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Byron Tilly

06 March 2009

Dear

DALGETY BAY – MOD PROGRAMME AND PROJECT MILESTONES

I refer to your letter to Colin Bayes, dated 2 March 2009, in which you present the MoD's package of proposals, as agreed at the Dalgety Bay Forum on 9 February 2009. Colin and I spoke to your by telephone on Friday 6 March 2009 about that letter and the main issues that we would be raising in response to it.

Overall SEPA is pleased with the proposals which through a programme of monitoring and removal provide interim remediation which will reduce the risk to members of the public until a risk assessment is completed.

SEPA notes the MoD has erected the new signs at Dalgety bay, and we welcome this.

There are some points arising from your letter which I will start with, and then in the annex of this letter you will find more detailed feedback on the proposals. Some of these items might best be taken forward by the risk assessment technical subgroup which has been set up by the Dalgety Bay Forum. Given the developing nature of the work SEPA also recognises that some information requested may not be available at present, but SEPA would be grateful if you could give provide it when it is. It also provides prompts for the sort of information that SEPA is interested in.

SEPA does not agree with the way in which you propose to take the risk assessment work forward. We consider that there are several bodies with statutory responsibilities, and that the technical subgroup approach, with each of those parties represented is the best way to arrive at an outcome to which all can sign up. During our telephone conversation, was urged to ensure MoD representation at the sub-committee meeting already arranged for 16 March 2009 in Edinburgh and I do likewise with you. That committee will have to agree the best way of working, but the identification of packages of work, which are then allocated to specific parties to complete, is a model that has been used elsewhere and found satisfactory. This type of approach may well allay MoD's fears about the effectiveness of such a group. I leave it to the group and its members to agree the way forward on this. It is therefore important that MoD play a full and active part in that group.



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Chief Executive
Dr Campbell Gemmell

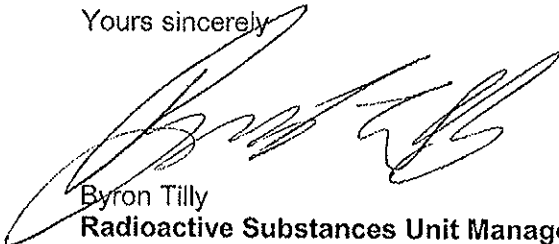
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SEPA specifically acknowledged the potential effects that self-shielding could have on skin in its 2009 report. Separately, it is important to note that it is possible if self-shielding /sealing of the particle prevents the escape of alpha and beta particles it could also prevent the escape of radon. Were this to occur, the potential committed effective doses could be greater. Conversely, if no shielding or the particle is not fully sealed, the potential skin doses may be greater but the committed effective doses lower. SEPA would also appreciate clarity on the MoD statement regarding assumptions made by SEPA on skin contact and ingestion, particle characteristics and availability in the environment.

In the 2009 assessment SEPA used the report on radionuclide concentrations given to SEPA by the HPA. It is noteworthy that, if the proposal by the MoD that SEPA should assume full equilibrium of the daughters to be precautionary, this would have resulted in a significant increase in the associated hazard from the Dalgety Bay particles. Perhaps you could clarify what is meant by "inconsistencies with respect to Radiochemical Equilibrium data"?

In summary then, SEPA welcomes the MoD's plans for an intensive monitoring and retrieval plan for Dalgety Bay. We recognise that in the absence of a full risk assessment this remedial work will afford the public at Dalgety Bay greater protection from the potential risk from radium contamination. In order to ensure that this protection continues, we recommend to the MoD that an appropriate monitoring and removal regime is adopted at Dalgety Bay until such time as a risk assessment can be completed and the appropriateness of that remediation can be reviewed.

Yours sincerely



Byron Tilly
Radioactive Substances Unit Manager

ANNEX

1. It is SEPA's experience that the arrival rate of particles on beaches can be significantly affected by the seasonal trends (such as storms). Thus, SEPA consider that a monthly monitoring and recovery programme of no shorter than 12 consecutive calendar months is needed to provide the information on temporal trends. To allow for yearly variations to be determined it would be desirable if this time period could be extended to 15-18 months.

2. Annex A, Para 1: SEPA would appreciate details of the physical size and location of the membrane to be installed and, when available, information on the composition and physical characteristics of the membrane itself.

3. Annex A, Task 2, Para 4, bullet 4, and Task 3, Para 2: SEPA believe that the monitoring regime should be no less stringent than that afforded to other beaches in Scotland. Thus, the monitoring regime should be at least capable of detecting around 10^5 Bq Ra-226 particle at a depth of 10 cm with at least a 95 % confidence over the entire monitoring area. These criteria may mean that the spacing between monitoring transects should be reviewed together with the rate of coverage. It is noteworthy that for the risk assessment further information will be needed on the confidence of detection systems for lesser depths and activities. Notably, this requirement must be in the presence of an elevated radium contaminated environment. It should be clearly stated what the capability of the monitoring systems are.

4. Annex A, Task 2, Para 4, bullet 8 and Task 2B para 3: SEPA would be grateful for information on who would compile such a report. SEPA would also welcome more interim reports of a simple nature to confirm when work has been done. It would also be prudent to establish arrangements for immediate notification in the event that any exceptional items were found. MoD should propose the circumstances under which such notifications were made.

5. Annex A, Task 2, Para 8 bullet 4: SEPA would wish for information on the numbers of particles, analysis and methodology which would be undertaken at Alverstoke. SEPA would also wish for information on how the characteristics of these samples will be extrapolated to any population of particles remaining at Dalgety Bay.

6. One detailed uncertainty in the 2009 assessment was the absence of an appropriate habits survey. Given the seasonal nature of the site, SEPA recommended that habits surveys should be undertaken each season to inform any risk assessment. In light of the potential longevity of the contamination, consideration should also be given to the potential exposures for alternative habits at the site in the future. SEPA consider that it would be appropriate to consider this at the meeting on the 16th March.

7. SEPA also believe that, for a risk assessment, further work is needed on the self-shielding properties of the Dalgety Bay particles and potential for dissolution and gut uptake. For the latter, we believe that, similar to the appropriate methods adopted at Dounreay, both in vitro and in vivo work should be conducted and that the most appropriate agency for this work is the HPA.

8. SEPA is concerned that the progressive excavation of material may cause significant environmental detriment and would recommend that this step is only considered if it will do more good than harm to the local environment. SEPA realises that this work could provide meaningful data, and would suggest that MoD liaise closely with SNH on this matter.

9. It is important to remember that the SEPA 2009 report was not a risk assessment (as stated in that report) and that any risk assessment undertaken by any party may not provide refinement on the assessment in SEPA's report against the criteria set out in the statutory guidance to the Radioactive Contaminated Land (Scotland) Regulations 2007.