



Control of Radioactive Waste on the Sellafield Site

**Basis of formal enforcement decision following the Radioactive Waste
Control Event in Analytical Services on 15 October 2014**

Project Assessment Report ONR-SEL-PAR-15-002
Revision 0
October 2015

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Published 10/15

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EXECUTIVE SUMMARY

Scope of the Report

This Report details ONR's basis for the formal enforcement decision taken in response to the radioactive waste control event at Sellafield Limited's (SL's) Analytical Services facility in October 2014, and SL's subsequent investigation into that event.

Background

Under the conditions of its nuclear site licence, Sellafield Limited (SL) has a duty to ensure, so far as is reasonably practicable, that radioactive material and radioactive waste on the site is at all times adequately controlled or contained. Additionally, it has a duty to ensure that no operations are carried out which may affect safety except under the control and supervision of suitably qualified and experienced persons appointed for that purpose by the licensee.

In support of wider site operations, including facility decommissioning and radioactive waste reprocessing, SL operates a radiochemistry analytical laboratory (Analytical Services). This facility has undertaken, and continues to undertake, the majority of analytical work for process and waste samples from across the site.

Summary of Waste Control Event

On 15 October 2014, a planned movement of mixed waste (containing what was believed by the licensee to be office, non-radiological chemical and building waste) was removed from the Analytical Services facility building by a sub-contractor. Prompted by subsequent tasking, the sub-contractor attempted to exit the site at the North Gate in order to access another part of the licenced site. The monitors installed at that gate went into alarm, indicating that either the vehicle contained material with a radiological inventory, or had a level of contamination sufficient to activate the alarm.

Following investigation by monitoring teams deployed by the Site Shift Manager, it was ascertained that the waste being transported contained two separate containers, each containing an oil-based substance, with a contact radiation dose rate of 105 micro Sieverts for the first bottle, and 33 micro Sieverts for the second bottle.

The bottles were returned to the Analytical Services facility, and were quarantined pending further inspection. Subsequent assessment of the bottle contents has confirmed they contained Caesium 134 and Caesium 137.

Subsequent to the event, the licensee undertook an investigation into the event, which concluded that there had been a failure to control waste within the facility at some point ten or more years ago, that those responsible for the overall co-ordination of waste within the facility had insufficient training as defined by the licensee's own arrangements, that procedural adherence for the control and consignment of waste was weak, and that the performance and supervision of the waste sub-contractor on site fell short of expected levels of performance.

The licensee defined a number of short and medium terms corrective actions, designed to ensure that no repetition of the event will occur. All short term actions, many of which have been devised to ensure that the licensee has identified if any other facilities on the site have the potential to experience a similar event, , have been completed. .

Review of Adequacy of Licensee's Response to the Event

I consider that the licensee has undertaken an adequate investigation into the circumstances surrounding this event, and that the corrective actions, if enacted fully as described, are

sufficient to underpin its claim that there should be no reasonably foreseeable repetition of this event.

I consider, however, that the adequacy of the investigation alone is not sufficient to give confidence that there will be sustained compliance in the future; the corrective actions from that investigation will need to be delivered, and given time for the performance to improve as a result, before the likelihood of repeat occurrence is reduced to an acceptable level.

Basis for Formal Enforcement Decision

There were a number of barriers and administrative measures that should have been in place to ensure that this event could not occur. Given the contributory causes to this event; including the failure to exert sufficient control over the waste inventory within the Analytical Services facility, the failure to ensure that those staff with responsibility for waste management within the facility were adequately training and experienced, the failure to comply with the licensee's own formal arrangements for the management of waste on site, and the failure to provide adequate supervision of the relevant sub-contractor, it is proportionate to consider formal enforcement, guided by ONR's Enforcement Management Model (EMM).

This Report summarises the use of the EMM when considering the risk gap presented by this event, and defines those factors, both duty holder and strategic, which were considered in arriving at a formal enforcement decision.

Conclusions

The event at the Analytical Services facility on 15 October 2014 breached of a number of pieces of legislation, including Licence Conditions 12 (training), 24 (operating instructions), and 26 (control and supervision of operations).

In both its formal report of the event, and during interactions with the regulator, the licensee has already separately concurred with my key findings, and has responded through the identification and delivery of a number of relevant corrective actions. I agree that the effective delivery of these corrective actions will prevent any recurrence of this event.

I have nevertheless applied ONR's Enforcement Management Model to this event and the related investigation undertaken by the licensee, and conclude that it is proportionate to take formal enforcement action through the issue of a regulatory letter to the licensee. The letter should define ONR's expectations in regard to this event, and in particular the importance of timely and effective delivery of its identified corrective actions.

The regulatory letter will also identify targeted compliance inspections that ONR will carry out against the above three LCs once the above improvements have become embedded. These inspections will provide further confidence in SL's ongoing legal compliance in its management of radioactive wastes, as well as emphasising the importance of the improvements in SL's arrangements put in place following this event.

In addition to this inspection, a Holding to Account meeting should be arranged between relevant SL and ONR senior managers so that SL can provide appropriate assurances that the improvements being implemented will ensure there is no repeat of this event.

Recommendations

I recommend issuing a regulatory letter to the licensee, stating our findings in respect of SL's event investigation and the subsequent corrective actions it has undertaken.

In addition, I recommend that one or more additional inspections be undertaken by ONR focussing on how well SL's identified improvements have been embedded and that a Holding to Account meeting be arranged.

LIST OF ABBREVIATIONS

ALARP	As low as reasonably practicable
AS	Analytical Services
COSHH	Control of Substances Hazardous to Health
HOW2	(Office for Nuclear Regulation) Business Management System
NDA	Nuclear Decommissioning Authority
NNL	National Nuclear Laboratories
ONR	Office for Nuclear Regulation
PSWC	Plant Solid Waste Co-ordinator
SFAIRP	So far as is reasonably practicable

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1 INTRODUCTION

1. This Report details the Office for Nuclear Regulation's (ONR's) basis for the formal enforcement decision taken in response to a radioactive waste control event at Sellafield Limited's (SL's) Analytical Services facility and the findings of its internal investigation into that event.
2. SL, the licensee for the Sellafield site, is responsible for the safe operation of the site, and for undertaking operations in accordance with its formal arrangements to ensure compliance with all site Licence Conditions (LC) and other relevant health and safety legislation.

2 SCOPE

3. This Report considers the waste control event in Analytical Services which occurred on 15 October 2014, and includes a review of SL's internal investigation into that event; the corrective actions identified and applied, and the findings from a number of separate formal information gathering meetings with representatives of the licensee.
4. It should be noted that wider licensee performance, including related events and corrective actions, are considered only in the context of reviewing the actions and investigation undertaken by the licensee for this event.

3 PURPOSE

5. The purpose of the ONR review of this event (and SL's related investigation) is to understand the event, the root and contributory causes, the proposed and delivered corrective actions identified by SL's internal investigation into the event, and thus to consider if any formal enforcement action is merited.

4 DESCRIPTION OF WASTE CONTROL EVENT IN ANALYTICAL SERVICES

6. Analytical Services (AS) is an operational facility that delivers radiological and chemical sample analysis for a number of operational processes (including waste characterisation) in support of reprocessing at site and site-wide waste management.
7. Within AS there are a large number of laboratory facilities, both (radiologically) active and non-active, a number of which have been used by third party analysts in support of site operations. One such laboratory is Lab 10, a facility formally tenanted by National Nuclear Laboratories (NNL), and used by its staff for a number of years prior to 2005, at which point its operations in the laboratory ceased, and Lab 10 was handed back to the licensee.
8. From 2005 onwards, Lab 10 was treated by AS facility staff as a low occupancy area, and became a dumping ground for miscellaneous waste material; chemicals were placed in the laboratory rather than being disposed of, and redundant office equipment was also stored there. No chemical data sheet records were kept of materials within the store, and no related Control of Substances Hazardous to Health (COSHH) assessments were carried out.
9. In 2010, two sample bottles (H110 and H111) were moved into Lab 10 from the clean side of Lab 3; no records of assessments made at the time of that move have been retained, if they were completed. The licensee review of the movement of those samples shows that they were analysed in 2000, shown to be active, and were marked as 'amnesty' samples, but there are no further records to show from which part of the AS facility they originally came.

10. During the middle of 2014, the AS management team requested that Lab 10 be cleared of all legacy wastes, as part of a facility-wide drive to reduce waste holdings and to improve housekeeping within the building.
 11. As part of that request, the AS Plant Solid Waste Co-ordinator (PSWC), who was responsible for the management of waste from the facility, arranged for a number of items from Lab 10 to be collected by one of the site's sub-contractors, to be disposed of within the relevant waste stream(s) offsite. However, there were a number of steps that should have been followed as part of the site's formal arrangements for the characterisation and consignment of waste that were not followed by either the facility or the sub-contractor, prior to the waste being removed from Lab 10.
 12. On 15 October 2014, the H110 and H111 sample bottles, along with a number of items of redundant office equipment and chemical waste from Lab 10, were loaded into a transport vehicle operated by the sub-contractor, and removed from the AS facility. As part of other waste transport moves, the vehicle containing the sample bottles planned to pick up additional material from another part of the licensed site that is accessed by exiting and then re-entering the licensed site through the North Gate.
 13. On approaching the North Gate, the gate post (radiological) monitors (GPM) went into alarm. It should be noted that the GPM are part of the site's equipment installed to support the effective delivery of site-wide safeguards, i.e. monitoring to detect any unauthorised removal of radioactive material, as opposed to inadvertent removal (as was the case here). In particular, the GPM are not intended to provide protection against events of this nature and are not claimed as such in the site's arrangements.
 14. The vehicle was stopped by the Civilian Guard Force (CGF) at the North Gate, remained on the licensed site, and was then monitored by the THORP Shift Monitoring Team, at the request of the Site Shift Manager (SSM). The two sample bottles were identified as part of that monitoring activity, and the vehicle returned to the AS facility, where the sample bottles were removed and quarantined.
 15. There was also a number of initial monitoring actions carried out on the waste contractor's vehicle, some of the staff and contractors involved in the incident, and in the affected areas of the AS facility, including Lab 10. The only contamination identified was at two locations within Lab 10, which the licensee considers are not related to this event, a claim with which I concur. No detectable contamination was found on the remaining waste loaded within the consignment, or on the personnel who had reassurance monitoring as part of the initial actions following the event.
 16. Immediately following this event, the licensee instigated an internal investigation. This was completed in December 2014, was subjected to a number of reviews in January 2015, and was formally issued to ONR in March 2015 (Ref. 1).
 17. As part of my own information gathering activities following the event, and during and following production of SL's formal report covering the findings of the internal investigation, I discussed the event and related corrective actions with the licensee on 17 December 2014 (Ref. 2), and provided a number of challenges and requests for further information to the licensee during January and February 2015.
 18. The licensee's formal report identifies a number of corrective actions, some of which had already completed by the time the report was issued. .
- 5 REVIEW OF ADEQUACY OF THE LICENSEE'S RESPONSE TO THE EVENT**
19. SL's internal investigation report sets out the event timeline, and has articulated the two occasions when control of the sample bottles was lost. I agree with the findings of

- SL's report in this regard; there are two separate instances of loss of control that should be considered.
20. SL has identified that the first loss of control was an historical one, when the material was moved to a non-active laboratory. SL has generated a number of short-term corrective actions in response, and has already delivered them. In my opinion, SL has identified credible routes for the initial (historical) loss of control, but has had limited opportunity to investigate this further, given the paucity of relevant supporting records generated at that time.
 21. In considering the second loss of control, SL identified that there are formal arrangements in place, which, if adhered to, would have ensured that the material would have been identified effectively and disposed of in accordance with safe industrial practice. Due to a lack of knowledge and training on the part of the responsible SL staff (leading to a lack of procedural adherence), and a lack of adherence to the defined procedures for transport and disposal on the part of the waste sub-contractor, the material was not controlled safely, and this was only detected when the gate post monitor went into alarm.
 22. Whilst SL's report has correctly identified the event timeline, and has generated a number of credible corrective actions, the formal report is structured in a manner that has made it more difficult to decipher the underlying causes of the event than I would expect. However, I note that this is an issue arising from the structure of the report format required through SL procedures, rather than a deliberate authoring decision. Nevertheless, I consider the report's style could undermine the efforts expended by the investigation team in promulgating learning from this event.
 23. Whilst SL had focused on the lack of adherence to the formal arrangements currently in place for management of waste material, I note that, had there been a more open and questioning attitude to the movement of unmarked samples, and the lack of information available regarding those samples, then the event could have been prevented. It is my opinion, once the sample bottles were on the non-active side of the AS facility (within Lab 10), that their physical position, and relationship to required radiological controls, created belief amongst AS staff that the bottles were non-radiological in nature; after this no attempt seems to have been made to confirm this assumption.
 24. In terms of worst case/most probable case, should the material in question have remained uncontrolled, it is reasonably foreseeable that the material, possibly in a dilute condition, could have entered the controlled oil/chemical waste remediation streams. Following such a release, there is a related potential for dose uptake by workers external to the licensed site and members of the general public. That said, the extent of any potential dose is entirely dependent on the specific waste route used for disposal. It is not clear what route would have been used by the sub-contractor, as the affected material was not marked in accordance with the site's arrangements.
 25. However, the amount of material within the two sample bottles, and the dilution that would likely have occurred as part of the waste remediation activities downstream, lead me to conclude that there would have been only a very limited radiological impact on either the general public or affected workers. The importance of this event therefore appears to be in how it has highlighted wider failings on the part of the licensee in the delivery of relevant training, level of procedural adherence, and effective supervision of sub-contractors; this is the basis on which I have considered what formal enforcement action is appropriate.
 26. I recognise that the initial corrective actions identified by SL will, when completed, significantly reduce the likelihood of any reoccurrence. I have also noted that initial

short term actions already completed will reduce the potential for further unidentified losses of control of material within the AS facility, although I have not sampled completion of these actions as part of my information-gathering activities.

27. In terms of corrective actions identified, I consider that the licensee has identified an adequate set of actions which, once implemented will, in my opinion, prevent any repetition of this event.

6 IDENTIFIED BREACHES OF LEGISLATION

28. As identified at Section 8 below, covering the application of ONR's Enforcement Management Model, I have identified a number of breaches of legislation, mainly centred on compliance with relevant site Licence Conditions.
29. The licensee, as part of my formal interaction following the event, has identified (Ref. 3) six separate Licence Conditions which it feels may have been breached by this event, as well as the Control Of Substances Hazardous to Health (COSHH) Act 2002, the Health and Safety at Work Act (HSWA) 1974, and Ionising Radiations Regulations (IRR) 1999.
30. I consider that, in each case, the licensee has correctly identified the relevant legislation, as well as the specific aspects of that legislation that apply in each case. Its investigation report had not detailed this in full, but has concentrated on those aspects that relate to the training of the PSWC role, the use of the related waste control procedures, and the expected performance of the sub-contractor.
31. I agree with this approach and consider that breaches of three LCs merit consideration of formal enforcement.
32. Specifically, I consider that a lack of training contributed significantly to the failure to follow formal procedures, noting the procedures were acknowledged by the licensee to be challenging to use, and thus I consider the breach of Licence Condition 12, (requiring persons with a safety role to be suitably qualified) to be of particular importance.
33. Additionally, the sub-contractor used by the AS facility to dispose of the waste has a longer-term and embedded relationship with the licensee, and should therefore be expected by the licensee to be performing at an elevated level of awareness and competence, commensurate with those times at which supervision by the licensee was absent. Given their performance during this event, the corrective action within the formal report relating to improvements in this area is particularly relevant to my enforcement recommendations. Therefore, Licence Condition 26 (in terms of SL's effective supervision and control of the work of the sub-contractor) appears to have been breached to an extent meriting further consideration here.
34. SL's formal report also identifies a number of site procedures that, if followed, would have minimised the probability of this event occurring. That report states that the failure to identify and then follow those procedures was a function of the lack of training and relevant qualification of SL personnel involved in the waste transfer. I consider that, irrespective of the reason for such lack of adherence to relevant procedure, there was a related failure to identify that such controls existed. Therefore, I consider that there was a breach of Licence Condition 24 (control of operations affecting safety using written instructions).

7 WIDER REGULATORY STRATEGY TO SECURE IMPROVEMENTS IN NUCLEAR AND CONVENTIONAL SAFETY

35. As part of the revised Sellafield Programme regulatory strategy (Ref. 4), it is particularly important to ensure that SL's acceleration of its high hazard and risk reduction activities are not unduly constrained and/or diverted as a result of any disproportionate or poorly targeted regulatory enforcement response.
36. The control of waste on site, the effective characterisation and control of such waste and the safe transfer of that waste to the appropriate waste stream on/off site all contribute to the safe operation of the Sellafield site. Given the way in which changes to those operational processes can quickly affect the pace of decommissioning and wider reprocessing operations at site, it is vital that ONR's regulatory response is proportionate, and takes account of the potential wider effects on the site.
37. Noting the above, I consider that sustained compliance with the three Licence Conditions highlighted above will be achieved best through a longer term and targeted regulatory response, rather than specific, shorter term enforcement action. Tracking the effective delivery of corrective actions that the licensee has already defined, noting that I have already judged those actions to be sufficient to regain sustained compliance, will provide confidence to the regulators that this event will not be repeated.
38. It should be noted that, for this regulatory approach to be effective, if there is evidence that the licensee is not completing the corrective actions at the rate declared and accepted, or that the completion is not to the standard expected, then future formal enforcement action, which would include escalation of the expected regulatory response, should be considered a priority.

8 APPLICATION OF ONR'S ENFORCEMENT MANAGEMENT MODEL

39. ONR's Enforcement Management Model (EMM) has been applied both to the event and to the initial and proposed longer-term response by the licensee. I completed an EMM1 form to help me recommend a level of formal enforcement action that is proportionate and consistent with ONR's Enforcement Policy Statement (Ref. 5), and with ONR's guidance on the completion of the formal assessment (Ref. 6).
40. My completed EMM1 form is at Ref. 7, and the basis for its recommendation is summarised below:

8.1 EMM1 SECTION 1 – SUMMARY OF CIRCUMSTANCES

41. Section 1 provides a brief descriptive summary of the event and the related key issues of lack of adherence to SL's formal arrangements for the control of radioactive waste, and lack of supervision of those involved in the enactment of such arrangements.

8.2 EMM1 SECTION 2 – CONSIDERATION OF RISK OF SERIOUS PERSONAL INJURY

42. Section 2 confirms that there is no ongoing risk of serious personal injury, nor any article or substance that might provide imminent cause for such danger to exist, and thus I have recorded that there is no requirement to serve a Prohibition Notice under HSWA 74.

8.3 EMM1 SECTION 3 – BENCHMARK AND RISK GAP

43. For the purposes of establishing the 'risk gap' within Section 3, I have used the waste route pathways defined by SL's formal arrangements, as these will define the extent to

which workers and/or members of the general public could theoretically be exposed to ionising radiation in excess of ALARP levels, irrespective of the extent of actual exposure.

44. It is not practicable to consider all possible sources of waste arising from operations within the Analytical Services facility when completing the EMM. I have thus considered the radiological footprint of the two sample bottles involved in the event to be representative of the material volumes for considering the extent of potential exposures. Using the guidance for stochastic effects, the likelihood of this event was 'remote'.
45. For the benchmark assessment, the regulatory expectation is that doses are reduced so far as is reasonably practicable (SFAIRP), and their likelihood should therefore be considered as 'nil/negligible'.
46. For both the actual and benchmark risks, given the stochastic nature of ionising radiation, the guidance on completion of the EMM1 states that all consequences are to be considered 'serious'. Nevertheless, applying these risk ratings, for single/low casualties, leads to a 'substantial' risk gap.

8.4 EMM1 SECTION 4 – INITIAL ENFORCEMENT EXPECTATION

47. I consider that there are a number of apparent breaches against Licence Conditions, which represent a 'defined' standard as detailed in the guidance for completion of the EMM within ONR. Those breaches are as identified by SL in its investigation report and are as follows:
 - LC 12(1): The investigation clearly identifies the incomplete nature of the training for the PSWC, but this LC requires that only suitably qualified and experienced persons should perform duties which may affect the safety of operations on the site.
 - LC 24(1): The investigation defines one of the key causes of the event as a failure to adhere to the formal arrangements for the management of waste, but this LC requires that all operations that may affect safety be carried out in accordance with written instructions.
 - LC26: The investigation identified that the sub-contractor who handled the waste was not adequately supervised, nor were they challenged to maintain compliance with SL's procedures for management of that waste, but this LC requires that operations that affect safety are to be carried out under the control and supervision of suitably qualified and experienced persons.
 - LC 33(1): The investigation identified that, had the waste not been recovered to the facility, it could have been placed within one of the uncontrolled oil remediation waste streams that leave the site, but this LC requires that all radioactive waste be disposed of in accordance with environmental permitting arrangements.
 - LC34(1): The investigation highlighted that the original (historic) loss of control of the waste was a key factor in the event, but this LC requires that all radioactive waste on site is at all times adequately controlled.
48. Of the five Licence Conditions listed above, there are three that are relevant to the root causes of the event:

- The failure of the licensee to ensure that suitably qualified and experienced persons were in charge of activities involving the movement of waste material from the AS facility is clear evidence that the arrangements for compliance with LC12(1) were not followed.
 - The failure of the licensee and the waste sub-contractor to follow defined processes for the management of waste removal from the AS facility is clear evidence that the arrangements for compliance with LC24 (1) were not followed.
 - The failure of the licensee to provide sufficient supervision of the activities of waste sub-contractor is clear evidence that the arrangements for compliance with LC26 were not followed.
49. For the breaches of LC33(1) and LC34(1), I consider that these are associated LC that are affected by the root cause loss of control, and are identified as breaches based on the fact that the loss of control related to radioactive material. As such, these breaches are not considered further in the present report.
50. In considering SL's level of compliance with these defined standards, I judge that, in all cases, there was formal guidance available for compliance, and that the guidance was adequate to ensure compliance with the relevant Licence Conditions. However, using the evidence from this event, it is clear that the extent to which the licensee complied with those arrangements is inconsistent and thus I judge that the licensee's level of compliance has been 'inadequate'.
51. When the EMM guidance is applied to this level of compliance and the related risk gap for the event, it indicates an Initial Enforcement Expectation of an Improvement Notice/Direction/Specification.

8.5 EMM1 SECTION 5 – DUTYHOLDER FACTORS

52. This Section considers if any factors specific to the licensee should either increase or reduce the severity of the Initial Enforcement Expectation.
53. The licensee has had at a site level, on previous occasions, a number of failures of compliance against each of these Licence Conditions. Of particular relevance is the fact that, in December 2012, SL was prosecuted for failing to adequately control the removal of contaminated waste from site, following an event in April 2010 where four bags of low-level contaminated waste were disposed of via a waste route designed only for non-contaminated waste.
54. However, it should be noted that there is a considerable challenge for the licensee, brought in part by the age of the related facilities and the lack of legacy records for some aspects of waste creation/movement within those facilities. Conversely, there is also evidence of wider site issues around compliance with Operating Instructions (LC24), and evidence of insufficient supervision of sub-contractors, especially where those sub-contractors have a longer term and embedded relationship with the licensee in terms of support to site operations (LC12 and LC26).
55. From a review of SL's investigation of this event there is no evidence to suggest that any actual harm to members of the public or workers has arisen, and no radioactivity was released.
56. The event was instigated by a legacy loss of control of waste with the licensee not realising the nature of its stored waste. It should be noted that the licensee was undertaking a programme of clearance and waste removal from active and non-active

areas and was, for the facility in question, proactively seeking to reduce the waste accumulation in accordance with site arrangements.

57. I have noted that the licensee has, within its investigation and related internal review, identified a range of corrective actions that I consider will ensure that this event will not be repeated. These measures appear to be of a good standard and I have not identified any gaps in what SL is proposing.

8.6 EMM1 SECTION 6 – STRATEGIC FACTORS

58. This Section considers if factors out-with the scope of the licensee's activities should either increase or reduce the severity of the formal enforcement action being considered.
59. In considering if the public interest is coincident with the proposed actions, I have considered either the issuing of Improvement Notices, with schedules that reflect some/all of the corrective actions identified by the licensee, or a formal regulatory letter outlining ONR's expectations for future performance in this area.
60. Both proposed formal enforcement actions would articulate clearly our regulatory expectations regarding the extent of corrective actions required, and the timescale within which these would be need to be achieved. However, there are a number of related issues that are identified by this event, and no one clear area for improvement that should be considered above all others.
61. Taking the Improvement Notice option will require multiple Notices covering the separate issues of procedural compliance, training and qualification, the control of legacy waste, and the effective supervision of sub-contractors. It is likely that in issuing multiple Notices, ONR would raise the prominence of this event disproportionately and this would become a distraction to the licensee's securing of timely risk and hazard reduction at site, which would not be in the public interest.
62. Since the overriding aim is to secure sustained compliance, the focus should be on ensuring that the corrective actions have had the desired effect on compliance across the site, rather than simply tracking completion of those actions alone. Confidence in this restoration of sustained performance is best achieved in my view by an LC compliance inspection, after the licensee has had sufficient time to implement the corrective actions. ONR will be able to secure that sustained compliance by this means.
63. I have discussed this event with representatives of the Environment Agency (EA), who confirm that they are content for ONR to take that enforcement action. A summary of that agreement is at Ref. 8

9 PROPOSED FORMAL ENFORCEMENT ACTION

64. Following the application of duty holder and strategic factors to the assessment of initial expected formal enforcement action, I propose that ONR should take formal enforcement action in the form of a regulatory letter. The letter should detail the following:
- Those areas of legislation which I consider have been breached as a result of the event, including reference to the expected defined standard.
 - The regulatory expectation for completion of those corrective actions defined in the licensee's own investigation report.

- The completion of a planned inspection against the co-ordination of waste at site; specifically the effective delivery of the PSWC role across relevant facilities on site, as managed by the Solid Waste OU.
 - Our intention to use planned compliance inspections against Licence Conditions 12, 24 and 26 to confirm the adequacy of SL's waste control operations by sub-contractors at the site.
65. The completion of the planned inspections would be in a timescale sufficient to allow for SL's corrective actions to have been completed and for related improvements in compliance to be in evidence.
66. In addition to the above, since duty holder and strategic factors have been used to reduce the enforcement action taken following this event, a Holding to Account meeting should be arranged between relevant SL and ONR senior managers so that SL can provide appropriate assurances that the improvements being implemented will ensure there is no repeat of this event.
67. This meeting should take place at the earliest possible opportunity, prior to undertaking the planned inspections, and should also reconfirm the current commitments by SL regarding the timescales for delivery of outstanding actions identified at the SL report.

10 CONCLUSIONS

68. The event at the Analytical Services facility on 15 October 2014 breached a number of pieces of legislation, including Licence Conditions 12 (training), 24 (operating instructions), and 26 (control and supervision of operations).
69. In both its formal report of the event, and during interactions with the regulator, the licensee has already separately concurred with my key findings, and has responded through the identification and delivery of a number of relevant corrective actions. I agree that the effective delivery of these corrective actions will prevent any recurrence of this event.
70. I have nevertheless applied ONR's Enforcement Management Model to this event and the related investigation undertaken by the licensee, and conclude that it is proportionate to take formal enforcement action through the issue of a regulatory letter to the licensee. The letter should define ONR's expectations in regard to this event, and in particular the importance of timely and effective delivery of its identified corrective actions.
71. The regulatory letter will also identify targeted compliance inspections that ONR will carry out against the above three LCs once the above improvements have become embedded. These inspections will provide further confidence in SL's ongoing legal compliance in its management of radioactive wastes, as well as emphasising the importance of the improvements in SL's arrangements put in place following this event.
72. In addition to this inspection, a Holding to Account meeting should be arranged between relevant SL and ONR senior managers so that SL can provide appropriate assurances that the improvements being implemented will ensure there is no repeat of this event.

11 RECOMMENDATIONS

73. I recommend issuing a regulatory letter to the licensee, stating our findings in respect of SL's event investigation and the subsequent corrective actions it has undertaken.

74. In addition, I recommend that one or more additional inspections be undertaken by ONR focussing on how well SL's identified improvements have been embedded and that a Holding to Account meeting be arranged.

12 REFERENCES

1. Sellafeld Limited Root Cause Investigation Report for Condition Report BN1410A2156. **[TRIM 2015/0094159]**
2. ONR-SEL-CR-14-424 - Telecon with SL Lead investigator for B waste control event on 15 Oct 14 - 17 December 2014 - [REDACTED] **[TRIM 2014/472512]**
3. ONR-SEL-CR-15-051 - Analytical Services waste control event (15 Oct 14) - SL response to ONR concerns regarding the Management Investigation Report (MIR) - 30th April 2015 - [REDACTED] **[TRIM 2015/178088]**
4. Sellafeld Programme Strategy 2014. **[TRIM 2014/141419]**
5. ONR Enforcement Policy Statement (ONR-ENF-POL-001 Revision 0), 1 April 2014.
6. The use of the Enforcement Management Model in ONR, NS-ENF-GD-002 Revision 5. **[TRIM 2014/378851]**
7. Waste control event - Completed Form EMM 1. **[TRIM 2015/189071]**
8. Analytical Services – Waste control event (15 October 2014) – EA response to ONR regulatory decision [OFFICIAL] – [REDACTED]. **[TRIM 2015/220140]**