NUCLEAR WASTE DISCHARGES INTO THE MARINE ENVIRONMENT (P.106/98): AMENDMENT

Presented to the States by the Policy and Resources Committee and lodged au Greffe on 2nd June 1998 by Deputy A.S. Crowcroft of St. Helier

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NUCLEAR WASTE DISCHARGES INTO THE MARINE ENVIRONMENT (P.106/98): AMENDMENT

In sub-paragraph (c) of the proposition for the words from to express *to* values *substitute the following* -

(c) with reference to the forthcoming ministerial meetings of the OSPAR Commission Member States to express their support for any action that the United Kingdom Government may take to reduce discharges, emissions and losses of radioactive substances into the marine environment with particular reference to the nuclear reprocessing plant at La Hague,

POLICY AND RESOURCES COMMITTEE

Report

The Policy and Resources Committee considered Senator Syvret's proposition in the light of a report prepared by the Environmental Adviser (Appendix attached). The Committee endorses his report and agrees with the opinion that COGEMA operates at La Hague within the terms of its authorisation. Therefore it cannot support sub-paragraphs (a) and (b) of the proposition.

The Committee is mindful of local concerns about the operations at the nuclear reprocessing plant at La Hague and believes that efforts to encourage the reduction of radioactive discharges are in the best interests of the Island. It is aware that the final wording of the OSPAR objective has yet to be agreed before being subject to Ministerial discussion and accordingly is proposing an amendment which supports the principle of reducing nuclear discharges and, at the same time, provides the United Kingdom authorities with an indication of the Island's hopes for the outcome of the OSPAR negotiations.

APPENDIX

P.102, Nuclear Waste Discharges into the Marine Environment

The thrust of Senator Syvret's report is that reprocessing is an inherently dirty operation with an unacceptable risk to human health, and that Jersey residents are subject to that risk without any gains. The report is addressed below under five different headings.

1. Unbalanced information

Reprocessing is one of several methods of dealing with the radioactive fuel elements at the end of their useful life. The process is highly regulated and it is untrue to say that Sellafield and La Hague *are little more than waste dumps used by other nations to avoid having to deal with their own nuclear waste at home.* The contractual arrangements with foreign companies is such that the processed waste **must be returned to the foreign country.**

It has always been the fact that reprocessing plants generate significantly more radioactive waste than nuclear power stations and it is quite normal bearing in mind their respective functions. However they all operate to rigid controls and within their authorised, internationally recommended limits.

Senator Syvret claims that the nuclear reprocessing plants in Europe - Sellafield, Dounreay and La Hague - are responsible for 97 per cent of the radioactive pollution in the marine environment of northern Europe. It would appear that the reference to 97 per cent is derived from a report by the Commission of the European Communities of 1990 (EUR 12483 EN) quoted also in further work by Professor J. Brewer of the Bedford Institute of Oceanography, Canada. The data is based on measurements up to 1984 but, although some qualitative and quantitative changes will have occurred since then, the general breakdown is probably much the same.

However, it is important is to place La Hague in the context of those other discharges and also to place the dose arising from the discharges

in the context of doses from other sources, especially natural radioactivity. According to Brewer, aggregate releases of radionuclides, other than tritium, from La Hague are only about six per cent of those from Sellafield, which is a more appropriate context (see the Table from Report EUR 12483 EN given below).

Site Contributions to Total Discharges to
North European Marine Waters

% Contribution to Discharges

	α-emitters	β-emitters	tritium
Sellafield	95.2	86.9	52.9
La Hague	0.52	5.3	16.4
Dounreay	1.8	6.7	0.33

Comparison with Chernobyl serves a limited purpose without a detailed knowledge of the relative components of the radioactivity, and without a dose exposure context. The potential effect is better perceived by reference to the radiation dose received by an exposed population, i.e. the collective dose. The collective dose is the sum of all doses to all individuals in the exposed population during a defined time period. The following table shows the collective exposure of the population of the EU up to the year 2500 from radionucleides in Northern European Waters (from EUR 12483 EN)

Source	Collective Dose to 2500 (man Sievert, Sv)
Civil Nuclear Site Discharges	5300
Weapons test fallout	1600*
Chernobyl Fallout	1000
Natural Radionucleides	1,700,000

* excludes contribution from radioactive Carbon-14

The third paragraph of the report continues the trend of quoting relative rather than absolute levels and the claim that La Hague is the single

largest contributor of radiation in Western Europe requires greater clarification. La Hague continues to operate within its limits. The recommended overall regulatory limit for the public (ICRP) dose rate limit of 1 mSv. The maximum dose rate estimated for La Hague at full operation is 0.15 mSv. and the actual measured dose rate is 0.02 mSv i.e. 1/50th of the regulatory limit.

Whilst it is generally accepted that there is probably no such thing as a safe level of exposure to radiation, opinion is very varied in its interpretation of dose/response curves at very low levels of radiation. The whole basis of operating nuclear installations safely is that if man-made increases are kept to a very minimum proportion of naturally occurring radioactivity, the risk to human health is very minimal and acceptable.

Any risks associated with radioactive waste management should be seen in the context of risks associated from other forms of energy production and, indeed, of all the risks of living in today's society. As an example, the collective dose from one year's operation of Sellafield over all time and over the whole world population is 0.03 per cent of the collective dose from one year of natural background radiation (RWMAC, 14th Annual Report, 1994).

The situation with regard to the leukaemia clusters at La Hague remains unproven. The fact remains that no cause and effect relationship has been proven. Expert opinion remains divided over the leukaemia cluster theories in general. Nevertheless a precautionary approach is warranted with respect to the specific local situation at La Hague and the French investigations and evaluations continue. However what is evident from Professor Viel's original paper is that any ''cluster'' is very localised and, without detracting in any way from the significance of those results to local French people, the findings are of negligible significance to Jersey.

2. The management of radioactive waste disposal

Senator Syvret's report begs the question of the philosophy and efficacy of the management of radioactive waste. Local media publicity of recent years with regard to La Hague (and to a lesser extent, Flamanville) has tended towards an alarmist viewpoint which has done

nothing to allay public fears concerning the activities and the potential risks, nor to provide a balanced view in the context of other environmental impacts.

The possibility for a significant accident at one of the nuclear installations on the adjacent French coast will always pose a potential threat which, given certain weather conditions and the nature of the incident, could be very serious indeed. **However all the available evidence indicates that the day-to-day operation of the installations poses only a negligible risk to local life.**

All industries produce waste and carry a human health risk. Those which generate electricity are no exception. Fulfilling the needs of a large coal-fired power station involves human health risks and produces huge amounts of carbon dioxide as well as generating wastes which include mercury, arsenic and uranium. Only 0.02 per cent of the total United Kingdom toxic industrial wastes by volume are nuclear wastes.

Nevertheless, despite these comparisons, strong concerns about radioactivity do remain. Its invisibility is one factor. It is also true to say that the nuclear industry has, in the past, been guilty of a lack of transparency and too often adopted a policy of calculated disinformation. The effect on public perceptions is not easy to reverse. However the concerns about radioactivity do need to be fully balanced, in the public mind, by the positive benefits of nuclear power, the use of radiological methods in medicine and the very small fraction which is added to the natural radiation exposure of the public by radioactive discharges.

Nuclear operations in the United Kingdom and France are regulated according to guidelines set out by the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency (IAEA). **The thrust of those guidelines is that there should be no unacceptable risk associated with radioactive waste management.** Moreover there is an explicit requirement that radioactive waste shall be managed in such a way that predicted impacts on the health of future generations will not be greater than relevant levels of impact that are acceptable today. In France, these requirements are actually enshrined in law by virtue of the 30th December 1991, French Law.

3. The local context

Local concern relates mainly to the reprocessing plant at La Hague and to a lesser extent to the power station at Flamanville. However, as indicated in the preceding paragraph, these nuclear installations operate within the authorisations based on internationally agreed criteria.

It is worth quoting from a report of RWMAC - the Radioactive Waste Management Advisory Committee - an independent body that advises the Secretaries of State for the Environment, Scotland and Wales. RWMAC made a study visit to France in 1993, including La Hague. Commenting on the French competence in technology, science, engineering and research and development, RWMAC stated that it *was impressed by the unity of purpose and clarity of the French strategy for the management of radioactive waste.* It stated that worker and public safety on the sites visited appeared well in line with best international practice.

The comprehensive report of the National Radiological Protection Board (Assessment of doses and risks posed to the Bailiwick of Guernsey by the nuclear industry) recently released adds further strength to the view that routine radioactive discharges pose little risk in Jersey. The collective dose in Alderney is 0.021 man Sv, approximately 0.008 per cent of the total annual collective dose from natural radiation of about 270 man Sv. As Jersey is much more distant from La Hague, its risk level will be that much less.

Moreover, sampling in local waters by the Ministry of Agriculture, Fisheries and Food (MAFF) over many years has consistently demonstrated that radioactive waste released from La Hague does not concentrate to any significant degree in marine biota. The risk to human health in Jersey has been estimated to be less than one per cent of the recommended permissible dose and represents an even smaller fraction of the dose received from natural sources.

Furthermore, the most up-to-date survey of the marine environment carried out subsequent to the adverse Greenpeace publicity last year by **independent** consultants confirms that levels of radioactivity in local waters and marine biota are of no radiological significance.

4. OSPAR

The OSPAR Convention is for the Protection of the Marine Environment of the North-East Atlantic. Jersey is a party to the Convention through the United Kingdom ratification although a few countries, including France, have not yet signed. The Convention is not yet in force.

The General Obligations of the OSPAR Convention include, inter alia, the requirement that all Contracting Parties should, in accordance with the provisions of the Convention,

> *take all possible steps to prevent and eliminate pollution and shall take the necessary measures to protect the maritime area against the adverse effects of human activities so as to safeguard human health and to conserve marine ecosystems and, where practicable, restore marine areas which have been adversely affected.*

The Convention undergoes a continuous programme of revision in the light of our changing understanding of pollution problems and new technologies. To that end the OSPAR Commission has been preparing new strategies for target areas such as radioactivity. The Ministerial meeting now due in July is due to agree a new Objective with regard to Radioactive Substances.

Various Heads of Delegations (HOD) meetings have been held to agree the text which should go forward to the Commission and the Ministerial meeting. The latest situation with regard to radioactivity is that the final Draft with regard to radioactive substances has yet to be agreed.

The following is quoted direct from the latest Draft

1. Objective

> In accordance with the general objective, the objective of the Commission with regard to radioactive substances, including waste, is to prevent pollution of the maritime area from ionising radiation by continuously* reducing anthropogenic discharges,

emissions and losses of radioactive substances, with the ultimate aim of achieving concentrations in the environment

Alternative 1

(which ensure that the radiation exposure of humans and marine ecosystems does not (significantly)** exceed the background values).

Alternative 2

(near background values for naturally occurring substances and close to zero for man-made radioactive substances)***

* France would prefer the word ''progressive''

** Proposed by France

*** Proposed by Denmark, Iceland, Ireland and Norway.

As can be seen, the paragraph to which Senator Syvret specifically refers in his proposition does not occur as stated in the draft text. Senator Syvret's quote ties in with the text of last year's draft but there have been substantial developments since then probably related to the political changes in France and the United Kingdom.

At this stage there are still possible further developments. There is a HOD (OSPAR) Meeting on 9th/10th June at which the text will be further discussed and is open to further alteration. A further HOD discussion will take place on 20th/21st July before the Ministerial Meeting on 23rd/24th July.

5. **The thrust of the proposition**

My view is that it would be difficult for the States to endorse proposition (a). There would need to be a justification for any disapproval and none is apparent unless one adopts the totally anti-nuclear view.

As indicated above, La Hague operates within the terms of its authorisation. This was confirmed in a report submitted by OPRI, the French Independent Office for the Protection against Ionising Radiations, to OSPAR last year. And there is no local evidence to support any claims that local residents are at specific risk. The Island's concerns on this matter, which go beyond the issue only of the discharges, have already been fully communicated to the United Kingdom authorities through the Home Office meetings over the last two years.

However, I see no objection to offering support for the principle of reducing radioactive waste discharges as reflected in (c), since clearly such an aim would not be without benefit to Jersey. Few would argue with the principle of eliminating radioactive discharges to the sea, and I would support an agreement to support actions by the United Kingdom Government which would ultimately lead to reduced discharges at La Hague. However, the manner in which such a request is made needs careful consideration, given that the matter is still under discussion, and the wording in the latest (OSPAR) Draft is not exactly as expressed in Senator Syvret's proposition. Moreover any request should be backed up by rational justification and should avoid emotive terms.