRI ,RP11, HSE reports.
- ▶ Inadequate assessment of transport risk of radioactive effluent to Ireland, particularly in the event of an accident
 - ▶ Inadequate risk assessment for flooding and atmospheric dispersion of radioactive effluent
- ▶ Beyond design issues
- ▶ Seismic risk profile, particularly given subsequent fracking licences
- ▶ Waste – normal operational emissions: consider the NFLA report
- ▶ Waste – spent fuel: no solution currently, on-site storage, transport risks in the event of a site being found ...to where? Impacts not assessed.
- ▶ Uncertainty consequent on Brexit – given withdrawal from Euratom – (Concerned with safety, waste & transport of nuclear materials)
- ▶ Ability of Ireland to react to mitigate – not assessed
- ▶ Reliance on regulatory regime for post-consent matters, Flamanville III and Le Creusot Forge issue – timeline for Hinkley



- French ASN knew of issues in Le Creusot as far back as 2005
- ASN has no responsibility for parts for plants outside of France
- Parts for Hinkley Point C, HPC were ordered from Le Creusot Forge
- Hinkley parts used in tests – highlighting carbon anomalies ... unpredictable weaknesses
- Timeline for Hinkley Point C squeezed
- RPV for Flamanville 3 – French authorities require it is replaced after 7 years – that is as quickly as a replacement can be sourced!
- Operational window and learning from Flamanville III for HPC is squeezed
- Pressure given UK credit guarantee (funds for Hinkley Point C) expires 2020 !

Call to Action?

- ▶ April 17th – closing date for Hinkley Point C
- ▶ April 19th & 20th Geological Disposal Consultations
- ▶ Communities and organisations largely unaware
- ▶ Teachta Dála ! TD's, and your Senators, and Councillors,
- ▶ Hinkley Documentation: 6,887+ pages + necessary links ~ 1000+
- ▶ + non-material changes – (application consists of 81 entries ..)
- ▶ min.172 pages per day – 5 day week for 8 weeks (no St Patrick's or Easter Bank holidays) ...and then write the submission
- ▶ Calling for:
 - ▶ “Early and effective” engagement when “all options are open”
 - ▶ Proactive policy to ensure Irish public's interests addressed and their right to be consulted vigorously upheld
 - ▶ Fix the “administrative oversights and technical failures” which compromised our consultation rights
 - ▶ Examination of our capacity to respond independently to these consultations
 - ▶ Examination of our capacity to react to an accident

Adequate ?



How to make submission on Hinkley?

Irish Government website with documentation on Hinkley Point C and details on the consultation :

<http://www.housing.gov.ie/planning/other/transboundary-environmental-public-consultation-hinkley-point-c-nuclear-power-plant>

Or visit your Local Authority – Planning Section

on Hinkley by COB April 1

beiseip@beis.gov.uk

& Special email address for your local authority – as provided in the link above

For Wicklow email to : plandev@wicklowcoco.ie

Transboundary environmental public consultation – Hinkley Point C",

cc. (under cc'ing Public Representatives and us)

What about the other consultations – not open to you?

Consider the other consultations also on Geological disposal and siting of new nuclear power plants and if you wish to raise concerns on these.

Currently – these haven't been notified to the public in the Republic of Ireland

You may wish to raise that as an issue with the UK and Irish Authorities and your public representatives.

UK: GDFlanduseplanning@beis.gov.uk GDF-WWC@beis.gov.uk
Welsh Government: EQR@gov.wales - see handout for links

Email addresses for the Irish Ministers which were requested at our briefings are below:

- Minister for Housing Planning and Local Government, Eoghan Murphy, TD
- minister@housing.gov.ie
- Minister for Communications, Climate Action and Environment, Dennis Naughten, TD
- minister.naughten@dcae.gov.ie
- Minister for Culture Heritage and the Gaeltacht Josepha Madigan, TD
- ministers.office@cha.gov.ie

The background is a dark teal gradient. It features several large, overlapping circles in a lighter teal color. In the top right corner, there is a small red rectangle. The text is positioned within one of the large teal circles on the left side.

Thank-you!

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