Title:	Impact Assessment (IA)
Proposed legislation to implement the amended Paris and Brussels Conventions on 3rd party nuclear liability	**Date: March 2012 updated December 2015**
IA No: DECC 0037	**Stage:** Final
Lead department or agency: Department of Energy and Climate Change	**Source of intervention:** International
	Type of measure: Secondary legislation
Other departments or agencies: Her Majesty's Treasury, Office for Nuclear Regulation, Ministry of Defence, Ministry of Justice, Department for Transport, Foreign and Commonwealth Office, devolved Governments	**Contact for enquiries**: Kate Ward **030 0068 5645**

Summary: Intervention and Options

RPC: AMBER

Cost of Preferred (or more likely) Option				
Total Net Present Value	**Business Net Present Value**	**Net cost to business per year** (EANCB on 2014 prices)	**In scope of One-In, Three-Out?**	**Measure qualifies as**
Zero	n/a	n/a	No	NA

What is the problem under consideration? Why is government intervention necessary?

The UK has made an international commitment to implement changes to the Paris Convention on nuclear third party liability, and the Brussels Supplementary Convention, by amending the Nuclear Installations Act 1965 (as amended) (the 1965 Act). These international Conventions have been in place since the 1960s, and the UK applies them through the 1965 Act. The aim of the Conventions is to set an international framework for dealing with compensation for third party damage in the event of a nuclear incident.

Government intervention is needed because legislative change is required to give effect to the changes to the Conventions.

The Conventions deal with issues surrounding compensation following a nuclear incident. The changes to the Conventions upgrade the existing regime and are intended to ensure that, in the event of a nuclear incident, an increased amount of compensation will be available to a larger number of claimants in respect of a broader range of damage than is currently the case. The changes therefore transfer liability, which would otherwise rest with Government, to operators. By transferring this contingent liability there will be a direct cost to operators because they will have to purchase insurance to cover it. At societal level however the policy is estimated to have zero net impact as the current resource cost of Government holding the contingent liability (which is to be transferred) can, for the purposes of this Impact Assessment, be considered equivalent to the future insurance costs for industry.

The Conventions are not concerned with safety standards. Such matters are addressed in other national and international frameworks and through the work of the regulators. We do not therefore consider the increase in operator liability to have a direct impact on operator safety – indeed the UK already has strong safety record with operator liability set at £140m.

What are the policy objectives and the intended effects?

1)To ensure there is fair and easily obtained compensation for third party damage in the event of a nuclear incident.
2) To ensure an increased amount of compensation is available to a larger number of claimants for a wider range of damage as a consequence.
3) Transferring more responsibility for paying this compensation, which would otherwise be with Government, to the nuclear operators.
4) Continue to facilitate the operations of the nuclear industry in the UK, including the development of new nuclear power stations, which contribute to the Government's objectives on security of energy supply and low carbon electricity generation and dealing with the nuclear legacy.
5) Compliance with international Treaty obligations.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The Government consulted on four options for the financial liability level for nuclear operators of standard sites: (1) set operator liability at €700m (the minimum required by the Paris Convention); (2) set at €700m and review after 5 years; (3) phase in €1200m; (4) impose uncapped liability on operators. We have also considered the "do nothing" option of not implementing the changes to the Conventions but that was dismissed due to the fact that we would then not be able to meet our international commitments. The do nothing option is the counterfactual against which the costs and benefits of the preferred option have been assessed.

The Government's final decision is to set operators' liability for standard sites at €1200m, phased in from €700m over 5 years. This transfers the contingent liability, that would otherwise be on Government, to the operator.

Government has also decided to continue to apply the Convention discretion to set a lower limit of liability for low risk sites (of €70m) and to apply a lower liability limit for low risk transport (of €80m), as this is a proportionate approach. Following responses to the consultation, the Government considered the option of setting liability of lower than €1200m for non-power plant sites and has decided to set a liability level of €160m. Government will consult on the definition of such sites.

Will the policy be reviewed? It will not be reviewed. **If applicable, set review date:** N/A					
Does implementation go beyond minimum EU requirements?			N/A		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	**Micro** **No**	**< 20** No	**Small** **No**	**Medium** **Yes**	**Large** **Yes**
What is the CO2 equivalent change in greenhouse gas emissions? (Million tonnes CO2 equivalent)			**Traded:** NA	**Non-traded:** NA	

I have read the Impact Assessment and I am satisfied that, (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) that the benefits justify the costs.

Signed by the responsible Minister: Andrea Leadsom Date: 6th February 2016

Summary: Analysis & Evidence

Policy Option 3

Description: Implement with progressive increase in liability from €700m to €1200m

FULL ECONOMIC ASSESSMENT

Price Base Year 2014	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: zero	**High: zero**	**Best Estimate: zero**

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	zero			
High	zero			
Best Estimate	zero		n/a	**n/a**

Description and scale of key monetised costs by 'main affected groups'

The key cost to business is associated with the fact that nuclear operators are legally required to have insurance or other financial security to cover their liabilities. The anticipated increase in insurance to cover the new liabilities at the higher level (i.e. increase from £140m to €700m rising over 5 years to €1200m) is estimated to be 2-10 times current costs on the basis of evidence received from consultation responses, with a non-weighted average of 7.5 times. (also see Table 4).

The policy is estimated to have a zero net impact at societal level as the increased costs to the nuclear industry represent a transfer of the contingent liability that currently rests with Government. The resource cost associated with Government currently holding the contingent liability is not quantified in Government Accounts but can for the purposes of this Impact Assessment be considered as equivalent to the estimated future insurance costs for industry. Future insurance costs are considered the most appropriate proxy for valuing the Government's contingent liability and hence there should be no increase in overall costs to society as a result of transferring the contingent liability to operators.

Other key non-monetised costs by 'main affected groups'

Under the existing Brussels Convention all parties to it, including the UK, are required to contribute a proportion of the 3rd tier, which currently equates to a total about £100m. The revised Brussels Convention increases the 3rd tier to €300m and the UK will continue to contribute a proportion to it in the event of an incident.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	zero			
High	zero			
Best Estimate	zero		n/a	n/a

Description and scale of key monetised benefits by 'main affected groups'

The transfer of contingent liability from Government to operators, due to the increase in compensation per incident to be met by operators via insurance or other financial security represents a benefit to Government. While the resource cost associated with Government currently holding the contingent liability (which is to be transferred) is not quantified in Government Accounts, the estimated future costs of insurance to the nuclear industry provides a theoretically sound and appropriate proxy value for the future benefit to Government.

As above, overall estimated that there will be zero net impact at societal level as the transfer of contingent liability results in the cost to industry being offset by the reduction in the Government's contingent liability.

Other key non-monetised benefits by 'main affected groups'

Strict and exclusive liability on operators enables claimants' easier access to compensation. This is likely to reduce the legal and administrative costs of making and defending a claim than would otherwise be the case under normal civil law.

The changes may, by improving the clarity of certain definitions, also decrease legal and administrative costs. Compensation available for a wider range of damage and operators' responsibility for personal injury claims is extended from 10 to 30 years (transfer of responsibility from the State). Increased geographical scope means compensation will be available for damage occurred in a wider range of places.

Key assumptions/sensitivities/risks	**Discount rate (%)**

Key assumptions are: (1) the nuclear operator is able to obtain the necessary insurance or financial security to cover their liabilities at the start of the regime (€700m) and beyond (up to €1200m); (2) based on the current number of 30 civil nuclear licensed sites (16 of which are in public ownership through the NDA); (3) the analysis does not distinguish between existing sites and new build. While the mix of sites will change as new plant is deployed, it is likely that in the short to medium term there will be a net reduction in the number of installations as more of the existing plants are decommissioned; 4) assumes the number of low risk sites (e.g. non power plants, fuel fabricators etc) will remain relatively few.

Sensitivities: Future costs are estimated to be 2-10 times current costs with a central estimate of a 7.5 times increase on current costs.

The key risk is that the estimates for increased insurance costs are significantly different to actual costs. We are working with industry and insurers to better understand these costs.

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			**In scope of OI3O?**	**Measure qualifies as**
Costs: n/a	**Benefits:** zero	**Net:** n/a	No	NA

Evidence Base

Note: this Impact Assessment was updated in December 2015, in particular the price and present value base years, Table 3 and the post implementation review section, to reflect more up to date information. The policy basis of this Impact Assessment has not changed.

1. Background

1. The UK has been a Contracting Party to the Paris Convention on nuclear third party liability and the Brussels Supplementary Convention since their inception in the 1960s. Membership of the Convention is largely comprised of Western European states and provides an internationally recognised and robust framework for dealing with third party compensation following an incident. The Conventions are managed under the auspices of the Nuclear Energy Agency of the OECD. The UK implements the Conventions through the Nuclear Installations Act 1965, as amended (the 1965 Act). The Conventions are periodically revised, the last time in 2004. The UK has made a commitment to implement the changes. In order for the UK to be able to ratify these amendments we need to implement the changes in UK law.
2. The revised Conventions significantly upgrade the liability regime and are intended to ensure that, in the event of a nuclear incident, an increased total amount of compensation will be available to a wider set of victims in respect of a broader range of damage than is currently the case. The changes to the regime are in response to a recognition that the current regime does not adequately reflect the scale or scope of damage incurred as a result of a large scale accident. The introduction of the environmental heads of damages in particular reflects the more general recognition of the adverse impacts of damage to the environment and the "polluter pays" principle.
3. It is worth noting that the Conventions deal with issues surrounding compensation following a nuclear incident. The Conventions do not deal with safety standards - such matters are addressed in other national and international frameworks and through the work of the regulators. We do not therefore believe the changes in operator liability have a direct impact on safety – indeed the UK already has strong safety record with operator liability set at £140m.
4. One key effect of the changes will be to transfer more responsibility for funding compensation from Government to nuclear operators than is currently the case.
5. The 2004 Convention amendments fall into three main areas: categories (heads) of damage, geographical scope and financial levels. Briefly the changes are:
    - to **extend the categories of damage** for which compensation is required to be paid, including (i) economic loss arising from property damage or personal injury up to 30 years; (ii) costs of measures of reinstatement of impaired environment; (iii) loss of income deriving from a direct economic interest in any use or enjoyment of the environment; and (iv) the costs of preventive measures.
    - **to extend the geographical scope** of the Paris Convention to include certain non-Convention countries; and
    - to substantially **increase the level of liability per incident for standard sites to a total of €1500m**. This will be made up of three tiers:
        (a) the first tier sets a minimum liability level on the operator of €700million (an increase from the current level of £140m in the UK) under the Paris Convention;
        (b) the second tier, under the Brussels Convention, to be provided by public funds from the country in which the installation is located and is the difference between the operator's liability under tier 1 and €1200m (so if operator liability is €1200m, there is nothing for Government to pay);
        (c) the third tier provides additional funding through contributions from all countries party to the Brussels Convention and is €300m in total. Government would have to contribute to this even if operator liability is unlimited.
6. Further details on the Conventions and the changes are set out in:

- Annex 1: The Conventions – background, the key principles and the changes we are required to implement
- Annex 2: Summary of operators holding nuclear site licences in the UK
- Annex 3: Implementation options considered at the consultation stage.

7. One of the fundamental principles of the Conventions is the requirement on operators to have insurance or other financial security to cover their liabilities. The aim of this requirement is to ensure that operators always have sufficient funds to meet any claims for compensation. The costs of the regime therefore are largely around the costs of cover for operator liabilities. The key change for the purpose of this Impact Assessment will therefore be the increases in insurance premiums or the cost of alternative financial security. In the UK the requirement for insurance/financial security is imposed by section 19 of the 1965 Act on operators with nuclear site licences. The requirement will also be imposed on operators of disposal facilities for low level waste who are not obliged to have a nuclear site licence. Where the Government is the operator (i.e. the MoD), the insurance/financial security requirement does not apply.

Consultation

8. The Government carried out a consultation on its proposals to implement the Convention changes in UK law between 24 January and 28 April 2011. 83 responses were received, of these 1 was from a Member of Parliament, 1 from a Government Agency, 3 from local authority representatives, 14 from NGOs, 18 from nuclear industry organisations (including nuclear operators, trade associations, waste operators, insurance representatives), and 46 from members of the public.

Who will be affected by the proposed changes?

9. All nuclear operators i.e. those who are covered by the liability regime in the 1965 Act will be affected. However, the greatest impact will be on those operators who are required to have insurance or other financial security under the 1965 Act (namely those with nuclear site licences under the 1965 Act and the operators of disposal facilities for low level radioactive waste).

10. Nuclear site licensees can be sub-categorised in terms of:

    - Standard sites i.e. such as power stations, which are subject to the full liability level. In the UK the current level of liability for these sites is £140m per incident; and
    - Low risk sites - the criteria for which are set out in the Nuclear Installations (Prescribed Sites) Regulations 1983 (the Prescribed Sites regulations) - which in the UK have a current liability level of £10m.

11. The liability regime also applies to the transport of nuclear materials by these operators.

12. At present operators hold 37 nuclear site licenses in total under the 1965 Act of which 30 are civil sites (see Table 1) and 7 are military use sites. A list of current operators is at Annex 2.

Table 1: Distribution of civil nuclear site licenses

Civil nuclear operators	Number of licensed sites
Nuclear Decommissioning Agency (Government body)	16
Others	12
Of which: 'low risk' sites	2

2 Options for implementation

Non-implementation/non-regulatory approaches

13. The option of not implementing the revised Conventions into UK law was considered. However, this was ruled out as a plausible option because the UK has made a commitment to meet its international Treaty obligations. In addition, if the UK does not implement the changes it would prevent ratification by other EU member states Contracting Parties, because an EU Council Decision requires all EU parties to ratify at the same time. The option for "non-implementation" is the counterfactual against which the costs and benefits of the preferred option have been assessed.

14. A non-regulatory approach was also ruled out because the changes need to be made in UK law to allow potential claimants a legal basis on which to make claims. Regulation is also required to provide regulatory certainty to operators and those who will provide them with insurance.

Implementing Options

Table 2 - liability limits - summary of final preferred option

Type of installation	Liability level
Standard installations (e.g. power plants, spent fuel processing)	€700m rising in €100m steps to €1200m over 5 years
Prescribed (low risk sites)	€70m
Low risk transport	€80m
Intermediate sites e.g. nuclear fuel fabricators, some waste operations	€160m

Standard installations

15. The consultation Impact Assessment (published in January 2011[1]) set out the four options that were considered in setting the operator liability level and the insurance/financial security limit as follows:

    Option 1: at €700 million per incident (the minimum required under the Conventions);

    Option 2: at €700 million per incident at the start of the regime and with a review after 5 years

    Option 3: **The preferred option**: to set operator liability at €1200 million per incident (i.e., effectively transferring to the operator a further €500m which would otherwise fall to be paid by Government), but introduce this progressively by imposing a level of €700 million when the new legislation comes into force and raising the level by €100 million each year to €1200 million. The level of insurance cover or other financial security will need to match the liability increases.

    Option 4: Impose uncapped liability on operators

16. All of these options are a significant increase in liability from the current level of £140 million for standard nuclear installations. Annex 3 sets out further information on each of the Options.

[1] Consultation impact assessment - January 2011

Consultation response

17. The operator liability level received most comments from respondents to the consultation. The responses were mixed. Many advocated uncapped operator liability whilst others thought that setting the operator cap at €1200m, some €500m higher than the minimum necessary under the Conventions, could disincentivise operators from entering the UK nuclear market. Many of the public responses, and those from non-nuclear industry organisations, argued that operator liability should be uncapped, as a cap would mean that Government would have to pick up the compensation bill where claims exceeded the cap. They highlighted the events at the Fukushima Daiichi nuclear plant in Japan (following the earthquake / tsunami) in March 2011 as an example of the likely level of third party costs.

18. Conversely, some industry respondents argued that setting liability at €1200 million sets an unlevel playing field with operators in other (but not all) Paris countries where liability is set at the minimum €700 million. Other comments were that setting liability at this level would have significant additional costs which may affect viability, investment and competitiveness. In addition there was minor criticism from a separate respondent of the proposal for incremental increase in liability limit to €1200m. A competition assessment is included at page 16.

Government decision

19. The Government has considered the issues, including all the responses to the consultation, in particular the consideration of the arguments for uncapped liability, and has decided to proceed with the proposal it set out in the consultation, namely: to set a operator liability limit of €1200 million (introduced progressively, starting at €700m), with a corresponding level of insurance or other financial security.

20. The arguments for this approach were set out in the Impact Assessment accompanying the consultation document (see Annex 3). In summary these are:

- maintaining an operator cap is consistent with the majority of other Convention countries. The majority are proposing to set operator liability at the minimum of €700m – although some Parties already have or propose to set limits of €1200m or higher (see Table 3, page 10). This limit is also consistent with tiers 1 and 2 of the revised Brussels Convention
- the Convention considers that this achieves an effective solution with a fair balance for operators and victims. It ensures increased guaranteed sums will be available for compensation while limiting liability for operators
- it transfers liability arising after an accident, which would otherwise rest with the Government, to the operator. This means a transfer of €500m when the updated 1965 Act comes into force
- The best way to ensure safety is to have a robust regulatory regime to ensure the probability of a significant release of radioactive material is kept vanishingly small, while not compromising safety standards by diverting resources to insurance premiums away from safety
- It provides certainty for investors, generally and for nuclear new build, while not being a disincentive for investment or barrier to entry.

21. The operator liability level is being phased in because:

a) the wider insurance market is unlikely to have the capacity to meet the €1200m level immediately. This has been informed by discussions with various operators and the insurance industry. The current UK nuclear insurance pool has capacity for €1200m from the start of the regime but alternative sources of financial security, to fill gaps which the nuclear insurers are not prepared to cover, do not. They will need time to develop the capacity.

b) increasing the level annually will encourage the market to continue to look for innovative solutions e.g. establishing mutuals, developing captive insurers etc.

22. A fuller discussion of the other options is set out in **Annex 3**.

Low risk installations and transport

23. The options proposed in the consultation were:

- To set the same level of liability and insurance/financial security as "standard sites" i.e. €1200m for prescribed (lower risk) sites
- to set the operator liability level and insurance /financial security limit to €70 million per incident for prescribed (lower risk) sites;
- to set a lower liability of €80 million per incident for transport of certain nuclear material which is unlikely to cause large scale third party damage in the event of an incident. Carriage not deemed to be lower risk will have a liability limit of €1200 million (phased-in as for standard sites).

Consultation response and Government decision

24. There was overall support from consultation respondents for the proposal that lower risk installations and transport should have a reduced level of liability. Therefore Government will proceed with its proposals to establish lower levels for these.

'Intermediate' sites

25. An additional issue raised as a result of consultation is the question of the liability level for certain nuclear installations which do not present the level of risk of a nuclear power plant, but still have greater risk than the current limits set for prescribed sites. A number of operators (e.g. Urenco, GE Healthcare and the Nuclear Industry Association) pointed out that applying the same level of liability to all non-prescribed sites was disproportionate to the potential level of damage in the event of an incident. Government considered the risk presented by such sites and concluded that it is proportionate to set the level of liability at €160m, the near equivalent of the current liability of £140m which applies to such sites. Government will consult in due course on the criteria to define these sites.

3. Costs and Benefits

Benefits

27. Setting the liability level for standard nuclear operators at €1200m, phased in from €700m over 5 years, ensures that the contingent liability of €500m (Brussels 2nd tier), which would otherwise fall to Government, is transferred to the operator as well as the increased liability under the 1st tier (around €500m). It means that the operator takes on the maximum liability within the three tier framework of the Conventions, without decreasing the viability of, and investment in, the nuclear industry. As explained in the subsequent section on costs, third party liability costs are estimated to be a relatively small proportion of the overall costs associated with their installations.

28. By phasing in the level we ensure that the insurance market has time to build up sufficient capacity in all the categories of damage. Some categories are new to the nuclear insurance sector, and the full €1200m capacity may therefore not be available for all types of damage from day one. We also believe that this is a fair and pragmatic way of introducing a liability level which is substantially higher than the minimum of €700 million required by the Conventions.

29. Other Convention parties are adopting a range of liability levels, from the minimum of €700m to uncapped. There may be a number of policy reasons as to why each country sets a particular liability level, including the type of nuclear installations, the ownership of installations, or the availability of insurance capacity in its market. Those countries that are proposing uncapped liability for the first time – Sweden, Finland and Switzerland, have nuclear fleets which are owned or largely owned by the State and there are either no new build plans (Switzerland) or relatively modest ones (Finland and Sweden) where the State operator will be leading. However, where a country sets the level at the minimum of €700m it accepts that compensation above this level will be met from public funds. Table 3 below sets out the new liability levels proposed or confirmed by other Convention parties.

Table 3: Revised liability levels in other Convention Party countries

Convention State	**Confirmed or proposed operator liability level and insured amount if different (as at May 2015)** **€m**
Denmark	700
France	700
Greece	700
Italy	700
Norway	700
Portugal	700
Slovenia	700
Turkey	700
Belgium	1200
Netherlands	1200
Spain	1200
UK	1200
Finland	Uncapped with capped insurance of € 700m
Germany	Uncapped with capped insurance of €2500m
Sweden	Uncapped with capped insurance of €1200m
Switzerland	Uncapped with capped insurance of €1200m

30. A further benefit in implementing these changes in the UK is that it enables ratification of the amending Protocols by the other Contracting Parties. Once the revised Treaty comes into force the UK and UK nationals will be better insured against damage from nuclear incidents in other Contracting Party countries.

Costs

Existing nuclear operators

31. For existing nuclear operators the main costs of compliance with the 1965 Act in relation to third party liability are to meet the requirement for insurance, or other financial security, to cover their liability. Under the amended Conventions the liability level will increase significantly for standard nuclear installations from £140 million to €700 million initially and then by €100 million each year over 5 years to €1200 million.

32. In addition to seeking views on the impact of a liability level of €1200 million rather than €700 million, stakeholders were also asked for information on:

    - current actual costs, and additional costs that would arise as a result of the increase in liability
    - if, for commercial reasons, they could not provide actual costs their expectation of the scale of change for costs of insurance/financial security for nuclear sites and transport
    - information on other costs associated with compliance – most notably ongoing legal and administrative costs.

33. Most but not all industry stakeholders provided a response to some of these questions.

34. In their responses operators helpfully provided information on the scale of the likely cost increase but were unwilling to share commercial information about current costs. The estimates provided reflects the fact that operators will now be liable for 6 categories of damage instead of three (consequential economic loss is already covered) , including personal injury now extended to 30 years, and that the level of liability will increase substantially from £140m to €1200m.

35. The estimates provided by industry suggest there would be an increase in insurance premium costs from 2 to 10 times the current levels, with a non-weighted average of 7.5 times current costs forming the basis of the central estimate of future costs.

36. Table 4 below sets out the responses from the nuclear industry.

Table 4: Consultation responses from industry - scale of change for insurance/financial security costs

Company	**Estimated scale of increase from current liability insurance costs**
Respondent 1	10
Respondent 2	10
Respondent 3	5-7
Respondent 4	10
Respondent 5	4-6
Respondent 6	4-8
Respondent 7	4-9
Respondent 8	5-7
Respondent 9	2-10
Respondent 10	8-10
Non-weighted Average*	**7.5**

*Where a range was provided in a response to the consultation, the average of that range was used to calculate the non-weighted average of responses i.e. 7.5 times increase.

37. The estimate of range varies according to the type of operator, continuing uncertainty over which risks will be covered by insurance, and the availability of insurance or other financial security. One operator estimates that the change implied increased operating costs of several million euros across all its holdings (i.e. not just in the UK) although the response does not make clear which categories of cost are covered by its statement.

38. Most operator responses related to standard installations, and there was very little evidence provided of the impact on low risk sites or transport.

39. More specific information on costs has not generally been provided by operators, reasons for this include:

    a. Pricing of insurance premiums is commercially confidential and neither the insurers nor the operators are prepared to share their estimates of cost.

    b. Insurers are unwilling to confirm the availability or cost of insurance to operators or more widely because:

        i. The insurance market is dynamic and the prices and availability of insurance will not be confirmed until the legislation comes into force

        ii. Insurers are only able to assess how much they will cover and at what cost when they see the final legislation

        iii. The new types of liability do not have a claims history

        iv. Each installation is different and the insurance premium is likely to vary from one site to another. Insurance costs may also be dependent on the kind of technology installed, the site and safety measures linked with the plant

        v. Even if the insurers were prepared to share their estimate of premium, they may not be able to provide full cover for the new liabilities. The price of insuring the "gaps" in cover has still to be determined.

40. To the extent that the revised Conventions increase third party liability costs for existing nuclear operators this would lead to a corresponding reduction in profit margins. Information on current operating and third party liability costs for these operators is not publicly available, nor is estimates of the expected value of future third party liability costs. However, for the current electricity generating plants the potential impacts on profitability through the effect on generation costs are not expected to be significant compared to total operating costs. These are explained in more detail below for new nuclear plant, for which generic cost information is available.

41. The transfer of contingent liability from Government to operator therefore imposes a direct cost on operators because they will have to purchase insurance to cover it. At societal level however the policy is estimated to have zero net impact (see paragraph 58 below).

New nuclear operators

42. This regime applies to the existing nuclear fleet but will also apply to any new build installations. We believe, other things being equal, that the real cost of insurance is likely to fall over time. The reasons for this are

    a) insurers will have developed a claims history with the new regime;
    b) there are likely to be more providers of insurance;
    c) Installations built in the future, both here and abroad, are likely to be based on a limited number of generic reactor designs. Such a standardised approach is likely to help insurers establish the technological risks they are taking on at a more global level.

43. The main driver for the costs of insurance is largely the widening of the types of liability, closely followed by the increased geographical scope. The financial level does affect the insurance premiums but the marginal cost of covering €1200m is unlikely to be substantially higher than for €700m. As reflected in the consultation responses, there is significant uncertainty around the increase in insurance premiums for moving to a liability of €1200m, and it was therefore not possible to distinguish between the potential difference in costs between this level of liability and €700m.

44. The absence of information from consultation responses on the value of future costs means that it is difficult to make a precise assessment of the impact of increased insurance costs on the generation costs for new nuclear power stations. Estimates of total insurance costs for new nuclear power stations are however available from a forthcoming study by DECC on the costs of electricity generation technologies[2]. The central estimate for total insurance premiums for nuclear plant is £10,000 per annum per MW of installed generating capacity, equivalent to around 12.0% of total fixed costs per annum (£83,333) per MW.

45. As reported in table 5, fixed operating costs are estimated to account for £11.0/MWh or 11.5% of total generation costs. At around 12.0% of fixed operating costs, total insurance costs are therefore estimated to account for around £1.32/MWh (less than 2%) of levelised generation costs for First of a Kind (FOAK) new nuclear plant. This demonstrates that total insurance costs, of which nuclear third party liability is only one element (other elements include non-nuclear third party cover, business interruption, machinery breakdown, construction risks, crime etc.) are a very small proportion of the costs of electricity generation from nuclear plant.

Table 5: Nuclear Levelised Costs of Electricity – First of a Kind (FOAK) Costs

Breakdown of costs	**Levelised generation costs (£ / MWh)**
Pre Development Costs	6.56
Construction costs	65.7
Fixed operating costs	10.96
Variable operating costs	4.52
Fuel costs	5.42
Decommissioning and waste fund	2.16
Total	**95.35**

Source: DECC Electricity Generation Costs, publication forthcoming in 2016.
Note: 10% discount rate, 2025 start date, at projected Engineering, Procurement and Construction (EPC) costs. 2014 prices

48. To estimate the potential impact of increased 3rd party insurance costs, we have assumed, in the absence of information from operators, that these costs could comprise around 20% of total insurance costs. We have then applied these costs to the estimated increase of between 2-10 times current costs in order to assess the potential impact on the levelised cost of electricity generation from new nuclear power stations.

49. Table 6 below shows that a 2 to 10 times increase would result in third party liability costs of between £0.5 - £2.6 MWh, an increase on estimated current costs of £0.25 MWh, assuming these costs account for 20% of total insurance costs. This would increase the total levelised cost of nuclear by £0.25 - £2.35 MWh, to around £95.6 - £97.7 MWh. Assuming a central case increase of 7.5 times current third party costs would increase the levelised cost by £1.7/MWh to £97.1/MWh. It should be recognised that there are significant uncertainties with all levelised cost estimates, particularly for technologies yet to be deployed in the UK. These estimates should therefore be viewed only as an indication of the potential scale of increase that may result from changes to the Conventions.

50. We would not expect this relatively small increase in generation costs to have a material impact on the attractiveness of investment in new nuclear plant in the UK relative to other electricity generation technologies. As a technology characterised by high up-front capital costs and low operating costs, the competitiveness of nuclear is determined to a far greater extent by any factor that changes the capital costs, which comprise around 75% of the levelised costs of generation.

[2] Department for Energy and Climate Change, Electricity Generation Cost report, publication forthcoming in 2016 . https://www.gov.uk/government/collections/energy-generation-cost-projections

Table 6: Indicative impact of increased third party insurance costs on the levelised costs of electricity generation from new nuclear plant

	Levelised generation costs (£ / MWh)	Comments
Estimates of current costs		
Current estimated levelised cost for FOAK nuclear	95.35	Forthcoming publication in 2016
Of which estimated total insurance costs	1.32	Estimate based on DECC Levelised Cost Analysis
Of which estimated 3rd Party Insurance Costs	0.26	Assumed that 3rd Party Costs account for 20% of total insurance costs
Estimates of future costs		
Estimated 3rd party liability costs	0.5 / 1.9 / 2.6	2 / 7.5 /10 times increase
Implied total insurance costs	1.6 / 3.0 / 3.7	Current insurance costs (ex 3rd Party Costs) plus future 3rd Party estimates of 2 / 7.5 / 10 times increase
Implied incremental levelised costs	0.3 / 1.7 / 2.4	Future insurance costs minus current insurance costs
Implied future levelised costs	95.6 / 97.1 / 97.7	Current levelised cost plus incremental insurance costs

51. We also would not expect a higher level of required financial guarantee in the UK relative to that required elsewhere in Europe or the rest of the world to have a significant influence on prospective new nuclear investors' choice of market in which to invest. Given the expected scale of increased third party insurance costs relative to an initial capital investment of around £10-154 billion for new reactor plant with 2 or 3 reactors, we do not envisage the changes to represent a barrier to entry or to have significant implications for the security of electricity supply.

Legal and administrative costs

52. There was very limited feedback to the question on this issue in the consultation. Several responses commented that improving the clarity of certain definitions would decrease legal and administrative costs. Another respondent pointed out that there would be no increase in costs until there were claims, at which point the operators would incur significantly more costs in defending claims up to €1200m. However, there was no indication of the scale of increase on this particular issue as this would be commercially sensitive.

Government costs

53. As under the current Conventions, there will be costs to Government associated with reviewing and approving operators' financial security or insurance arrangements as required under section 19 of the 1965 Act. We expect there to be an initial increase in costs to Government of carrying out its duty, because of the need to assess new or different forms of financial security. Under the existing Brussels Convention all parties to it, including the UK, are required to contribute a proportion of the 3rd tier, which currently equates to a total about £100m. The revised Brussels Convention increases the 3rd tier to €300m and the UK will continue to contribute a proportion to it in the event of an incident.

54. In addition, we anticipate at this stage is a one off cost to change the civil procedure rules to allow foreign States to bring representative action claims in the UK. The Ministry of Justice advice is that these costs can be absorbed into the routine updating of civil procedure rules.

55. The transfer of contingent liability from Government to operators, due to the increase in compensation per incident to be met by operators via insurance or other financial security represents a benefit to Government. The resource cost associated with the contingent liability currently resting with Government is not quantified in Government Accounts. The estimated future costs of insurance to the

nuclear industry do however provide an appropriate proxy value for the future benefit to Government from transferring the contingent liability.

Costs to the Public

56. We do not anticipate any direct costs to the public in compliance with the new regulations.

Direct costs and benefits to business (One in – Three out)

57. This policy has been agreed with Ministers from the Department of Business Innovation and Skills (BIS) as being out of scope of the One in, Three out rule and no offsetting deregulatory measures will need to be found for this measure.

Societal Impacts

58. The policy is estimated to have a zero net impact at societal level as the increased costs to the nuclear industry represent a transfer of the contingent liability that currently rests with Government. While the resource cost associated with Government currently holding the contingent liability is not quantified in Government Accounts, the estimated future costs of insurance to the nuclear industry provides a theoretically sound proxy value for the purposes of this Impact Assessment. There is a large global capital market which is able to provide reinsurance facilities to allocate this risk at least as efficiently as the contingent liability is allocated among UK taxpayers. As a result, operators can expect to pay a premium that is close to the value of the contingent liability currently borne by public sector. The transfer of liability to operators and resulting increase in insurance premiums is therefore assessed as being offset by the reduction in Government's contingent liability. Overall there should be no overall increase in costs to society as a result of this policy.

Risks and Assumptions

59. The main assumptions are:

    i. the nuclear operator is able to obtain the necessary insurance or financial security to cover its liabilities at the start of the regime (€700m) and beyond (up to €1200m) as higher requirements are phased in;.

    ii. the Impact Assessment is based on the current number of 30 civil nuclear sites (16 of which are in public ownership through the NDA) and does not include military purpose sites (although the liability regime does apply to them);

    iii. the number of low risk prescribed sites is likely to remain relatively small;

    iv. the analysis does not distinguish between existing sites and new build. Both types of sites will fall under the liability regime and require insurance cover. It is likely that over the period there will be a net reduction of the number of installations as more and more of the existing plants are decommissioned;

60. The key risk is that the estimates for increased insurance costs are well short of the actual costs. We are mitigating this by engaging with industry and the insurers to better understand the costs.

4 Wider Impacts

Competition Assessment

61. The Conventions impose a requirement for nuclear operators to have insurance or another form of financial security to cover their liabilities which in general are capped. Non-nuclear companies that operate in the same markets as nuclear companies tend not to have capped liabilities but benefit from the fact that they are not bound by the requirement to have full insurance or financial security to cover their third party liabilities. As explained in the costs section above these different requirements within the electricity generation sector are not expected to have a significant impact on the competitiveness of existing nuclear operators or act as a barrier to new nuclear investment in the UK.

Electricity Imports and Exports

62. The importation and exportation of electricity is limited by the current capacity of interconnections to around 6 per cent of total generation capacity. By 2025, interconnection capacity for the UK electricity market is expected to increase by around 4,000 MW to 11,000 MW. By 2030 capacity could increase by a further 1,000 MW.

63. To some extent increased third party insurance costs will increase generation costs and consequently reduce profits for nuclear operators, but it is expected that this effect will be minimal. Assuming all other costs were equal, EU based generators with lower third party liability limits would therefore be able to obtain higher profit margins on the electricity they export to the UK than their UK based counterparts. In practice, many other factors both regulatory and technical in nature will affect the generation costs and profitability of technologies across the countries party to the Conventions. Any difference in nuclear generation costs across the EU would not affect the operation of the electricity market, as UK based nuclear generators' position in the merit order would not be adversely affected and they would continue to be utilised as baseload plant.

Impact on Wholesale Electricity Prices

64. Under current market arrangements, the electricity price is predominantly set by the short-run marginal costs of flexible fossil fuel fired plant. Low carbon technologies, including nuclear, typically have high capital (construction) costs and low operating costs and as a result low carbon plants are wholesale price takers. Consequently, any increase in the cost of nuclear generation, which as demonstrated is expected to be minimal, will not affect the wholesale electricity price in the UK and therefore will not be passed on to businesses or households via higher electricity bills.

Small Firms' Impact Test

65. There are no nuclear operators that are also small firms. Small firms will not therefore be affected by these arrangements. The amendments to the Conventions will not have a high or disproportionate impact on small firms.

Human Rights Test

66. The following aspects of our implementation of the changes to the Paris and Brussels Conventions may raise human rights issues:

    i. Limiting the amount of compensation available for compensation;

    ii. Procedure for claiming compensation.

67. However, DECC's view is that its proposals will result in a regime that is compatible with human rights. Further detail is provided in Annex 4.

Statutory equality duties

68. DECC's view is that its proposals for implementing the Convention changes ensure that it will satisfy its statutory equality duty under the Equality Act 2010. In particular, the provisions in place in relation to ordinary court proceedings will ensure that equality of opportunity is advanced for those

with protected characteristics who wish to bring proceedings for compensation following a nuclear accident.

Justice

69. Discussion with the Ministry of Justice (MoJ) has established that the changes to court rules as a result of implementing the amended Conventions will not carry significant additional costs, providing the coming in force of the Order fits in with the usual timetable for amending Civil Procedure Rules twice a year. The MoJ has agreed to submit amendments to the Civil Procedure Rule Committee to enable proposed changes to operate in England and Wales. Similar agreements have been obtained with the Scottish Civil Justice Council and the Ministry of Justice in Northern Ireland.

Sustainable Development Impact Test

70. The UK Government's policy is that nuclear energy, as an affordable, dependable and safe form of energy, should be part of the UK's future low-carbon energy mix and that companies should have the option of building new nuclear power stations. Implementing the amended Paris and Brussels Conventions provides certainty to the nuclear power industry and so contributes to the UK Government's objective of ensuring sustainable development.

Greenhouse gas assessment

71. We do not believe that the proposals will lead to change in the emission of Greenhouse Gases. The Conventions relate to compensation for third party nuclear damage. The new requirements will apply to existing nuclear sites as well as those that may be built in the future. The costs associated with complying with the changes to the Conventions will have no material impact on a nuclear operator's decision to stay or exit the market – both of which could have long term greenhouse gas consequences.

Wider environmental issues

72. We do not consider the changes in the Convention to have wider environmental consequences. We do note however that the changes to the Conventions mean that waste disposal facilities used for disposal of low level nuclear waste will, for the first time, fall within the liability regime. We propose to obtain exclusion from the liability regime for such sites, but this may take several years to achieve. During the interim these low level disposal facilities will require to have the necessary level of insurance cover (€70m). We expect this cost to be relatively low and will most likely be recouped from the nuclear operators who use these facilities.

Health and well-being Impact Assessment

73. We do not believe that the changes to the Conventions will have any impact on health, well-being or health inequalities.

Rural Proofing

74. The changes to the Convention will apply equally to both urban and rural circumstances. No special measures will be needed to rural proof the changes.

5 Summary and preferred option with description of implementation plan

75. Implementing the amendments to Paris/Brussels through the 1965 Act ensures the benefits of increased compensation levels and wider scope will be available to victims in the event of nuclear incident. The Government has decided to set a liability level of €1200m (introduced at €700m, increasing by €100m per year over 5 years) for standard nuclear sites and a lower liability level for prescribed sites of €70m and for low risk transport of €80m. Nuclear operators will be required to have insurance or other financial security to meet these liabilities.

76. Implementation will be through amendments to the 1965 Act, by means of an affirmative Order. The aim is to introduce the legislation into Parliament by Spring 2016. However, the coming into force of the change, and hence costs to operators will be dependent on the final ratification of the Paris and Brussels Conventions and is unlikely to be before 1 January 2017.

Post implementation review

77. A review of this legislation, as required by Section 28 of the Small Business, Enterprise and Employment Act 2015, is not appropriate because the regulatory provisions that are being amended are contained in primary legislation, and are outside the scope of the policy objectives as set out in the statutory guidance, which relate to the inclusion of review provisions in secondary legislation.

78. However, one of the revisions of the Paris Convention is the introduction of a review clause at new Article 22(d) which states that 5 years after coming into force a conference will be convened to consider revisions to the Conventions. In addition Contracting Parties may also request such a conference at any time. The review will consider the problems of common interest arising from the application of the Conventions and whether increases in the liability or financial security are desirable. The actual timing, scope, scale and success criteria of any review will be determined by the Contracting Parties. Implementation of the policy will be monitored through regular updates at the biannual meetings of the Nuclear Law Committee of the OECD Nuclear Energy Agency.

6 References

1. Nuclear Installation Act 1965 (as amended)
   http://www.opsi.gov.uk/RevisedStatutes/Acts/ukpga/1965/cukpga_19650057_en_1
2. Unofficial consolidated texts of the Paris and Brussels Conventions, as amended
   http://www.oecd-nea.org/law/Unofficial%20consolidated%20Paris%20Convention.pdf
   http://www.oecd-nea.org/law/Unofficial%20consolidated%20Brussels%20Supplementary%20Convention.pdf
3. Consultation paper on the implementation of the amended Paris and Brussels Conventions on nuclear 3rd party liability
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42743/1182-cons-implement-changes-paris-brussels.pdf
4. Consultation impact assessment
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42747/1184-ia-cons-paris-brussels-conv.pdf
5. Electricity Market Reform White Paper
   https://www.gov.uk/government/publications/planning-our-electric-future-a-white-paper-for-secure-affordable-and-low-carbon-energy
6. Summary of consultation responses and Government response
   https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42757/4874-parisbrussels-government-response-to-consultation.pdf

Annex 1: The Paris and Brussels Conventions: principles and amendments

1. The Paris Convention establishes a regime for the compensation of victims in the event of a nuclear incident. The Brussels Convention ensures that additional resources, over and above those provided under the Paris Convention, are available for compensation through a three tier system. The regime is aimed at ensuring adequate and fair compensation for victims who suffer damage as a result of a nuclear incident at a nuclear installation or during the transport of nuclear substances to and from that installation. Further, recognising that the effects of a nuclear incident do not stop at national boundaries, it aims to provide uniformity in certain basic rules across its signatory countries[3]. The main principles of the regime are the channelling of liability to the operator, strict and exclusive liability, a cap on the liability level, and a requirement that operators have insurance or other financial security to cover their third party liabilities.
2. The Paris Convention is currently based on the following key principles:
   - The operator of a nuclear installation is exclusively liable for personal injury or property damage resulting from nuclear incidents. All claims for injury or damage are "channelled" to the operator and, with limited exception, no other party can be liable. This means victims have an easily identifiable person to bring a claim against in the event of a nuclear incident;
   - The operator is strictly liable for the injury and damage. There is no need for a victim to establish fault on the part of the operator;
   - The operator's liability is capped in amount per incident;
   - The right to compensation expires if legal action is not brought within ten years of the nuclear incident;
   - The operator is under an obligation to maintain insurance or other financial security up to the level of its liability. The aim of this requirement is to ensure that operators always have sufficient funds to meet any claims for compensation
   - Where there is a nuclear incident in a nuclear installation in one Paris Convention country, claims for compensation can be brought against the operator in respect of injury or damage incurred in another Convention country; and
   - In general, the courts of the State where the nuclear incident has occurred deal with compensation claims (irrespective of where the damage has been incurred).
3. The Brussels Supplementary Convention provides for a system to make additional resources available from public funds to compensate victims where the amount needed to compensate victims for damage caused by a nuclear incident exceeds the operator's liability level under the Paris Convention.

Amendments

4. The Conventions have been revised periodically, the last time in 2004. The revised Conventions significantly upgrade the liability regime and are intended to ensure that, in the event of a nuclear incident, an increased total amount of compensation will be available to a wider set of victims in respect of a broader range of damage than is currently the case, and more responsibility for funding compensation will transfer to nuclear operators
5. The 2004 amendments fall into three main areas: categories (heads) of damage, geographical scope and financial levels.

- Damage - the scope of the damage for which compensation can be claimed has been extended. In addition to personal injury/death and property damage, nuclear operators will now be liable for four new categories of damage. These are: (i) economic loss arising from property damage or personal injury; (ii) cost of measures of reinstatement of impaired environment; (iii) loss of income deriving from a direct economic interest in any use or enjoyment of the environment; and (iv) the cost of preventive measures.

[3] The Convention Parties are: Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, Turkey, and the UK.

The time limit for claims for personal injury/death has also been extended from 10 to 30 years. The limitation period for all other types of claims remains at 10 years.

- Geographical scope -The geographical scope of the Paris Convention has been extended so that, as well as requiring compensation to be made available for damage suffered in the Paris countries, it will also require compensation to be made available for damage suffered in certain non-Paris countries (in particular, those without nuclear installations and those with liability regimes that afford equivalent reciprocal benefits[4]).

  The geographical scope of the Brussels Convention is more limited – generally extending only to damage suffered in the countries that are party to the Brussels Convention and their marine areas. This means that the additional funds made available under the Brussels scheme may not be used to provide compensation for damage suffered in Paris countries that are not party to the Brussels Convention[5] and the non-Paris countries mentioned above.

- Financial levels – Contracting Parties must set operator liability of at least €700 million per incident. But Convention Parties are permitted to impose a higher liability level or unlimited liability as well as a lower liability than the minimum for installations and transport of nuclear materials where, in the event of an incident, there is unlikely to be significant damage. Where a liability level is set, operators are also required to put in place insurance or other financial security to cover their liability. The aim of this requirement is to ensure that operators always have sufficient funds to meet any claims for compensation. If unlimited liability is imposed, there is still a requirement to set an insurance/financial security limit of at least €700 million. The Brussels Supplementary Convention ensures that additional resources, are available for compensation through a three tier system:
  - The first tier is to be provided by the operator and corresponds to the level of liability imposed on the operator under the Paris Convention;
  - The second tier is to be provided from public funds made available by the country in which the responsible operator's installation is located and is the difference between the operator's liability level under the first tier and €1200 million (so if an operator level of €700 million is imposed, the second tier amount would be €500 million; by contrast if an operator liability level of €1200 million is imposed, there will be nothing for Government to pay under the second tier unless there is a shortfall in insurance or other financial security);
  - The third tier is to be provided from public funds contributed by all the countries that are party to the Brussels Convention and is €300 million in total i.e. the UK would only contribute a share of this.

- The second and third tiers are activated when the funds in the previous tier are exhausted. Countries may choose to use additional public funds for compensation once the three tiers are exhausted – in the UK this is discretionary and requires Parliamentary approval.

- It should also be noted that the geographical scope of the damage that can be compensated under the first tier (€700 million) is broader than the scope of the damage that can be compensated under the second tier (€500 million) and third tier (€300 million).

- It should be noted that under any option, the Conventions do not permit the State to avoid financial responsibility completely (even if operator liability is unlimited). The UK would be bound to contribute to the third tier for incidents involving installations both in the UK and in other Brussels countries. In the case of an incident involving an installation in the UK, we would be obliged to apply the public funds contributed under the third tier to meet compensation claims.

6. Table 1 below summarises the position currently and as it will be after the revised Conventions have been implemented.

[4] Damage in non-Paris countries that are party to the Vienna Convention on Civil Liability for Nuclear Damage that are also party to the Joint Protocol relating to the application of the Vienna Convention and the Paris Convention would also be covered if the UK also became a party to the Joint Protocol.

[5] That is: Greece, Portugal, and Turkey.

Table 1: Summary of the position pre and post 2004 Paris/Brussels Amendments

	Current as implemented in the Nuclear Installations Act 1965	Amended Paris/Brussels Conventions
Financial levels (on operator)	• £140m (standard site) • £10m (for low risk "prescribed" sites) • Incidents in transit £140m from standard sites; and £10m from prescribed sites *(above this level the government and other Convention signatories provide additional cover, under the Brussels Convention, of up to 300m Special Drawing Rights (approximately £288m on 14.1.2016)*	• Minimum €700m (standard site) • Minimum €70m (low risk installations) • Minimum €80m for low risk transit *(above this level the government and other Convention signatories provide additional cover, under the Brussels Convention, up to €1,500m)*
Categories of damage	1. Property damage 2. Personal injury/death	1. Property damage 2. Personal injury/death **New** 3. Economic loss arising from property damage or personal injury 4. Cost of measures of reinstatement of impaired environment 5. Loss of income deriving from a direct economic interest in any use or enjoyment of the environment 6. Cost of preventive measures
Time limits	• Operator limitation period for property damage and personal injury claims is 10 years. But Government has discretion to cover claims made between 10 and 30 years after an event	• Operator limitation period for personal injury/loss of life increased to up to 30 years. • Operator limitation period for all other types of claims remains at 10 years
Geographical scope	• Does not cover injury or damage in any countries that are not a party to the Convention	• UK • Other Paris/Brussels signatory states • Non-nuclear states e.g. Austria, Ireland, and Luxembourg that are not a party to the Convention • Vienna Convention countries who have ratified the Joint Protocol (if the UK has ratified the Joint Protocol) • Any other country not party to the Convention but that has reciprocal arrangements

Implementation in other Convention countries

7. We understand that Paris Contracting Parties are adopting a range of liability levels – most are proposing to set the operator liability at the minimum €700m, others at €1200m and some opting for uncapped with a limit on the level of financial security. Sweden and Finland have proposed uncapped liability, but with a limit on the level of financial security - €1200m and €700m respectively. Germany has a long standing system of uncapped liabilities within the context of a retrospective pooling arrangement. Switzerland has also proposed uncapped liability with a financial security

level of €1200m. Spain has also proposed operator liability of €1200m instead of the minimum €700m.

8. There may be a number of factors as to why each country sets the operator liability at the level it does. One probable reason may be the availability of insurance capacity in its market. There may be other wider policy reasons involved in the choice of liability level – the key point however is that a country which chooses to set the level at the minimum €700m accepts that compensation above this level will be met through public funds. Those countries that are proposing uncapped liability for the first time – Sweden, Finland and Switzerland, have nuclear fleets which are owned or largely owned by the State and there are either no new build plans (Switzerland) or relatively modest ones (Finland and Sweden) where the State operator will be leading.

Annex 2: Summary of operators holding nuclear site licenses

The list below summarises the information held on the public register of firms holding nuclear site licenses: http://www.onr.org.uk/licensees/pubregister.pdf

It covers both civil and military use sites.

Operator	Number of sites
AWE plc	2
BAE Systems Ltd	1
EDF Energy Nuclear Generation Ltd	7
Devonport Royal Dockyard Ltd	1
Dounreay Site Restoration Ltd *	1
GE Healthcare Ltd	2
Imperial College of Science and Technology	1
Low Level Waste Repository Ltd *	1
Magnox Ltd *	12
NNB Genco Ltd #	1
Rolls Royce Marine Power Operations Ltd	2
Rosyth Royal Dockyard Ltd	1
Sellafield Ltd *	2
Springfield Fuels Ltd *	1
Studsvik UK Ltd	1
URENCO UK Ltd	1
TOTAL	**37**
Of which, military use	7

*Owned by the Nuclear Decommissioning Authority but managed by separate site licensees.

This is the Hinkley Point C site which has a nuclear site license which came into effect in December 2012, but at the time of writing no nuclear island-related construction had taken place.

Annex 3: Implementation options considered at consultation

Standard sites

Table 1: Operator liability for standard installations - summary of options

Option	Advantages	Disadvantages
1. liability set at €700m (Operators required to have that level of insurance/financial security)	• Complies fully with the Convention requirement to set operator liability level to at least €700m; • Would be in line with the majority of Contracting Parties are proposing to set this liability level. • There is certainty of capacity in the insurance market to meet claims at this level • The UK has an excellent safety record. €700m is significantly higher than underlying claim history	• The amount may be insufficient if incident severe and damages exceed this amount • The 2nd tier of €500m, of the Brussels Convention, would remain to be paid through public funds in the event of a large scale incident
2. Set liability at €700m and then review after 5 years	• As option 1 above • Formalises review process	• As option 1 above
3. Set liability at €1200m and introduce it progressively starting from €700 million and rising by €100 million each year (Operators required to have that level of insurance/financial security.) Brussels tiering system employed for claims over €700m	• Transfer of responsibility for 2nd tier compensation, which would otherwise fall on the taxpayer, to the operator • Ensures that operator takes on fullest amount of liability within the framework of the Conventions • Allows insurance market to build capacity if necessary	• Insurance costs for covering €1200m are likely to be higher than for €700m, thereby potentially putting UK operators at a disadvantage compared to operators in States that are proposing to set operator liability at €700m • The level may be insufficient if level of damage exceeds this amount
4. Set an uncapped liability with requirement to have specified amount of insurance/financial security.	• Operators liable for full costs nuclear incidents	• Government will still need to contribute to the shared liability pool of €300m under the 3rd tier of the Brussels Convention; • Insurance not available for uncapped level • Uncapped liability does not necessarily guarantee unlimited pay-out (i.e. the company may become insolvent before all costs are paid); • Runs counter to the Paris regime in that operators continue to accept the principles of channelling, strict liability and requirement to have insurance.

Option	Advantages	Disadvantages
		• Uncapped liability disproportionate to the likelihood of a catastrophic incident and does not materially increase safety .

1. The changes to the Paris Convention require us to impose a minimum liability level of €700 million on operators. But we are permitted to impose a larger liability level or unlimited liability. Where a liability level is set, operators must also be required to put in place insurance or other financial security up to that level.

Option 1: Set operator liability at €700m

2. Under this option the operator liability would be set at €700m - the minimum required under the Convention.
3. The key benefit of doing so would be that most of the other Paris Convention countries (as described in paragraph 29 above) are setting it at that level. Since the Conventions are about trans-boundary impacts, having a liability level consistently applied across Europe is beneficial. It provides a level playing field in respect of cross border claims, as well as relative consistency of costs for operators who may have sites in more than one country. That said, a number of countries are now proposing to go beyond this level.
4. Another reason why Convention countries may have decided to set operator liability at the minimum level may be down to the fact that there has never been a nuclear third party liability claim within the Paris countries which has exceeded the liability levels set under even the current Paris regime. Setting operator liability at €700m could therefore be argued as striking the right balance between ensuring there is adequate cover for the vast majority of claims and significant enough (coupled with the safety regime) to ensure that the operator does not take his safety responsibilities lightly. Setting the liability to a level higher than this does not in itself increase the safety levels.
5. There may be a number of relevant reasons why countries have opted to set operator liability at the minimum level of €700m. They could include: the lack of capacity in their insurance industry to cover more; the cost of insurance coverage at a higher amount; or the number and nature of the installations that are in their country. What needs to be recognised however is that within the framework of the Conventions total liability for an incident is €1500m, of which the first €1200 million (i.e. the first and second tiers combined) can be made to fall to the operator to pay. The countries which have chosen to set the operator liability only at the minimum €700 million have therefore decided that the contingent liability between €700 million and €1200 million should rest with government.
6. If the UK adopted the same approach then it would mean that the Government would be obliged to contribute up to €500 million, through public funds under the Brussels Convention second tier, in the event of a large scale incident where the compensation claims exceeded the amount of the operator's liability. We consider that public funds should not be used to meet the costs of compensation within the initial two tiers of the Paris and Brussels regime where the market is able to absorb this additional liability and where by doing so we do not create negative impacts on competition. <u>We therefore reject this option</u>.

Option 2 : Set operator liability at €700m and then review in 5 years.

7. This option is the same as Option 1 above but we would propose to review the liability level after 5 years and increase it if necessary. We consider that the option to review on a regular basis is a good one and propose to adopt it for all our options, including our preferred option, Option 3.
8. There will be a number of factors that could determine whether the level should be increased – this could include, for example, the level of operator liability in other Paris States, the available capacity in the insurance market and any claims history developed over the period. We therefore reject this option.

Option 3: Set operator liability at €1200m (which would be phased in)

9. Under this option operator liability would be set at €1200 million, which would be phased in over five years. The €1200 million liability level would be introduced progressively such that at the start of the new regime standard site operators will be liable for €700 million. We will then annually increase the levels by €100 million until liability of €1200 million is reached. The level of insurance cover or other financial security will need to match the liability increases.

10. We recognise that industry may consider that this sets an unlevel playing field with operators in other countries where liability is set and remains at the minimum €700 million. The largest burden from the increased liability will be around insurance costs. Insurance costs to cover €1200 million are likely to be higher than to cover €700 million. However, the additional €500m liability on operators is justified and the increase in insurance premiums to cover it is likely to be relatively small. The main benefit of this option is in the fact that the contingent liability, which would otherwise fall to Government, is transferred to the operator. It means that the operator takes on the maximum liability it can within the framework of the Conventions.

11. By proposing to phase in the level we ensure that the wider insurance market has time to build up sufficient capacity in all the categories of damage. We also believe that this is a fair and pragmatic way of introducing a liability level which is much higher than the minimum of €700 million required by the Conventions. Option 3 is therefore the preferred option.

Option 4: Impose uncapped liability on operators

12. Under this option operators would have uncapped liabilities. The merit in doing this would be to ensure that operator takes on the fullest liability it can after a nuclear incident. However we do not believe that this is a workable solution for a number of reasons. Notably:

    a. *Uncapped liabilities do not guarantee pay out*: imposing an uncapped liability does not guarantee that the operator will be able to pay the full costs of damage. In fact if the damage is sufficiently severe, the operator may become insolvent and unable to pay out. This would undermine the principal aim of the liability regime to ensure claimants are able to obtain compensation.

    b. *Uncapped liability does not permit Government to avoid all liability*. Government would be bound to contribute to the third tier under the Brussels Conventions for incidents both in the UK and in other Brussels contracting states. In addition, the Conventions require Governments to step in if insurance or other financial security is unavailable or insufficient;

    c. *It could deter operators from entering the UK*. Operators exploring investment opportunities may consider the UK a less attractive place to do business compared to the other Paris countries which do not impose uncapped liability;

    d. *Runs counter to the Paris package* - limiting liability under the Paris Convention might be regarded as part of a workable package that seeks to achieve a practical solution for ensuring the availability of compensation in the event of a nuclear incident while balancing the interests of operators, victims and the taxpayer. Although operators benefit from limited liability, they are required to accept other more onerous obligations regarding the provision of compensation than they would have under the ordinary law. It could be argued that imposing unlimited liability upsets the fair balance the package seeks to achieve to the detriment of operators.

13. In the event of a nuclear incident, several different persons (including manufacturers and other suppliers) could be responsible for causing the damage. In all likelihood, under ordinary tort law, victims would have great difficulty establishing which of those persons was legally liable for particular damage. The Paris Convention seeks to address this by "channelling" liability exclusively to operators who are deemed to be liable for the damage irrespective of whether or not they are in fact at fault This means victims have a readily identifiable person against whom claims can be brought without the need to establish fault. In addition, an award of compensation against an operator is only as good as his ability to pay. In the event of an incident, there are likely to be numerous competing claims on an operator's resources and it could be that by the time any litigation is complete or settlement negotiated, there are insufficient funds to pay compensation to victims. The Paris Convention seeks to address this issue by requiring operators to put in place insurance or other financial security specifically to cover their third party liabilities.

14. The most effective way of guarding against catastrophic incidents is to have a robust regulatory regime to ensure the risk of a significant release of radioactive material is kept small. In effect, the nuclear industry is already paying to protect society from a very low probability but high consequence incident through meeting the exacting requirements of the regulatory authorities.

Lower risk installations and transport

15. Under the revised Conventions we can set lower levels of liability for low risk installations or transport where we consider them to be capable of causing only a limited amount of damage. The operator is then only required to put in place insurance or other financial security for that lesser amount. The aim of setting a lower liability is to ensure that the liability and insurance/financial security requirements are proportionate to the level of risk that these special cases present. The establishment of such lower amounts, however, is subject to the condition that the reduced amount must not be less than €70 million in the case of a nuclear installation (prescribed site) and €80 million in the case of carriage of nuclear substances.

16. Setting lower liability does not mean the amount of money available for compensation up to €1500 million is reduced, it simply means a transfer of liability from the operator to the Government above the €70 million or €80 million level.

17. The options available to us are as follows:

    a. For prescribed sites to set the operator liability level and the insurance/ financial security limit at:
        - The same level as for standard sites, or
        - The lower level of €70 million per incident – ***preferred option***

    b. For the transport of nuclear material to set the operator liability level and the insurance/ financial security limit:
        - at the same level as for standard sites
        - set the lower level of €80 million for low risk transport (judged on the basis of existing transport legislation) ***– preferred option***

Lower risk – "Prescribed" sites

Table 3: Operator liability for prescribed sites - summary of options

Option	Advantages	Disadvantages
Liability set at the same level as standard sites i.e. €1200m	• Significantly higher than the minimum necessary (€70m) under the Conventions • Potentially administratively simpler to implement • In event of large scale incident operator is liable for full costs of compensation • Transfers to the operators responsibility for claims exceeding €70m up to €1200m which would otherwise fall on the taxpayer	• Disproportionate level of liability relative to the level of damage likely to be caused by an incident at these sites; • The cost of insurance may be prohibitively expensive for these particular sites
Liability set at €70m (Operators required to have corresponding level of insurance/financial security (**preferred option**))	• Fully complies with the minimum level of liability required for this type of installation under the revised Conventions; • Continues existing UK principle of setting a lower liability level for such sites • Proportionate, targeted and reflects the low risk of significant damage caused by such installations • Other Contracting parties apply similar discretion • The UK has an excellent safety record. €70m is higher than underlying claims history.	• Insufficient if damage exceeds operator liability level and costs would fall on taxpayer

18. The UK currently sets a lower liability level of £10 million for installations which are prescribed under legislation and are considered to pose a low risk of causing significant damage. Essentially the Prescribed Sites Regulations cover small licensed installations that fall within certain limits relating to activity of radionuclides, reactor size and mass of fissile material. In practice there are currently two civil nuclear sites that fall under this category – namely the Studsvik facility and the Imperial College Consort reactor (a closed site).

19. Applying a higher operator liability level could put a halt to valuable activities such as research because of the significant increase in the cost of insurance cover. Even at the new level of €70m this represents a very significant increase from the current £10m.

Table 4: Operator liability for transport of nuclear material - summary of options

Option	Advantages	Disadvantages
Liability set at the same level as standard sites for all types of transport	• Significantly higher than the minimum necessary (€80m) under the Conventions • Administratively simpler to implement • In the event of large scale incident operator is liable for full costs of compensation • Transfers to the operators responsibility for claims exceeding €80m up to €1200m which would otherwise fall on the taxpayer	• Disproportionate level of liability relative to the level of risk these sites actually present; • The cost of insurance may be prohibitively expensive for these particular sites • Does not in itself increase safety of transport activities
Liability levels set according to risk (if practical)	• Recognises differences on material being transported • Proportionate and targeted • Uses existing transport legislation as basis	• Damage may exceed liability level and costs would fall on the taxpayer

Annex 4: Human Rights

The following aspects of our implementation of the changes to the Paris and Brussels Conventions may raise human rights issues:

i. Limiting the amount of compensation available for compensation;

ii. Procedure for claiming compensation.

2. However, DECC's view is that its proposals will result in a regime that is compatible with human rights.

Limiting the amount of compensation available for compensation

3. DECC's proposal is to provide that the total compensation available to victims of a nuclear incident will be limited to €1500 million in the case of claims covered by the Paris and Brussels Conventions, and to €700 million in the case of claims covered by the Paris Convention only.

4. If a victim makes a claim once the relevant compensation 'pot' has been used up, the Nuclear Installations Act 1965 (NIA 1965) will provide a statutory *discretion* on the part of Government/ Parliament to meet the claim from alternative funds.

5. There is a question whether it could be argued that the European Convention on Human Rights - in particular Article 2 ((right to life), Article 8 (right to respect for private life and home), Article 1, Protocol 1 (right to property) in conjunction with Article 13 (right to an effective remedy) – places a positive obligation on the UK to establish a system to ensure the adequate provision of remedies for certain types of damage covered by the Paris and Brussels Conventions and the NIA 1965, such as personal injury, death and property damage.

6. In determining the scope of the UK's positive obligations regard must be had to the need to strike a fair balance between the interests of the individual and the general interests of the community as a whole. Further, the UK will enjoy a broad margin of appreciation in determining the steps to be taken to ensure compliance with any obligation.

7. In DECC's view there are good arguments why its proposals for limiting compensation in the context of the compensation/liability regime in the NIA 1965 do strike such a fair balance. In particular, the regime is aimed at making it easier for claimants to obtain compensation below the limits (through the imposition of strict liability and channelling) and ensuring funds are available to meet claims (through the requirement of financial security). The discretion to award further compensation will however need to be exercised in a manner that is human rights compliant.

Marcic v Thames Water Utilities Ltd [2003] UKHL c.f.

70930/01: *Blumberga v Latvia,* Judgment of 14/10/2008

Procedure for claiming compensation

8. The regime laid down by the NIA 1965 will affect the "civil rights" of both claimants and operators against whom claims are brought. Therefore the regime needs to comply with Article 6 of the ECHR. Article 6 says that in the determination of their civil rights and obligations, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law.

9. Generally, claims for compensation will be brought by means of ordinary court proceedings and therefore the requirements of Article 6 will clearly be met. An exception to this will arise where the funds guaranteed to be available for compensation have been exhausted. As explained above, in this type of case, Government/Parliament will have a statutory discretion to provide compensation. In order to invoke such a claim, an application will need to be made to the "appropriate authority" (usually the Secretary of State) by means of a special non-court procedure (section 16(3)).

10. It may be argued that the appropriate authority will not be sufficiently independent and impartial (in particular, since any compensation would be paid from public funds). There is a question whether a claim for compensation above the liability limits would engage the claimant's "civil rights" since payment of compensation in these circumstances will be discretionary. But, in any event, DECC considers that the regime will be Article 6 compliant because there will be express provision allowing reference to the court. The appropriate authority will be able to refer questions on liability and quantum to the court. Moreover, the claimant will be able to appeal the appropriate authority's decision on any question not already considered by the court (section 16(4)).

11. The NIA 1965 will enable public authorities to claim the costs of reasonable measures to reinstate the impaired environment. Compensation may only be paid in respect of reinstatement measures that have been approved (as being reasonable etc.) by the Secretary of State.

12. It might be argued that the Secretary of State is not sufficiently independent and impartial because he could have an interest in maximising the amount recoverable by public authorities. In some cases the Secretary of State could be the claimant. However, DECC considers that the regime will be Article 6 compliant because the NIA 1965 will make express provision allowing the Secretary of State's decision to be appealed to the court and the court will effectively be able to retake the approval decision (section 11D). In cases where the Secretary of State is the claimant, it will be necessary to appoint a deputy to take the initial approval decision (section 11B(12)).