



**Department for  
Business, Energy  
& Industrial Strategy**

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30 March 2017

Dear Mr. Bramhall

**RE: Justification of radiation exposures of members of the public and workers: review of existing practices; New and Important Information**

I am writing in response to your letter of 12 November 2016. You have submitted a request for a review under regulation 10 of the Justification of Practices Involving Ionising Radiation Regulations 2004 (the “Justification Regulations”) of the generation of electricity from nuclear energy using oxide fuel of low enrichment in fissile content in a light water reactor currently known as the EPR designed by AREVA NP (the “EPR class of practice”).

A decision was made by the Secretary of State for Energy and Climate Change in November 2010 that the EPR class of practice is justified under the Justification Regulations (the “EPR Justification Decision”). You have made the request on the basis that new and important evidence about the efficacy or consequences of the EPR class of practice has been acquired. The Secretary of State for Business Energy and Industrial Strategy (who has taken over the functions of the Secretary of State for Energy and Climate Change since the EPR Justification Decision was made – both are referred to without distinction in this letter as the Secretary of State), has considered your request.

Regulation 10 allows the Justifying Authority (in this case the Secretary of State) to consider (either following an application or on his own initiative) carrying out a review of an existing class or type of practice, such as the EPR class of practice, where new and important evidence about the efficacy or consequences of the class or type in question has been acquired. In line with the published Government guidance on justification, the Secretary of State considers “new and important evidence about the efficacy or consequences” of an existing class or type of practice to mean evidence that:

- (a) where there has been a published justification decision, has been acquired since the date of that decision (i.e. since 29 November 2010 in the case of the EPR practice); and
- (b) may significantly change the Justifying Authority’s view of the balance of benefits and detriments associated with the relevant class or type of practice.



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The Secretary of State has considered the information you have highlighted in your request and has received technical advice on it from Public Health England.<sup>1</sup> He has concluded that it does

not represent new and important evidence about the efficacy or consequences of the EPR class of practice because the information would not significantly change his view of the balance of the economic, social and other benefits of the EPR class of practice relative to its potential health detriments.

In making the EPR Justification Decision, the Secretary of State considered the potential health detriments of the EPR class of practice on the basis of the International Commission on Radiological Protection (“ICRP”) system of radiological protection. This system forms the basis of the Euratom Basic Safety Standards Directive<sup>2</sup>, of the International Atomic Energy Agency’s International Basic Safety Standards and, more generally, of radiological protection standards, legislation, programmes and practice worldwide.

Your application argues that the ICRP system of radiological protection is flawed, as it underestimates the potential health risks from radiation. As the ICRP system was used in assessing the potential health detriments of radiation, it would follow that the EPR Justification Decision was similarly flawed. However, taking into account the advice from Public Health England, the Secretary of State is satisfied that your application does not present any sufficiently compelling evidence to demonstrate that the ICRP system is flawed or is not the appropriate basis for assessing potential health detriments of radiation.

Taking some of your specific points:

- (a) Your application refers to the change of the control group in the Japanese A-bomb survivor Life Span Study (“LSS”) and states that this was a methodological error that resulted in incorrect conclusions being drawn from the results of the LSS. The Public Health England advice states that there was a rational and coherent basis for the change of the control group which did not undermine the validity of the LSS’s results.
- (b) Your application claims that the LSS did not address internal contamination. The Public Health England advice notes that internal contamination has been considered for the LSS cohort in some detail, with the conclusion that internal exposures in the LSS cohort were small compared to external exposures.
- (c) Your application refers to the possible impact on the health of Japanese A-bomb survivors from potentially contaminated rain post-blast. The Public Health England advice states that current research does not show a robust association between post-blast rain exposure and acute symptoms of radiation. In addition, your application refers specifically to evidence presented in *Abdale and Others v Secretary of State for Defence*.<sup>3</sup> Although not determinative of the Secretary of State’s conclusions, he has noted the Court’s findings on that evidence. In particular, paragraph 300 of the judgment states:

*“Nothing has emerged from the evidence of the [Battersby/Smith] expert witnesses and the materials they cite to throw any doubt on the ICRP model. Indeed our evaluation of this evidence merely confirms the reasons given by others for rejecting it. The positive case that risk assessment using ICRP is flawed is rejected. The rejection is not a matter of preferring one body of scientific opinion to another, but an acceptance of the consensus of scientific opinion against the unscientific assertions of another body of campaigners.”*

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<sup>1</sup> Public Health England is an executive agency of the Department of Health. It is the UK’s primary authority on radiation protection and its functions include carrying out research to advance knowledge about protection from the risks of radiation, providing expert information and fulfilling an advisory role to regulators, government, the public and others. The advice from Public Health England is attached to this letter.

<sup>2</sup> Directive 96/29/Euratom, which is implemented in part by the Justification Regulations

<sup>3</sup> <https://www.judiciary.gov.uk/wp-content/uploads/2016/12/abdale-v-sosftd-december2016-1.pdf>



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- (d) Your application refers to new evidence of genetic damage as a consequence of the Chernobyl fallout. The Public Health England advice states that international consensus reviews do not support the conclusion that there are increased congenital malformations or hereditary effects in the children of those exposed to radiation in the post-Chernobyl environment or from involvement in clean-up operations. The advice also notes that the alleged evidence does not make clear how the claimed 1000-fold underestimation of hereditary risk was derived.
- (e) Your application sets out a number of calculations based on ICRP risk factors for cancer and heritable damage. The Public Health England advice notes a number of errors in those calculations. The current ICRP relative cancer risk factor is 0.05 per Sievert (not 0.5), and so the risk associated with an exposure of 1 millisievert is 1 in 20,000 (not 1 in 2,000). Similarly, the ICRP estimate for the risk of hereditary disease is 0.001 per Sievert in a working adult population and 0.002 in the whole population; the risk associated with a 1 millisievert exposure for the whole population is therefore 1 in 500,000 (not 1 in 500).

As there is no new and important information about the efficacy or consequences of the EPR class of practice, your request does not satisfy the criteria for an application under regulation 10 of the Justification Regulations and the Secretary of State will not (and cannot) consider carrying out a review of the EPR class of practice.

Yours Sincerely,

Matt Clarke  
Deputy Director  
Nuclear Energy Generation and International  
Department of Business, Energy and Industrial Strategy