

SCOTTISH ENVIRONMENT PROTECTION AGENCY

**Minutes of Dalgety Bay Forum Meeting
Held on Tuesday 27th March 2012 at 10.00am
at the Brook North Queensferry Hotel**

Present

Donald Adrain (DA), Dalgety Bay Sailing Club
 Nick Atkins (NA), Morton Fraser (accompanying MOD(DIO))
 David Brack (DB) MOD(DIO)
 Gareth Brown (GB) Scottish Government (for JC)
 Ron Brown (RB), MOD/DSTL
 Dr Philip Conaglen (PH), NHS Fife (for JH)
 Helen Eadie MSP (HE), Member of Scottish Parliament
 Donald Grant (DG), Fife Council
 Richard Higgins (RH), Dalgety Bay Sailing Club
 Mark Hill, (MH) MOD(DIO)
 Larry Irwin (LI), Moray Estates
 Martin Macdonald (MMac), Scottish Government
 Marion Milton (MM), HPA (for JB)
 Cllr Alice McGarry (AM), Fife Councillor
 Colin McPhail (CMcPh), Dalgety Bay & Hillend
 Community Council (DB&HCC)
 Will Munro (WM), FSA in Scotland
 Iain Robertson (IR), MOD(DIO)
 Linda Turner (LT), Fife Council
 Janice Milne (JM), Chairperson, SEPA
 Jim Gemmill (JG), SEPA
 Paul Dale (PD), SEPA
 Gillian Sinclair (GS), SEPA
 Debbie Storm (DS Comms), SEPA
 Mark Toner (MT) SEPA

Apologies

David Burnett (DBur), Dalgety Bay Sailing Club
 John Burton (JB), HPA
 Edward Coyle (EC), NHS Fife
 Stuart Hudson (SH), Scottish Government
 Jackie Hyland (JH), NHS Fife
 Arthur Johnston (AJ), Scottish Government
 Jacqueline Campbell (JC), Scottish
 Government
 Ewan Young (EW) Scottish Government
 David Stone (DS), SEPA

ACTION	ACTION	DIO/SEPA
2012-30-01	ACTION – DIO & SEPA to ensure aerial photographs records are complete. (Reference:- Page 2, Paragraph 3.1.6)	DIO/SEPA
2012-03-02	ACTION – DIO Stage 1 Initial Site Conceptual Model to be completed by end of May 2012 (Reference:- Page 3, Para 3.2.2)	DIO
2012-03-03	ACTION - DIO Stage 2 – Investigate pollutant linkages being carried out between May and October 2012. (Reference:- Page 3, Para 3.2.4).	DIO
2012-03-04	ACTION – DIO Stage 3 – Following Stage 2, compile findings and identify risks. (Reference:- Page 3, Para 3.2.5)	DIO
2012-03-05	ACTION: RH/Dalgety Bay Sailing Club (DBSC) to capture and forward any questions to PD and he will be happy to assist in keeping members informed. (Reference:- Page 5, Paragraph 3.3.3)	DBSC
2012-03-06	ACTION – SEPA to create list of key dates, to include forum meetings, DIO investigation stages, SEPA reports. (Reference:- Page 8, Paragraph 4.7)	SEPA
2012-03-07	ACTION - SEPA to arrange the next Dalgety Bay Forum Meeting. (Reference:- Page 9, Para 6.0.2)	SEPA

1.0	Welcome and Introductions	Actions
1.0.1	JM welcomed those present to the meeting.	
1.0.2	JM announced that Cllr Herbert had passed away recently. The condolences of Forum Members are with his family and friends at this time.	
1.0.3	Round table introductions were made.	

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1.0.4	JM asked members to review the draft minute of the previous meeting at the end of this meeting, which was agreed.	
2.0	Minutes of previous meetings	
2.0.1	These will be tabled at the end of the meeting.	
3.0	Update from Forum Members	
3.1	SEPA	
3.1.1	JG stated that since the last meeting of the Forum SEPA had been involved in further monitoring and laboratory work as well as holding discussions with DIO on the way forward. Since November there has been a further assessment of the hazard posed by the sources recovered from Dalgety Bay which will be reported on later. SEPA has been investigating the made ground at Dalgety Bay where the most credible source of fragments finding their way onto the beach seems to be, further investigation of these areas may lead to better information.	
3.1.2	Detailed discussions between SEPA and DIO have resulted in a way forward to fully investigate the nature of the contamination which will avoid designation of the land as radioactive contaminated land at present which will avoid the issue for further blight to the area and the community.	
3.1.3	PD reported that 2 further rounds of simulated ingestion studies had been undertaken by SEPA. The results of the first of these studies carried out before Christmas are currently in draft format, however, the methodology followed the same as SEPA's previous work by using a true representation of gut fluids. The results of this work show a solubility range of up to 25%, which is consistent with SEPA's previous work. However, the second phase of this work has suggested that the maximum solubility may be greater than previous studies. The results of both of these studies are still being checked and will be reported in due course. This series of studies indicates a wide range in solubility of the particles found at Dalgety Bay, which may be due to a large and varied population or a change in the particles that have been recovered.	
3.1.4	In December, the Expert Group recommended that monthly monitoring should be undertaken, capable of detecting particles of 20 kBq at 10 cm depth. SEPA understand that the monitoring criteria was based on the hazard from ingestion.	
3.1.5	Other work undertaken by SEPA has included examining aerial photography of Dalgety Bay to determine how the coastline has changed due to in-fill and erosion over time. This work is being finalised and will be reported to the Expert Group at the next meeting. The photography suggests that there was a lot of made ground which has progressed and retracted over the years.	
3.1.6	In response to a question about sediment distribution on the beach, PD said that the physically larger sediment tended to accumulate at the top of the beach and it is here where the majority of the sources have been found.	
3.1.7	RB asked if SEPA would assess the statistical significance of solubility work and asked how SEPA ensured a representative sample was taken. PD stated that individual sources has been analysed, so the values are absolutes, which will have an associated error attached. PD noted that	

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<p>3.1.8</p> <p>ACTION 2012-30-01</p> <p>3.1.9</p>	<p>the methodology and particle selection criteria would be detailed in the report as normal, but stressed that the methodology had not changed. In response to a question from RB, PD confirmed that the latest solubility findings did not suggest any significant change in risk.</p> <p>NA asked if the report would be made available to DIO, JG confirmed that it would be and welcomed DBr offer of additional aerial photographs of the area to assist in the compiling of the report. PD and DBr to liaise regarding aerial photographs in order to assist with their respective investigations.</p> <p>ACTION – DIO & SEPA liaise and to ensure aerial photographs records are complete.</p> <p>DA asked what this meant in general terms. PD advised that the study of aerial photography from previous years will assist in identifying all the made ground allowing SEPA to determine areas for further investigation.</p>	<p>DIO / SEPA</p>
<p>3.2</p>	<p>DIO</p>	
<p>3.2.1</p> <p>3.2.2</p> <p>3.2.3</p> <p>3.2.4</p> <p>3.2.5</p> <p>Actions 2012-03-02</p> <p>2012-03-03</p> <p>2012-03-04</p> <p>3.2.7</p>	<p>DBr updated the Forum members on DIO progress and stated that the plan which has been submitted to SEPA is as follows:-</p> <p>Stage 1- Initial Conceptual Site Model This stage includes an information review, similar to that undertaken for the housing estate in 2007. Historic records are used to find out where the areas of contamination are and where they may be and what are the possible exposure routes, e.g. erosion of made ground/rock armour and to investigate other possibilities i.e. under the beach. This allows targeting of the most realistic source or pathways. This is currently in draft form at the moment. This work is estimated to be completed in May 2012.</p> <p>Stage 2 – Investigate pollutant linkages This involves investigation of pollutant linkages in the area which will be undertaken between May and October. Geophysics surveys will assist with the work to look at the pollutant linkages. Stage 2 determines if significant pollutant linkages are present.</p> <p>Stage 3 - Compile findings and identify risks On completion of stage 2 our findings will be compiled to identify the residual risks. If these are flagged then a management option will be developed. The Expert Group will provide advice on risk assessment.</p> <p>Completion date agreed with SEPA is May 2013.</p> <p>Stage 1- Initial Site Conceptual Model This is currently in draft form at the moment. This work is estimated to be completed in May 2012.</p> <p>Stage 2 – Investigate pollutant linkages Stage 2 determines if significant pollutant linkages are present. This will be undertaken between May and October.</p> <p>Stage 3 - Compile findings and identify risks</p> <p>RH asked about timescales involved in the survey work being carried out by DIO as they seemed lengthy compared to the contamination survey</p>	<p>DIO</p> <p>DIO</p> <p>DIO</p>

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	<p>reports commissioned and completed within weeks in his experience with property. DBr explained that the survey depends of the type of contamination. MH explained that time has been built in to cover uncertainties and noted that each stage influences the next stage. Also due to the nature of the coastal survey no one result is the same. JG stated that this was the first holistic and comprehensive effort that has been made to identify the extent of the contamination at Dalgety Bay, since it was first identified, and as a result this has to be done correctly. JG stressed that nobody wants to return to this in twenty years time to find out that something has been missed or overlooked. It was further stressed by JG that the items that have been found are the largest ever found for radium in an area of made ground, and that the items are particularly discrete. SEPA's contaminated land specialists have looked at the work involved and have said these timescales are realistic. RH welcomed the information and explained that this would be relayed to the Sailing Club members.</p>	
3.2.8	<p>PD said that there were currently 2 issues with the area of contamination one being that the contamination is on a coastal site where things are constantly being moved around and secondly that the site is also being eroded and further sources may be getting released into the environment.</p>	
3.2.9	<p>PD also stated that importantly, throughout the investigation the DIO has agreed to carry out monthly monitoring of the area in order that the public is given an appropriate level of protection– this will be undertaken following the recommendations of the Expert Group. SEPA can audit the monitoring undertaken to ensure it is fit for purpose.</p>	
3.2.10	<p>HE asked what the health implications were of the finding of the 76 and 13 MBq particles. PD stated that because these have now been removed there are no residual health risks to the public from these sources; however, the issue is if there are further such undetected sources remaining. PD noted that the particles recovered from the area where the high activity sources were recovered are friable. If the 76MBq source eroded out it could have broken into thousands of smaller pieces of high activity. JG noted that the large activity sources would be capable of inflicting skin burns in short period of time. If present they need to be removed.</p>	
3.2.11	<p>CMcP stated that he was happy with the resolution of the matter and stated that this should be an objective to work towards he then asked if SEPA were satisfied that would prevent the land from being designated.</p>	
3.2.12	<p>JG stated that SEPA had reached an agreement with DIO for future investigation at Dalgety Bay and as a result the area would not be designated at this time. He stated that SEPA still had the statutory powers to designate the area if needed. He continued that the investigation is hopefully for the final time, and hopefully the issue would be sorted without the need to formally consider liability issues.</p>	
3.2.13	<p>CMcP stated that this was good news and asked who would look at the management options at the end of stage 3. DBr stated that DIO would carryout the investigation and prepare this to advise SEPA.</p>	
3.2.14	<p>Management Options will be for the responsible party or parties to address. NA will be working with SEPA to address the Appropriate</p>	

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	Person issue.	
3.2.15	AMcG asked what information existed to suggest any other appropriate person other than MOD (DIO). NA stated that when looking at the contaminated land DIO need to investigate who caused the land to become polluted, rather than the pollutant. AMcG stated that witnesses to this are deceased. NA stated that DIO is looking at this concurrently with the investigation.	
3.2.16	PD stated that the issue of identifying the appropriate person only comes into effect if SEPA designate the land, which only happens if no voluntary action is taken. If this happens then the appropriate person will need to be approached. DIO has volunteered to carry out this investigation plan with SEPA. Previously, SEPA said DIO could be an appropriate person. If the route of designation is taken then SEPA will apportion the liability across the appropriate person(s) and NA is correct in saying others then may be identified in the process, although to date SEPA has not identified any other potential appropriate persons.	
3.2.17	CMcPh stated that designation would mean a legal process which would be paid for by the tax payer so there is no benefit. DIO said they also want to avoid the legal route which would involve public money. DBr stated that the DIO had taken an unusual stance in dealing with Dalgety Bay by voluntarily assisting SEPA in carrying out its statutory (inspection) duties.	
3.2.18	HE asked what the persuading factors were for the change of course of action ie not keeping to the deadline of 31 st March 2012. JG stated that over the winter months SEPA considered that a rigorous and comprehensive investigation was needed. This would look at the extent of the made ground which takes time, additionally SEPA's work on assessing the findings in the laboratory ie solubility studies, previously mentioned, and how these items got to the foreshore. PD stated that DIO have entered a voluntary agreement with SEPA for the investigation and SEPA agrees that the short and medium term work proposed by the DIO is appropriate. As is the commitment for appropriate monthly monitoring work which will provide an appropriate level of protection to the public. PD noted that any party could "walk away" from the agreement at any stage.	
3.2.19	HE asked if Forum Members will be kept up to date of progress. JG stated that the intention will be to hold Forum Meetings every 3 to 4 months to keep forum members and the public informed.	
3.2.20	AMcG asked about the monthly monitoring work which will be undertaken by DIO, referring to how previously SEPA had picked up sources which DIO had missed during their survey work. SEPA advised that they will be checking the work of the DIO contractor. Discussion followed and DBr stated that the reason for the discrepancy was that DIO and SEPA were working to different survey criteria. DBr stated that in December 2011 a detection criteria was been determined by the Expert Group for DIO to work to, which SEPA can audit against.	
3.2.21	DA asked if the area would still be designated by SEPA if DIO's work is not kept to schedule. PD stated that if SEPA was to designate it would be done using the information available ie where the pathway receptors lie at the time and that this would be as small as practically possible. DA	

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3.2.22	<p>stated that public perception is that this is a large area of land.</p> <p>CMcPh asked about DIO's contractor and monitoring. DIO stated that future particle findings would be stored in the container which will be emptied by DIO as required. Draft approval for this has been given by SEPA [in line with the requirements under the Radioactive Substances Act]. DBr and DA would discuss the storage container out with the meeting.</p>	
3.3	Scottish Government Update	
3.3.1	<p>MMac stated that ministers were being kept informed and he was interested in the solubility study and asked if this would be made available to HPA, which was confirmed by SEPA.</p>	
3.3.2	<p>PD confirmed that the 1st tranche of data was sent to the HPA, however the 2nd and 3rd tranches of the study were not yet finalised.</p>	
3.3.3	<p>JG said that the guidance and restrictions are in place and that the results of the study do not cause the need to change any of the advice given as the precautions are the same. Currently, there is no realistic possibility of significant harm to the public as long as the particles are not swallowed or ingested and advice on the signs is followed. RH stated that the sailing club liability insurances are clear about ionising radiation and the volunteers who run the committee are at risk and he asked the forum and SG if there is some form of help. RH asked if the aforementioned guidance covered immersion in water and stated that the sailing club needed clear advice for its members in order to keep them fully informed. PD asked RH to capture and forward any questions to him and he will be happy to assist in keeping members informed.</p>	
ACTION 2012-03-05	<p>Action: RH/DBSC to capture and forward any questions to PD and he will be happy to assist in keeping DBSC members informed.</p>	DBSC
3.3.4	<p>In addition, HE stated that people were still gathering bait from the foreshore and asked how this can be policed. It was noted that there are signs in place warning the public not to collect bait from the foreshore.</p>	
3.3.5	<p>MMac noted the progress to date between SEPA and DIO and was happy about the monthly monitoring programme being undertaken.</p>	
3.3.6	<p>DBr asked if SG was reviewing the Statutory Guidance with respect to the 100 mSv threshold, which he had requested at an earlier Forum meeting. PD advised that SEPA saw no major issues with the Statutory Guidance and that Dalgety Bay was not the first site in Scotland to be assessed against the criteria and it would be peculiar to review a criteria which had shown to be effective in triggering an investigation which had revealed such significant contamination at Dalgety Bay. PD noted that SEPA do not publicly comment on all sites assessed due to blight issues if the site does not meet the criteria.</p>	
3.3.7	<p>PD noted that the 100 mSv limit is an international recognised value as a threshold at which it is known where radiation damage can occur. Using this as a basis for investigation had revealed the presence of the high activity sources which would not have occurred had this threshold not been included. Following comment he again said it would seem peculiar to review a criterion which had worked to provide appropriate protection for the public.</p>	

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<p>3.3.8</p> <p>3.3.9</p>	<p>AMcG asked if SEPA had any concerns with the legislation, which JG replied that the 100 mSv is seen as an action level upon which to investigate. JG noted that the England & Wales legislation did not have this same threshold and that this was a short coming. RB advised that, as a radiation protection professional, he had issues with the fact that probability of encounter was being treated in different ways by different groups. PD said if DIO had concerns with the differences that it should also raise this issue with Westminster to ensure that a consistent approach could be taken in the UK.</p> <p>HE asked that this matter be put aside for now as it was paramount that the Dalgety Bay be dealt with at the moment and nobody deviated from this. Other issues can be dealt with after work is done at Dalgety Bay. DBr was happy with this and stated that his question had been intended to relate to the overall regulatory regime rather than just the 100mSv level.</p>	
<p>3.4</p>	<p>Fife Council</p>	
<p>3.4.1</p> <p>3.4.2</p> <p>3.4.3</p>	<p>LT stated that she was happy with the progress being made between SEPA and DIO on Dalgety Bay and that the area was not being designated.</p> <p>At SEPA's request Fife Council will erect a more substantial fence round the cordoned off area at Dalgety Bay. PD stated that Fife Council has been able to accommodate everything that SEPA have requested with regard to Dalgety Bay and SEPA was very grateful for this.</p> <p>NA asked LT if there was any update on the liability issues for coastal protection. LT advised that there was no plan to look at this.</p>	
<p>3.5</p>	<p>FSA</p>	
<p>3.5.1</p> <p>3.5.2</p> <p>3.5.3</p>	<p>WM stated that the scoping risk assessment for the food chain is being reviewed by HPA and will be sent to SEPA for information.</p> <p>WM advised that with regard the HE question no commercial bait collection is undertaken at Dalgety Bay, however, it is known that seafood and bait are collected. A FEPA (Food and Environment Protection Act) order would make collection by the public an offence and action would be dependant on local people reporting this to the council. He reiterated that currently there are signs in place warning the public not to collect from the beach. RB expressed surprise that actions were to be based on theoretical assessments rather than actual monitoring results which had shown no health concerns. WM and HE considered this approach to be in accordance with the precautionary principle. WM stated that a FEPA order would be reviewed as more evidence was made available and can be removed at any time.</p> <p>WM stated that the SEPA/DIO surveys are welcome at this time.</p>	
<p>3.6</p>	<p>HPA</p>	
<p>3.6.1</p> <p>3.6.2</p>	<p>MM (for JB) stated that information from SEPA has been used in the public risk assessment requested by Scottish Government.</p> <p>HPA staff is looking at the contact dose rate information from Professor Monty Charles (retired from Manchester University) studies previously undertaken through SEPA. HPA are understanding the method used</p>	

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	and are planning to undertake direct measurements from the particles at Stirling University. These will be more realistic.	
3.7	NHS Fife	
3.7.1	PG (for JH) advised that their radiation cancer report was currently with COMARE for response. None of the cancers most frequently associated with radiation exposure were found to be significantly higher in incidence in Dalgety Bay population compared to similar populations elsewhere in Scotland.	
3.8	Dalgety Bay Sailing Club	
3.8.1	DA reported that this was the beginning of the membership year and numbers have declined. Dalgety Bay issues have been publicised in the "Sailing Press". Two regattas have been cancelled due to concerns, both of these represent a major source of income for the club.	
3.8.2	DA said it was good to see an agreement between SEPA and DIO but this is not moving quick enough to assist the sailing club. RH stated that the club is run on a non for profit basis and would welcome this to be sorted quickly.	
3.9	Dalgety Bay and Hillend Community Council	
3.9.1	CMcPh stated that since the last forum meeting a public meeting was held which was well attended. Also CMcPh is corresponding with David Olney CEO DIO.	
3.9.2	He will be attending the public meeting this evening being held at Dalgety Bay Primary School which will also be attended by Rt Hon Gordon Brown MP.	
3.9.3	CMcPh supported the structured investigation between SEPA and DIO and was pleased that the threat of designation appeared to be lifted at the moment.	
3.10	Moray Estates	
3.10.1	LI advised that he had met with James Hamilton (SEPA Solicitor) and handed over files containing the title deeds. NA asked if LI had acquisition documentation on file. LI agreed to speak with RH on this matter after the meeting. NA said it would be useful for both DIO and SEPA to have information about the development plan on adjoining sites as well as the DIO's site.	
4.0	Future Actions	
4.0.1	JG summarised the future actions: <ul style="list-style-type: none"> 1. SEPA will be looking at the DIO's investigation work. 2. SEPA will be completing laboratory work at Stirling University and publishing the findings. 3. SEPA will liaise with DIO regards the dates of the stages of the investigation to ensure appropriate SEPA presence, 4. SEPA will arrange future Dalgety Bay Forum Meetings and secure suitable venue for these. 5. SEPA will service the next Expert Group meeting which will take 	

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	place in April 2012.	
4.0.2	IR asked if SEPA could put a detailed programme together outlining SEPA's future actions.	
4.0.3	PD stated that in order to arrange future meeting SEPA would require a programme rolled out of DIO's investigation work. DBr advised that their plan is in draft at the moment and will be sent to PD. DBr was cautious of it being widely distributed and asked that the Sailing Club provide them with significant dates in their sailing calendar.	
4.0.4	DS Comms stated that a plan would be useful and it was agreed that DIO would submit their plan of actions to SEPA by 10 th April 2012, SEPA would review this and it would be made public by the end of April.	
4.0.5	HE stated that the public should be made aware of this plan and of the progress which is being made.	
4.0.6	DIO asked that the question of liability issues be kept separate from the forum meetings. JG stated that the Forum expects to be updated and in parallel SEPA will look at who is responsible and it will be at the Forum meeting where an update is provided to Forum members.	
4.0.7	HE stated that the members need to know where the liability lies. If we get to 2013 and progress has not been made then we need to know the correct position and whether or not other parties are involved.	
ACTION 2012-03-06	ACTION – SEPA to create list of key dates, to include forum meetings, DIO investigation stages, SEPA reports.	
5.0	Previous Minutes	
Actions Arising from meeting held on 22nd November 2011		
ACTION 2011-11-01 Complete	SEPA: Final minute of the Dalgety Bay Forum Meeting held on 29 th March 2011 will be issued this week.	Action :- SEPA Complete
ACTION 2011-11-02 Complete	DIO: Any outstanding comments to the minutes of 7 th November 2011 to be sent to SEPA by Friday 25 th November 2011.	Action:- DIO Complete
ACTION 2011-11-03 Complete	SEPA: Issue the final minute of the Dalgety Bay Interim Forum Meeting w/c 28 th November 2011.	Action:- SEPA Complete
ACTION 2011-11-04 Superseded	DIO by the end of January provides SEPA with a draft voluntary credible remediation plan and an agreed plan by the end of February to satisfy SEPA.	Action:- MoD(DIO) Superseded
	It was noted by the Forum that Action 2011-11-04 has not been completed and had been superseded. SEPA and DIO have agreed an investigation plan as outlined in these minutes in paragraph 3.2.	
	SEPA Press Statement	
	DS Comms advised the Forum that SEPA will be issuing a press release following the meeting. She read this to those present.	

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6.0	Next Meeting	
6.0.1	JM said the draft minutes from today's meeting will be issued asap.	
6.0.2	The next Dalgety Bay Forum meeting will take place in 3 or 4 months time at a date convenient to all. SEPA will make the arrangements.	SEPA
Action 2012-03-07	SEPA to arrange the next Dalgety Bay Forum Meeting.	SEPA