

Memorandum

Large
and
ASSOCIATES

Consulting Engineers

The Gatehouse 1-2 Repository Road Ha Ha Rd London SE18 4BQ ☎ 44[0]20 8317 2860 fax [0]20 8317 2859
largeassociates@lageassociates.com

To: **Liz Clachan** Naval Service FOI Coordination Cell M3185-A2

From: **John H Large** 22 October 2009

Cc: David Hoadley – SCANS

Subject: **SOTONSAFE – WEDNESDAY 4 NOVEMBER PRESENTATION**

Large & Associates has been instructed by the Solent Coalition Against Nuclear Ships (SCANS) to present its interests at a forthcoming public meeting to be convened by Southampton City Council (SCC) on 4 November 2009. Confirmation of this instruction may be obtained from David Hoadley, Chair of the Coalition (dhoadley@phonecoop.coop).

It would be useful to me if you could respond to the following:

- 1) In para 2 of your letter of 16 October 2008 to Ms Di McDonald of the Coalition (your Ref 04-09-2009-085524-001) you state that you have attached to your previous letter of 30 September 2009 “. . . information previously supplied to Southampton City Council . . .”.

Would you please confirm or otherwise that SCANS now has a full and complete copy of all of the information previously provided to SCC relating to the revision of the *Radiation (Emergency Preparedness and Public Information) Regulations 2001* (REPPPIR) Regulation 9(1) defining the area of off-site emergency planning (in this case a reduction to the area inscribed by a 1.5 km radius).

- 2) If, however, the Ministry of Defences and/or its agencies have provided further information, advice, or similar to the SCC then I would appreciate a Catalogue or Index listing this information.

The catalogue should, quite properly in my opinion, make clear reference meetings, telephone calls and similar, including the topics of consultation bullet pointed under para 3 of p2 of the Navy Command letter of 28 May 2009 to SCC.

- 3) Now I refer to the version of the *Report of Assessment HIRE*, Issue 1 of November 2007 which is, I assume, the same HIRE referred to in para 4, p1 of the Navy Command letter of 28 May 2009 to SCC.

Referring to Section 3.2, particularly the final para of p6, would you please confirm or otherwise that with respect to a catastrophic failure of the containment system as a whole:

- a) “catastrophic failure” should be taken as breach or rupture of the submarine pressure hull and local casing;

- b) that this failure is assumed to occur above the waterline;
- c) “*maximum quantities*” or *Release Fraction* of radioactive materials essentially means fuel fission products in the form of gases, aerosols and particulate matter;
- d) the *Release Fraction* is much the same for the *Reference Incident* for equivalent levels of fuel irradiation (n/cm²) projected
 - i) all present operational classes of NPW and the reactor power plant type, including *Core H* that has been under power operations (ie Plant State A) for a substantial period prior to berthing;
 - ii) the so-called *Reference Accident* is drawn on a probabilistic basis;
 - iii) that the incident occurs whilst the reactor plant is at power or at or about shutdown from State A; and
 - iv) that any radioactive release resulting from any reasonably foreseeable severity of malicious action (ie a saboteur or terrorist attack) would be no greater than that determined for the *Reference Accident* adopted in the determination of the *Reactor Plant Safety Case*.
- e) Would you please clarify the apparent dichotomy between the final para of Section 3.2 and para 2 of Section 5.1 with the latter stating that it is not reasonably foreseeable that such a catastrophic containment failure could occur (see my 3 a) above). In other words, what level of containment state intactness has been assumed, eg is it *nom/nom*, *min/nom*, etc).

In other words, is the basis of the HIRE assessment and, it follows, the REPIIR Regulation 9(1) determination to reduce the emergency zone area, derived in account of a catastrophic containment failure or, as suggested by the final para of Section 5, from a limited containment bypass release eg ‘. .with only a very small release to atmosphere through intact containment.’?

- f) In account of d) iv) above, please identify that a competent assessment of the threat of malicious act has been undertaken and if this has involved assessment and/or evaluation of the threat by the Office of Civil Nuclear Security (OCNS).
- 4) Now I refer to the Defence Equipment and *Support Update of Information Provided to Local Authorities*, DES/SM/SW/0405/427/19 dated 31 July 2009:
- a) At a number of localities throughout this advice the overriding requirement for the protection of people is cited, by which it means exposure to ionising radiations and the resulting accumulative dose (eg para 2, 4, 7 etc). With respect to this, the advice relates the countermeasure strategy and the need to compare the projected dose with the current ERLs being, essentially, the key decision-making aids in planning and, indeed, implementing protection of the public (para 4, 6, 7 and 8).

Would you, therefore, please provide a copy of the radiation dose exposures projected for

- i) Individual members of the public, particularly with respect to triggering countermeasures;
- ii) those employees engaged in the radiation emergency (ie *Reg 14* of REPPiR) public management (sheltering and evacuation control, PITs distribution, radiation monitoring and dissemination of information); and
- iii) the emergency services personnel engaged in the activities prescribed in the SOTONSAFE plan;

noting that these are likely to be expressed as p^{th} percentiles (ie *Average or Mean, Expectation Value E* and 99^{th}) in account of the variation of atmospheric stability prevalent at the time and following the incident.

- b) The final bullet point of para 8 refers to MoD operators '*providing information and advice from an early stage*'.

In account that, obviously, adequately competent personnel will need to be alerted and mustered (particularly in the event that those on board the submarine being fully occupied in managing the incident on site or, indeed, incapacitated by the incident itself), would you please provide the time and resources schedule, or whatever, of when and how the radiological environment is to be monitored and/or reliably projected by modelling or other means.

- 5) Alternatively, you could provide me with full, unredacted copies of the *Reactor Plant Safety Case* for each of the four present operational submarine classes, together the *DNSR/3/3/3/1 Assessment* so that I might undertake an independent evaluation of the adequacy or otherwise of the SOTONSAFE off-site emergency plan.

As previously noted, this information requested is in support the presentation to be given the SCC on 4th November and, accordingly, it would assist if you are able to respond to this request and provide the information in good time before the presentation date. In your response, please refer to my order of itemisation above.

If you consider this to be a request under the *Freedom of Information Act 2000* then it is appropriate that I note to you that S10 of the Act requires you to respond '*promptly and in any event not later than the twentieth working day*'. Since all of the information that I have requested would be held at a central source and catalogued, I reasonably expect your response to be prompt and well within the ultimate 20 working day limit.