

# Nuclear Free Local Authorities

# briefing



Date: 8<sup>th</sup> August 2016

No.148

**Subject: Nuclear Third Part Liability: Defining Prescribed Sites and Transport Consultation**

## 1. Overview of report

This model consultation response has been developed by the NFLA SC Policy Advisor and the NFLA Secretary in order to respond to the UK Government's consultation on 'Nuclear Third Party Liability – defining prescribed sites and transportation'.

The updated Government policy, which will require changes to legislation, increases the minimum level of financial liability that must be imposed on a nuclear operator in the event of a nuclear incident from £140m to €1200m. The new regulations will also place a level of liability for accidents involving the transport of nuclear materials of €80m.

The consultation was published by the Department of Energy and Climate Change (DECC), now a constituent part of the Department of Business and Energy Infrastructure Services (BEIS). Responses need to be emailed to [parisbrussels@decc.gsi.gov.uk](mailto:parisbrussels@decc.gsi.gov.uk) by the **10<sup>th</sup> August**.

## 2. Introduction

Amendments to the Paris and Brussels Conventions on nuclear third party liability were agreed by the Contracting Parties (Euratom Treaty members) in 2004. These increased the minimum level of financial liability that must be imposed on a nuclear operator in the event of a nuclear incident from **€140m to €1200m**. Additional public funds are to be made available if the compensation payable is insufficient. These new arrangements are expected to come into force on 1<sup>st</sup> January 2017. (1)

In the NFLA's view, this cap on liabilities is **far too low** and represents a hidden subsidy for nuclear power and the nuclear industry. For example, the March 2011 Fukushima accident has already cost Japanese taxpayers \$100bn (€90bn) despite government claims that the Tokyo Electric Power Company (TEPCO) is footing the bill, according to calculations by the *Financial Times*. (2) Estimates of the total economic loss of the Fukushima disaster range from \$250-\$500 billion (€225bn - €450bn). (3)

To put the new €1.2bn cap on liabilities into some perspective, it can be compared with the \$41 billion (€37bn) that BP has set aside to cover claims arising from the Gulf of Mexico disaster. (4)

Research by *Versicherungsforen Leipzig GmbH*, a company that specialises in actuarial calculations, has shown that full insurance against nuclear disasters would increase the price of nuclear electricity by a range of values— €0.14 per kWh up to €2.36 per kWh—depending on assumptions made. (5) If taking the minimum value, this would add €140/MWh (£119) to the cost of electricity from new reactors making a total of around €250/MWh (£213) – making it much more expensive than renewable energy alternatives and far higher than the already controversial strike price of £92.50 offered to EDF in respect of Hinkley C.

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The NFLA's view, as previously expressed in response to an earlier UK Government consultation on nuclear liability, is that there should not be **any** cap on liabilities for the operators of nuclear power plants. There is no cap on liabilities for operators of other kinds of electricity generating plant such as wind farms or solar farms. ***There should be no special reasons offered to favour nuclear power.*** (6)

### 3. Defining Prescribed Sites and Transport

The Paris Convention allows Member States to set a lower level of liability for operators of so-called 'lower-risk' nuclear sites than the minimum amount for standard sites. The purpose of a reduced liability amount is to reduce the burden on the operator to a level more in keeping with the risk, not to make less compensation available. The UK has exercised this option. There is currently just one category - low risk nuclear sites - and the 1965 Nuclear Installations Act limits the liability of an operator of a low-risk nuclear site to just £10 million. (€12m)

The plan now is to increase the liability for a low risk site to €70m (£59.5m) and to €80m (£68m) for incidents involving the transport of nuclear substances which are unlikely to cause significant third party damage. In addition, there is a new category of 'intermediate risk' for which the liability would be €160m. Altogether, the proposal is to have five categories of 'lower-risk' sites which the Government **says** should have a 'lower level of liability' because this would be commensurate with the scale of risks.

The five categories are:

- (1) The same category of "low risk" site as currently in the 1983 Nuclear Installations (Prescribed Sites) regulations.
- (2) A new category of "low risk" "disposal" site
- (3) A new category "intermediate risk" site
- (4) A new category of "low risk" transport from a nuclear site.
- (5) A new category of "low risk" transport from a "disposal" site.

The consultation gives three options for changing the definition of a 'low risk' site (the first category above). The Government favours an option based on UK legislation for emergency plans (Radiation Emergency Planning Public Information Regulations or REPPIR).

The NFLA is inclined to agree that this is the preferred option, with the following important caveats:

- Given that the maximum liability imposed on the nuclear industry is to be €1.2bn, yet Japan has experienced an accident likely to result in economic damage to a value of 375 times that figure, NFLA calculates that the liability limit for a so-called "low risk" site (at the €70m level it is being calculated at) should be raised to **€26bn**.
- NFLA has previously called for much greater openness and transparency in nuclear emergency planning and a complete review of REPPIR regulations. NFLA notes a lack of public clarity about what the maximum credible accident scenario would be and how the Office for Nuclear Regulation (ONR) calculates the potential impact of such an accident from this information. This makes it difficult for groups like NFLA to determine what the risk level for liability on transport incidents should be. (7)
- The probabilistic risk assessment (PRA) technique used by the nuclear industry and nuclear safety authorities requires the definition of failure scenarios to which probabilities and damage values are assigned. NFLA directs the Government and regulators to consider a new study by American academics Spencer Wheatley, Benjamin Sovacool and Didier Sornette. This argues that statistical or empirical analyses of nuclear accidents have "almost universally" found that PRA "*dramatically underestimates the risk of accidents*". They also point to research demonstrating that PRAs are "*fraught with unrealistic assumptions, severely underestimating the probability of accidents*". The report, which is one of a number in this area, makes the suggestion that the probability of catastrophic nuclear accidents is much more prevalent than the industry claims. As many UK nuclear sites are now having life extensions added to them, NFLA remain highly concerned that the likelihood of a catastrophic incident due to the wear and tear of aging facilities is becoming an increased possibility. (8)

As NFLA has consistently noted, accident scenarios used for emergency planning are not disclosed to the public, and there has been a failure to engage with the public in this area, so it is generally impossible to know whether a so-called 'low risk' site has the potential to cause more than €70m in economic damage.

Emergency plans for any site which has applied to be classified as a low risk site should be open to challenge and alteration through public scrutiny and consultation by the community living in the area.

In terms of the transportation of nuclear materials, at present some highly radioactive materials have been transported by rail and by sea from Dounreay to Sellafield in recent months, with more transports planned in the future. NFLA has repeatedly warned of the potential consequences of an accident or a malicious incident involving such a transport could have. It would require an extensive multi-agency emergency response, potentially complicated by a remote rural location or even more complex offshore marine site, and the environmental and financial consequences of such an accident could be substantial. (9)

NFLA would also be interested to understand if the Ministry of Defence transports of components from the nuclear weapons programme could be covered under this new definition of liability. Such transports go on a regular basis up and down the English and Scottish motorway network and likewise, an accident or malicious incident involving them could occur in a remote rural location requiring an extensive multi-agency emergency response. Defence sites should be covered by the legislation as much as civil nuclear sites.

#### **4. "Low Risk" Disposal Site**

NFLA believe the public (and relevant groups on their behalf) should be given the opportunity to examine the risk assessments and emergency plans used for low level waste sites which are applying for a reduced liability limit. It should even be feasible, given the low number of sites used for low level waste disposal, to list them in the Government's response to this consultation.

There is a huge difference between the potential economic and environmental damage which might be caused by an accident at the Low Level Waste Repository at Drigg and a landfill site used for low level waste disposal. As most landfill sites are in local authority ownership, NFLA recommends that the Government actively explains these proposals to the LGA and COSLA groups on radioactive waste management and nuclear decommissioning, NuLeAF and SCCORS.

The legal situation with regard to the liability of operators disposing of very low level waste also needs to be clarified and spelled out in much more detail.

#### **5. "Intermediate Risk" Sites**

The list of sites in this category includes nuclear fuel fabrication sites. In the NFLA's view, the definition should specifically exclude sites which fabricate fuel containing anything other than low enriched uranium, in particular plutonium or mixed oxide fuel.

Again the public should be consulted on potential risks and accident scenarios which are used to justify an application for reduced liability.

#### **6. "Low risk" Transports**

The proposals here seem to go back to the idea which the other areas above are trying to move away from – grouping radionuclides, rather than using an individual radionuclide basis which better correlates with risk.

The interpretation of the different categories should be made clear to the public and stakeholder groups. What does 'low' and 'intermediate' risk actually mean in respect of the potential impact on the recipient community? The volume, nature and nuclide make-up of any potential accident should be explained along with an acknowledgement by the Government that there is uncertainty and division among experts as to the effect of exposure to these radionuclides.

## 7. Conclusions

NFLA knows from international experience that a site with a liability limited to €1.2bn could have the potential to suffer from an accident which causes upwards of between €225bn and €450bn worth of economic damage, as is currently the status with Fukushima. If the nuclear industry was forced to provide insurance to cover the full level of risk this could add more than €140/MWh to the cost of nuclear electricity, making it almost completely uneconomic. Limiting nuclear liability clearly represents an unfair subsidy to nuclear power.

For NFLA, it is difficult to tell from this consultation document what the potential level of economic damage might be from an accident at a site or transport which it is proposed to categorise as a “low” or “intermediate” risk. Again, NFLA is sceptical that certain types of transport accident would have a limit of €80m liability cost. The current Dounreay to Sellafield transports, for example, contain some highly radioactive materials and an accident or malicious incident involving them could have a significant financial and environmental cost to them.

NFLA believes there should be a much greater level of openness and transparency in nuclear emergency planning and a complete review, and potential overhaul, of the REPPiR regulations. The public should be given much more information about potential accident scenarios used for emergency planning and there needs to be more engagement with the public in this area, so it is possible to assess whether a so-called “low risk” site is justified in applying for a lower level of liability.

It is one thing to say that accident scenarios should not be shared with the public for security reasons, but if a nuclear operator wants, not just limited liability, but a reduced level of limited liability, then the public is being asked to take a share of the risks involved. In the NFLA’s view, it is therefore only fair that the public (as the taxpayer) should be fully informed about what the risks involved are. Local authorities play a very important role in responding to an emergency, particularly the in post-incident recovery stage from financial and environmental costs are calculated. NFLA believe they should be consulted in more detail about this new part of the regulations and given more information from government on a bilateral basis.

The NFLA’s view is that there **should not be any cap** on liabilities for the operators of nuclear power plants or associated facilities.

NFLA’s response to the individual questions of the consultation is attached below, but need to be considered with the detailed content noted above.

## 8. References

- (1) The current maximum level of liability is £140m per incident. This will be increased to €700m, but will continue to increase at €100m annually up to a maximum of €1.2bn. The UK Government will continue to be legally obliged to top up such liability to a cap of €1.5bn, where the relevant third party claims exceed the operator’s €1.2bn cap. See [https://www.ashurst.com/doc.aspx?id\\_Content=13201](https://www.ashurst.com/doc.aspx?id_Content=13201)
- (2) FT 6<sup>th</sup> March 2016 See <http://electricityinfo.org/news/2016/japan-7-3-16/>
- (3) Physicians for Social Responsibility <http://www.psr.org/environment-and-health/environmental-health-policy-institute/responses/costs-and-consequences-of-fukushima.html>
- (4) The Guardian, 1st February 2011 <https://www.theguardian.com/business/2011/feb/01/bp-loss-gulf-oil-spill-resumes-dividend>
- (5) Calculating a risk-appropriate insurance premium to cover third-party liability risks that result from operation of nuclear power plants, German Renewable Energy Federation, 1<sup>st</sup> April 2011 [http://www.mng.org.uk/gh/private/20111006\\_NPP\\_Insurance\\_Study\\_Versicherungsforen.pdf](http://www.mng.org.uk/gh/private/20111006_NPP_Insurance_Study_Versicherungsforen.pdf) See also <http://www.energyfair.org.uk/reports#liabilities>
- (6) Submission of the Nuclear Free Local Authorities to the UK Government’s Consultation on the implementation of changes to the Paris – Brussels conventions on nuclear third party liability, April 2011 [http://www.nuclearpolicy.info/docs/consultations/NFLA\\_P\\_B\\_Liability\\_Response.pdf](http://www.nuclearpolicy.info/docs/consultations/NFLA_P_B_Liability_Response.pdf)
- (7) Fukushima update and its impact on UK & European nuclear emergency planning NFLA Policy Briefing June 2015, [http://nuclearpolicy.info/docs/briefings/A247\\_\(NB133\)\\_Fukushima\\_Nuclear\\_EP\\_update.pdf](http://nuclearpolicy.info/docs/briefings/A247_(NB133)_Fukushima_Nuclear_EP_update.pdf)
- (8) Spencer Wheatley, Benjamin Sovacool and Didier Sornette, „of Disasters and Dragon Kings: A Statistical Analysis of Nuclear Power Incidents & Accidents, Physics and Society, April 2015 <http://arxiv.org/abs/1504.02380> - as noted in WISE / NIRS Nuclear Monitor, May 7th 2015

- (9) See NFLA Policy Briefing 120 and NFLA Policy Briefing 100 on nuclear emergency planning and Fukushima costs

[http://www.nuclearpolicy.info/docs/briefings/A234\\_\(NB120\)\\_Marine\\_nuclear\\_transportation.pdf](http://www.nuclearpolicy.info/docs/briefings/A234_(NB120)_Marine_nuclear_transportation.pdf)  
[http://www.nuclearpolicy.info/docs/briefings/NFLA\\_NB\\_100\\_Nuclear\\_emergency\\_planning.pdf](http://www.nuclearpolicy.info/docs/briefings/NFLA_NB_100_Nuclear_emergency_planning.pdf)

## **9. Annexe – Answers to the Consultation Questions**

1. *Which of the three options for defining low risk sites do you think is best and why? Do you suggest any other options*

The NFLA is inclined to agree with the Government's preferred option subject to the caveats that the proposed level of limited liability is too low; there should be much greater openness and transparent in nuclear emergency planning and there should be a complete review of REPPIR regulations, as noted in more detail above.

2. *Under the various options do the prescribed criteria maintain the position of the currently defined prescribed 'low risk' sites? Is there a possibility that existing licensed sites other than the current 'low risk' prescribed sites could qualify?*

Without further justification NFLA can only assume that the correct figure for limited liability for so-called low risk sites should be around €26bn, so no new sites should be classified as "low risk".

3. *Should we retain fissile material limits? If so, should the limits be based on the limits under REPPIR?*

No comment.

4. *Do you have any suggestion for a different definition for low-risk disposal sites?*

It should be feasible, given the low number of sites used for low level waste disposal, to list them in the Government's response to this consultation. There is a huge difference between the potential economic damage which might be caused by an accident at the Low Level Waste Repository at Drigg and a landfill site used for low level waste disposal, such as Clifton Marsh. The legal situation with regard to the liability of operators disposing of very low level waste needs to be clarified.

5. *Have you any comments on the definitions for intermediate sites set out in the draft Regulations?*

At the very least fuel fabrication plants which use anything other than low enriched uranium should be specifically excluded.

6. *Have you any comments on the proposed criteria to define low risk transport? Are there alternative criteria that could be used to identify low-risk transport?*

As with other categories transports should be assessed on the basis of individual radionuclides because this better correlates with risk. Transports of radioactive materials around the UK can be of quite different size and the amount and level of radioactivity differ accordingly. For example, NFLA has been particularly concerned about recent Dounreay to Sellafield transports which may include material of a high radioactive content.

7. *For nuclear operators – What proportion of transport of nuclear matter from your installation from your installation(s) will be covered by these criteria?*

No comment.