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**WEST CUMBRIA SITES STAKEHOLDER GROUP
ENVIRONMENTAL HEALTH SUB-COMMITTEE**

**MEETING 75 OF THE EHSC
HELD AT CLEATOR MOOR CIVIC HALL
26th May 2011**

Present:

Professor John Haywood	Chairman
Professor Steve Jones	Vice Chairman
Mr Richard Rhodes	Secretary
Mr Jim Desmond	Sellafield Ltd
Mrs Angela Sims	Sellafield Ltd
Mr Graham Huston	Gosforth PC
Mr Stephen Tandy	Environment Agency
Mr Phil Edge	NDA
Mr John Cain	Copeland Borough Council
Mr Ron Hargreaves	Community Representative
Mr Simon Hunter	LLWR

1	AGENDA ITEM 1 Chairman’s introduction
2	The Chairman opened the meeting by welcoming those attending, including representatives of the public and press. There were a number of apologies from committee members unable to attend.
3	AGENDA ITEM 2 Minutes of Meeting 72
4	Some comments were taken on the minutes before the meeting, and amendments were made. There were no further comments taken on the minutes, and so the minutes were accepted by the committee.
5	Matters Arising: There were no matters arising. At the 74 th meeting a member of CORE asked a number of questions regarding the North Cumbria Genetics Project. Following the meeting in November John Haywood sourced an answer to each question and provided the response through the WCSSG website. CORE thanked John for this, and informed that there are now some further questions which John agreed to take after the meeting.
6	AGENDA ITEM 3 Sellafield Discharges and Environmental Monitoring: A Preliminary Assessment – Mr J Desmond Presented.
7	Slide 1: Jim Desmond presented a table of liquid discharges for different radionuclides, comparing 2009 and 2010 data sets. Co-60, Zr/Nb-95, I-129, Cs-137, Ce-144, Pu-Alpha and Pu-241 all showed an increase between 2009 and 2010. Discharges of all other radionuclides have remained similar.

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8	<p>Slide 2: Liquid Discharges 2010 No liquid discharge limits were exceeded in 2010. The highest discharge as a proportion of the limit was C-14 at 21% of the limit. Compared to the previous year most discharges (11 out of 19) have decreased by 10% or more. The largest decreases occurred for Sr-90 and Ru-106 and these were due to no processing of medium active concentrates taking place in EARP. The increases that occurred for Zr/Nb-95 and Co-60 were due to changes in LOD on some of the analysis, therefore this does not represent a real increase.</p>
9	<p>Slides 3 and 4: Liquid critical group doses 2010 – measured The 2009 data presented in figure 1 are taken from the 2009 monitoring return. The 2010 data presented in figure 1 are taken from Sellafield Ltd monitoring data. There were no external doses in 2010 so 2009 values from RIFE are used (see figure 1).</p> <p>The measured doses have been assessed by using the five year average (2005-2009) of habit surveys reported by Food Standards Agency. Where analysis results are at the limits of detection the values are treated as positive and included in the assessment.</p> <p>There was an increase in total measured dose from 158µSv in 2009 to 168µSv in 2010. This is mainly as a consequence of higher measured concentrations of Pu-Alpha and Am-241 in winkles and mussels. Pu-Alpha and Am-241 continue to be the most significant actinides in dose terms, contributing 113µSv (67%) of the total dose, although the measured concentrations of these nuclides are mostly due to historic rather than 2010 discharges.</p> <p>Consumption rates reached their peak in 2006-2007 and are now showing a slight decline. The total predicted dose received by the critical group (the adult age group) from Sellafield liquid discharges in 2010 was 20µSv and is 24% lower than the predicted dose from discharges in 2009. The 20µSv is part of the total 168µSv total dose for 2010; therefore 148µSv is from historic contribution.</p> <p>There is no data for I-129 due to contractor methodology problems. If this cannot be resolved then data will be obtained from another source, potentially RIFE.</p>
10	<p>Slide 5: Aerial discharges 2010 Jim Desmond presented a table of aerial discharges for different radionuclides, comparing 2009 and 2010 data sets. Kr-85, Sr-90 and I-129 all showed an increase between 2009 and 2010.</p>



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11	<p>Slide 6: Aerial discharges 2010 No aerial discharge limits were exceeded in 2010. The highest discharge as a proportion of the limit was Sb-125 at 25% of the limit. Compared to the previous year most discharges (11 out of 15) have decreased by 10% or more. The largest decreases occurred for H-3 and I-131, and the largest increases occurred for I-129 and Kr-85. All these are due to variations in reprocessing.</p>
12	<p>Slide 7: Aerial critical group doses 2010 – measured The 2009 data presented in figure 2 are taken from the 2009 monitoring return. The 2010 data presented in figure 2 are taken from Sellafield Ltd monitoring data. Sellafield Ltd do not report Co-60, the 2009 figure from the FSA has therefore been used. This figure is LOD (see figure 2).</p>
13	<p>Slide 8: Aerial critical group doses 2010 – measured Figure 2 shows that the total measured dose has decreased in 2010 to 9µSv from 11µSv in 2009. This is mainly due to not including the FSA data in the 2010 estimate. The estimate for 2009 excluding FSA data was 8.3µSv. The main contribution to does continues to be from milk consumption, Sr-90 and Cs-137. The total predicted dose received by the critical group (the infant age group) from Sellafield aerial discharges in 2010 was 4.4µSv and is 14% lower than the predicted dose from discharges in 2009. As with liquid discharges where analysis results are at the limits of detection the values are treated as positive and included in the assessment.</p>
14	<i>End of presentation - Questions from committee:</i>
15	No questions from the committee.
16	<i>Questions from press and public:</i>
17	No questions from the press and public
18	AGENDA ITEM 4 Environmental Health Matters – Professor S Jones presented.
19	<p>Steve Jones summarised the main findings from the 14th COMARE report in relation to leukaemia in children around UK Nuclear Power Plants. A link to the report is provided below: http://www.comare.org.uk/press_releases/documents/COMARE14report.pdf</p>
20	<p>The report specifically looks at incidences of leukaemia in children around Nuclear Power Plants, and so incidences around the Sellafield Site and Calder Hall are not included. The report also provides an extensive review of the KiKK study from Germany. Sellafield and Calder Hall were omitted as the cases around these sites are known, so the data would have skewed the results from other sites where incidences are not as well known.</p>

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21	The study was completed using data from a long time period (1969 to 2004) in order to obtain enough data for the review.
22	<p>A member of CORE suggested that Calder Hall should have been included in the review as it was a Nuclear Power Plant.</p> <p>Steve Jones said that the elevated levels of leukaemia around Sellafield are well known, the studies aim was to establish what incidence levels are like around other sites in the UK.</p> <p>A member of the public suggested that the report could have included the Sellafield data and provided 2 sets of final results, one including Sellafield data and one not.</p> <p>John Haywood accepted both points of view and pointed out that the review had not tried to cover up the fact that Sellafield had been left out, and had provided justification, which we would have to accept.</p>
23	<p>Steve Jones continued to summarise the findings from the report. The report produced 5 recommendations (see Chapter 10). These are introduced briefly below (wording from COMARE report, please see the full report for the full context of each recommendation):</p> <ol style="list-style-type: none"> 1. <i>'COMARE has found no reason to change its previous advice that there is no evidence to support the view that there is an increased risk of childhood leukaemia and other cancers in the vicinity of Nuclear Power Plants due to radiation effects'.</i> 2. <i>'It is accepted that the creation of leukaemic cells is not a straightforward process'.</i> 3. <i>'Environmental and public health monitoring will be particularly important if the new nuclear build programme goes ahead'.</i> 4. <i>'In the course of our investigations, it became clear that carbon-14, a radioactive isotope of carbon, is a significant contributor to the radiation doses which the public receive from discharges from Nuclear Power Plants'.</i> 5. <i>'COMARE acknowledges the possibility of further studies of British data that could be explored'.</i>
24	<i>End of presentation - Questions from committee:</i>
25	No questions from the committee.
26	<i>Questions from press and public:</i>

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27	<p>A member of CORE presented some quotes from various people. One quote was in relation to a virus being the cause of Leukaemia, the second was in relation to population mixing and its relation to leukaemia cases in Seascale, and the third was in relation to radiation being responsible for leukaemia cases.</p> <p>The third quote stated that nothing could be ruled out as a cause. With regard to this CORE asked how COMARE can exclude radiation as a possible cause.</p> <p>Professor Jones was surprised to learn that COMARE had excluded radiation as a cause. In the last COMARE report on Sellafield, COMARE said that they cannot say for sure whether radiation is the cause. It is difficult to rule anything out as a cause for leukaemia, population mixing may play a role and also the experience of children's immune systems. Radiation should not be excluded.</p>
28	AGENDA ITEM 7 German Nuclear Sites Cancer Study – Professor John Haywood
29	Following the discussion on the COMARE report John Haywood thought it would be appropriate to bring Item 7 forward in the agenda.
30	John Haywood presented a summary of the incidences of leukaemia near German nuclear power plants, including the KiKK study which prompted COMARE's report. It appears that the incidence of leukaemia in under-fives near specific locations in Germany has been higher than expected. Some of these locations were nuclear power plants (NPPs) and some were not. The latter observation weakens the theory that observed rates of childhood leukaemia arise from low level radiation and strengthens some of the theories in which infection plays a role. The KiKK study is not effective in discriminating among the different theories because it considered only the nuclear power plant locations.
31	<p>CORE commented again that nothing should be excluded from leukaemia studies, especially radiation, when discharges from Sellafield in the past are unknown.</p> <p>John Haywood commented that discharges, accidental or otherwise from Sellafield are mostly accounted for. However radiation will never be excluded as a cause of leukaemia.</p> <p>Steve Jones commented that it is impossible to exclude anything as a cause; you can only find an association.</p>
32	In defence of all COMARE reports, John Haywood pointed out that all COMARE have ever been asked to do is make an analysis based on evidence. COMARE have done this to the best of their ability. There may be more evidence in the future but at present, according to COMARE, the evidence does not support a major role for radiation in leukaemia incidences around Nuclear Power Plants. This is similar to the outcome of the KiKK study.
33	<p>A member of the public asked why the 14th COMARE report did not include post 2004 data.</p> <p>Steve Jones informed that the report explains why post 2004 data was not used.</p>
34	<i>End of presentation no questions from committee or press and public.</i>

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35	AGENDA ITEM 5 Report on recent beach monitoring work – Mr J Desmond presented.
36	Jim Desmond presented an update on the beach monitoring work ongoing along the West Cumbrian coastline in the vicinity of Sellafield.
37	 <p>Monitoring from August 2009 to date has been completed with the new Groundhog Synergy system (See image above). This comprises 8 low energy detectors, optimised for Americium and Plutonium detection. For areas of the beach that are difficult to access, hand-held monitoring equipment is also used.</p>
38	<p>Figure 3 presents a summary of beach monitoring for combined vehicle and hand-held monitoring for the 2010/11 financial year.</p> <p>A stone is defined as anything greater than 2mm in diameter.</p> <p>A particle is defined as anything less than 2mm in diameter.</p> <p>There were a total of 348 finds in the 2010/11 financial year.</p>
39	Figure 4 presents a summary of beach monitoring for combined vehicle and hand-held monitoring from the start of the monitoring programme in 2006 up to 31/03/2011. Most of the finds were located around Sellafield.
40	Following the introduction of the Synergy System in 2009, the find rate (number of finds per hectare) has increased.
41	<p>Jim Desmond presented 3 maps showing the location of beach finds and the extent of monitoring:</p> <p>Figure 5(a): Total Beach Finds Recovered in 2010/11</p> <p>Figure 5(b): Total Alpha-rich and Beta-rich finds in 2010/11</p> <p>Figure 5(c): Total Monitoring Extent 2010/11</p>

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42	<p>Jim Desmond presented further updates on beach monitoring. The recent headlines in beach monitoring are as follows:</p> <ul style="list-style-type: none"> • The find rates for stones continue to decline. • Find rates for Beta-rich particles declining. • Overall find rates for particles following introduction of Synergy similar between 2009/10 and 2010/11. • HPA Risk Assessment published. • Aquadopp current survey work has been completed. Jim Desmond informed the committee that the report on Aquadopp modelling, ‘Currents at the Sellafield Pipeline June 2010 – February 2011’, will be made available on the Sellafield Sites website on the beach monitoring page. • Modelling of aerial based gamma spectrometry work has been completed. A report, ‘Modelling Gamma Spectrometry Systems for use in Beach Monitoring near Sellafield Part 2’ will be made available on the Sellafield Sites website on the beach monitoring page. This paper has been produced by the Scottish Universities Environmental Research Centre. <p>Both of these papers will be made available on the Sellafield Sites website following the publication of the Annual Review at the end of June 2011.</p> <ul style="list-style-type: none"> • Statistical methods review has been completed.
43	<p>The Health Protection Agency (HPA) has produced a full risk assessment:</p> <ul style="list-style-type: none"> – <i>The conclusion, based on currently available information, is that the overall health risks for beach users are very low, and significantly lower than other risks that people accept when using the beaches.</i> – <i>Three criteria for prompting an urgent review of health risks. These address risks from ingestion, overall fatal cancer risk and risk of deterministic effects to skin.</i> <ul style="list-style-type: none"> • <i>Finding an object with total alpha activity greater than 107 Bq;</i> • <i>Estimation of overall lifetime risk of radiation-induced fatal cancer for a beach user of greater than 1 in a million noting that this is unlikely to be the limiting criterion;</i> • <i>A skin dose rate greater than 300 mGy per hour following characterisation of objects with a caesium-137 activity greater than 105 Bq.</i> <p>Jim Desmond noted that the HPA work is based on pre-Synergy monitoring data.</p>



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44	<p>Following the introduction of Synergy the HPA have offered further advice as follows: <i>"The information now available does not warrant a change from the advice given in 2007. No special precautionary actions are required at this time to limit access to or use of the beaches. However, monitoring and retrieval should be continued - with emphasis on frequented areas."</i></p> <p>The HPA confirmed in April 2011 that the advice provided in 2009, that <i>"no special precautionary actions are required at this time to limit access to or use of beaches"</i> remains valid.</p>
45	<p>Jim Desmond then presented the programme of beach monitoring for 2011/12 financial year. See Figure 6. The buffer periods align with school holidays, and necessary time for vehicle maintenance. A total of 150ha will be monitored in 2011/12; this is a reduction in scope from previous years.</p>
46	<p>In addition to monitoring on the beaches, other ongoing work includes:</p> <ul style="list-style-type: none"> • Continuation of detailed chemical and physical analysis of particles at NPL. • Sub-sea sediment 'grab' sample survey being planned with EA. • Detailed sub-sea project scope being finalised for issue via OJEU. • Annual review / Progress report for FY 2010/11 due end June 2011. • On-going review of find data, building on statistical methods work. • Regular reports on progress on <i>sellafieldsites.com</i>.
47	<i>End of presentation - Questions from committee:</i>
48	No questions from the committee.
49	<i>Questions from press and public:</i>
50	<p>A member of the public asked about the amount of monitoring conducted in 10/11 compared to 350ha monitored in 2008/09. Jim Desmond clarified that in 2010/11 the target was 250ha. If the same area is covered twice this does not count towards the total, unless this is done at different tide times following potential re-mobilisation of sediment. This therefore means that a larger area than contracted is always covered. 250ha was also the target in 2008/09, so an element of the 350ha monitored would have been repeat areas.</p>
51	<p>John Haywood asked, by not counting a second pass over the same area, are we assuming that everything will be found on the first pass. Jim Desmond responded by saying that there are some deficiencies in detection, and the HPA have accounted for this.</p>



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52	<p>A member of the public asked why there has been a reduction in the scope of beach monitoring from a target of 250ha in 2010/11 to 150ha in 2011/12. The member of the public believed that the original scope of the beach monitoring was to find and remove particles from the beach, and questioned why the programme is being reduced, especially following the introduction of the new Synergy monitoring system and the apparent increase in find rate.</p> <p>Jim Desmond responded: As with previous years more than 150ha will be monitored as areas will be repeated. It is a matter of balancing available resource against the risk, the HPA have calculated risk to be very low, so it has been agreed with the EA that the beach monitoring will be scaled back and will focus on areas of high find rate and greatest public access (there has been little reduction in scope in these areas). Although the number of finds has increased with the introduction of Synergy, the activity of the finds has fallen, with the minimum find being 100 times lower than the limit of detection.</p> <p>The member of public voiced further concerns that a find is still a find regardless of its level of activity, and there is the belief that the original scope was to remove finds from the beaches.</p> <p>Stephen Tandy confirmed that the original scope of the programme was not to find and remove all particles from the beaches. Particles that are found are removed. The HPA risk assessment suggests that the scope can be reduced. Stephen Tandy welcomed public opinion on this matter and will take it on board; Stephen confirmed that the EA will be keeping the revised scope under review to ensure that all objectives of the programme are being met. If it appears that these objectives are not being then the scope of 150ha programme will be reviewed.</p>
53	<p>A member of the public noticed the scope for 2011/12 covers areas monitored in previous years.</p> <p>John Haywood and Steve Jones responded: It is still an unknown to what extent the beaches are re-populated. Re-monitoring areas is done in an attempt to better understand re-population. If particles have been in the environment for a long time then they will be well mixed into the sediment, and there is the potential for them to be found on the beaches for a long time.</p>
54	<p>CORE asked about proposed off-shore sea-bed ‘grabbing’ work. Will this be undertaken on the known band of sediment off Sellafield Coast that contains plutonium?</p> <p>Jim Desmond confirmed that the aim of the work is to gain an understanding of the background activity in different sediments. The band of plutonium contaminated sediment will be included, as it is known that activity will be found here.</p>



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55	CORE asked what happened to the workers on the beach that were contaminated conducting beach monitoring. Stephen Tandy noted that the matter did not fall under the Environment Agency’s regulatory jurisdiction. However, the EA had been co-ordinating a response on behalf of its partner organisations, following a freedom of information request from CORE. The response will communicate that the workers have not been contaminated and that the results were most likely caused by contamination of the samples measured. Stephen Tandy confirmed that the response will be issued, however it has been delayed because of the need to consider privacy of information relating to the individuals involved. Stephen went on to confirm that there was no cause for concern in the local community.
56	AGENDA ITEM 6 Items of Environmental Interest / Works Update (Sellafield) – Mr J Desmond presented.
57	Jim Desmond presented a works update for the Sellafield Site. This is available on the WCSSG website under the 75 th Meeting entry.
58	<i>End of presentation - Questions from committee:</i>
59	No questions from the committee.
60	<i>Questions from press and public:</i>
61	No questions from the press and public.
62	Following Agenda Item 6 Jason Priestly and 2 other representatives from the Tokyo Broadcasting System joined the meeting. John Haywood introduced them to attendees, expressing their interest to film some of the remaining proceedings. The committee gave their blessing. The footage will be aired on Japanese television.
63	NEW AGENDA ITEM LLWR Update – Simon Hunter
64	Simon Hunter updated on LLWR operations: <ul style="list-style-type: none"> • Operations at the LLWR are continuing, including LLW receipt, with Vault 9 in use for LLW Container storage. • Approximately 300 containers have been received during 2010/11 financial year compared to of the order of 700 in previous years. A significant proportion of this reduction is due to the successful application of the National LLW Strategy and waste hierarchy. • Also in line with the National LLW Strategy the first waste has also been sent for incineration. <p>With regard to discharges there has been no change in the very low aqueous discharges through the period. For aerial discharges the latter part of 2010 will show a step reduction in the already very low reported figures due to a change in the analysis process, it has now been agreed that results will be bulked quarterly.</p>
65	<i>End of presentation - Questions from committee:</i>
66	Jim Desmond asked where the waste is incinerated. Simon Hunter informed that incineration takes place on a site in the south.
67	<i>Questions from press and public:</i>

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68	A member if the public asked what monitoring is in place for incineration at the Studsvik facility at Lillyhall. Simon Hunter informed that no incineration is done at Studsvik. Studsvik have an Authorisation with discharge limits that they have to comply with.
69	A member of the public asked about carcinogens from incinerations, and whether these are considered when considering incineration operations, and also asked about the EA’s regulation of incinerators. Stephen Tandy took the comments on board for consideration. Ron Hargreaves pointed out that there were a series of seminars in St. Bees on LLW one of which will be about incineration; the reports are available on the Sellafield Sites website.
70	AGENDA ITEM 8 Regulatory Issues – Mr S Tandy presented on behalf of the Environment Agency.
71	Stephen Tandy produced a written update for the EHSC which is available on the WCSSG website under the 75 th EHSC Meeting entry. This is the format that the EA will use for all future updates to all sub-committees, and in future will be provided in advance of the meeting.
72	During the presentation the following questions were asked:
73	A member of the public asked when the investigation would be completed into the event which saw LLW bags being sent to Lillyhall. Stephen Tandy informed that the investigation will be completed within the financial year.
74	In relation to point 5 of the update concerning the granting of a permit to Waste Recycling Ltd for the disposal of High Volume Very Low Level Waste (HVLLW), a member of the public asked whether a statement is available on this consultation. Stephen Tandy informed that the consultation document and decision document relating to Lillyhall can be found on the EA website: http://www.environment-agency.gov.uk/business/sectors/100241.aspx
75	In relation to Fukushima incident management, CORE asked whether there were any figures for potential activity in food imported from Japan, and what conditions apply to food being imported from Japan. Are these conditions different for normal operations and following incidents? Action: Stephen Tandy said that the FSA are best placed to provide advice on this issue and agreed to take an action to liaise with the FSA and provide answers to the questions raised by CORE. Further information can be found at: http://www.food.gov.uk/foodindustry/imports/banned_restricted/japan
76	AGENDA ITEM 9 Membership of EHSC
77	Two updates to committee membership were noted. Mr D. Davis (Copeland Borough Council) has retired and so will no longer represent CBC on the committee. Mr S. Standage will no longer represent Allerdale Borough Council on the committee.

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78	AGENDA ITEM 10 Any Other Business
79	CORE noted that Sellafield had been excluded from the nuclear plant stress test (testing the ability to withstand events such as earthquakes); however the remit of the report was to include all nuclear installations. CORE asked whether the committee would support an objection to this. John Haywood took the comment from CORE to pursue with the main WCSSG Committee meeting.
80	Phil Edge referred to the recent Weightman report “Japanese earthquake and tsunami: Implications for the UK Nuclear Industry Interim Report” (Link: http://www.hse.gov.uk/nuclear/fukushima/interim-report.pdf), and said that Sellafield Ltd will be tested in response to this report. The committee were in agreement with CORE that similar tests should be run at Sellafield. Post meeting note: Following further investigation it was found that Sellafield is mentioned/discussed in the Interim Weightman report (see link above), and it is believed that Sellafield will also be included in the final report due later in the year. The aims and scope of the report are on Page 1 & 2 of the report (Page 17 & 18 of the PDF file).
81	AGENDA ITEM 11 Press Release
82	John Haywood advised that he would write the press release and send this out for comment after the meeting. Since the meeting the Press Release has been distributed, agreed and published.

Figure 1: Liquid Critical Group Doses 2009 to 2010

Nuclide	Dose in 2009 μ Sv (1)	Dose in 2010 μ Sv (2)
C-14	7.4	6.4
Co-60	0.2	0.22
Sr-90	1.3	1.5
Tc-99	3.1	3.0
Ru-106	3.5	1.7
Ag-110m	0.02	0.01
Sb-125	0.05	0.05
I-129	0.25	
Cs-137	4.5	4.6
Np-237	0.03	0.03
Pu-Alpha	38	43
Pu-241	4.3	4.4
Am-241	63	70
Cm-Alpha	0.11	
External	32	33 (3)
Total dose	158	168

- (1) Taken from 2009 Annual report
- (2) Taken from Quarter 4, 2010 Statutory Environmental Monitoring report
- (3) External dose for 2010 not available therefore 2009 value from RIFE used

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Figure 2: Aerial Critical Group Doses 2009 to 2010

Nuclide	Dose in 2009 μSv (1)	Dose in 2010 μSv (2)
H-3	0.31	0.12
C-14	1.4	0.41
Co-60	0.38 (4)	
Kr-85 (3)	0.45	0.39
Sr-90	5.5	4.8
Ru-106 (3)	0.003	0.002
Sb-125	0.34	0.19
I-129	1.2	0.84
I-131 (3)	0.08	0.04
Cs-134	0.001	0.00006
Cs-137	1.2	1.9
Pu(a)	0.23	0.10
Pu-241	0.06	0.04
Am-241/Cm-242	0.26	0.06
Total	11	9.0

- (1) Taken from 2009 Annual report
- (2) Taken from Quarter 4, 2010 Statutory Environmental Monitoring report
- (3) Based on modelled doses
- (4) From FSA data

Figure 3: Beach monitoring summary for combined vehicle and hand-held monitoring for 2010/11 financial year

Beach location	Area covered Ha	No of stones found	No of particles found
Allonby	10.44	0	0
Harrington	3.90	0	2
Parton	4.14	0	0
Whitehaven	7.19	0	9
St Bees	53.07	0	60
Nethertown	3.67	0	0
Braystones	76.59	0	115
Sellafield	67.13	35	142
Seascale	51.06	0	10
Drigg	41.81	0	10
All AREAS TOTAL	319.01	35	348



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Figure 4: Beach monitoring summary for combined vehicle and hand-held monitoring since start of monitoring in 2006 up to 31/03/11

Beach location	Area covered Ha	No of stones found	No of particles found
Goatwell_Bay	8.18	0	0
Southernness	15.74	0	0
Allonby	30.02	0	1
Workington	25.56	0	1
Harrington	3.90	0	2
Parton	4.14	0	0
Whitehaven	8.93	0	9
St_Bees	187.33	0	73
Nethertown	9.17	0	0
Sellafield	351.33	435	456
Braystones	198.13	0	192
Seascale	249.89	3	44
Drigg	138.29	0	17
Silecroft	13.91	0	0
ALL AREAS TOTAL	1244.53	438	795



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Figure 5 (a): Total beach finds recovered in 2010/11



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Figure 5 (b): Total Alpha-rich and Beta-rich finds in 2010/11



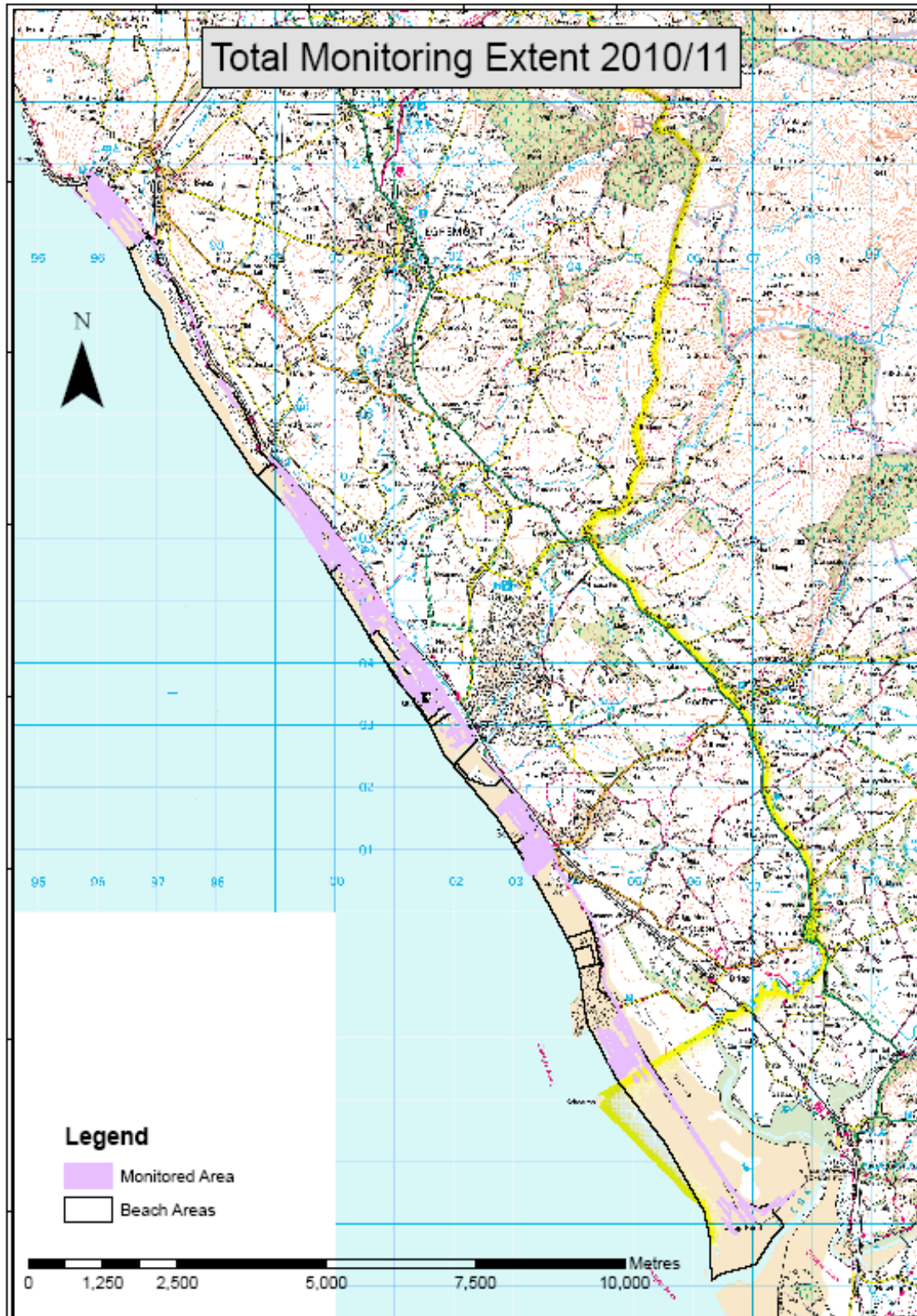
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Figure 5 (c): Total monitoring extent 2010/11



Engaging with the Community

Chairman Cllr. David Moore Vice Chairman Cllr. Elaine Woodburn
Secretary Shirley Williams



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Figure 6: Beach monitoring programme 2011/12

Week Starting	Softrak Beach Monitoring	Area Targets (ha)
04-Apr	Sellafield (a)	4
11-Apr	Buffer Time	-
18-Apr		
25-Apr		
02-May		
09-May	Sellafield (b)	4
16-May	St Bees (1)	4
23-May	Vehicle Maintenance/Strandline	
30-May	Drigg (1)	5
06-Jun	Sellafield (c)	4
13-Jun	Braystones (1)	14
20-Jun		
27-Jun		
04-Jul	Sellafield (d)	4
11-Jul	Seascale (1)	5
18-Jul	St Bees (2)	4
25-Jul	Buffer Time	-
01-Aug		
08-Aug		
15-Aug		
22-Aug		
29-Aug	Sellafield (e)	4
05-Sep	St Bees (3)	4
12-Sep	Vehicle Maintenance/Strandline	
19-Sep	Seascale (2)	5
26-Sep	Sellafield (f)	4
03-Oct	Whitehaven North/Harrington	4
10-Oct	Braystones (2)	18
17-Oct		
24-Oct		
30-Oct		
07-Nov	Sellafield (g)	4
14-Nov	Whitehaven North/Harrington	4
21-Nov	St Bees (4)	4
28-Nov	Sellafield (h)	4
05-Dec	Allonby	4
12-Dec	Vehicle Maintenance/Strandline	
19-Dec		
Christmas Break		
02-Jan	St Bees (5)	8
09-Jan	Sellafield (i)	3
16-Jan	Investigation	4
23-Jan	Braystones (3)	14
30-Jan		
06-Feb		
13-Feb	Sellafield (j)	3
20-Feb	Seascale (3)	4
27-Feb	Drigg (2)	4
05-Mar	Sellafield (k)	3
12-Mar	Vehicle Maintenance/Strandline	
19-Mar	Buffer Time	
26-Mar	Cumulative Totals ==>	150 ha

Engaging with the Community

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