

Strategy for the management of Naturally Occurring Radioactive Material (NORM) waste in the United Kingdom

Government response to consultation



Department
of Energy &
Climate Change



Llywodraeth Cymru
Welsh Government



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Introduction

1. The UK NORM strategy and a summary and analysis of consultation responses were published on 24 July 2014. The strategy was presented jointly by UK Government, Scottish Government, The Welsh Government and the Northern Ireland Department of the Environment. This document sets out a response on behalf of the four governments (referred to hereafter as 'government') to the points raised in consultation. In most cases, our conclusion is reflected in the strategy. This document sets out, in brief, our reasoning in responding to consultation.
2. Engagement with stakeholders was a key part of the development of the strategy, and contributed significantly to the final document. Engagement was achieved in four main ways:
 - the involvement of industry representatives on the Project Board for the development of the strategy;
 - engagement with firms and industry bodies in the data collection exercise led by SEPA, which discussed the processes that produced NORM waste, the volumes produced and the recovery, treatment or disposal route;
 - a seminar for stakeholders held in February 2014; and
 - a public consultation exercise.

Background: The Consultation Draft Strategy

3. The consultation draft strategy sets out its information in six chapters. These chapters were as follows:

Chapter 1. Introduction, sets out the policy background, including the waste hierarchy and the UK's Low Level Waste Policy and the objectives for the proposed strategy.

Chapter 2. Regulatory Framework, sets out the international background to the regulation of NORM, outlines the UK regulatory systems and describes the role of the land use planning system.

Chapter 3. Information about the NORM waste arisings and routes for treatment and disposal, sets out the most comprehensive picture assembled of the NORM wastes produced in the UK and their current treatment and disposal destinations.

Chapter 4. Proposed UK NORM waste strategy, sets out the key planks of the proposed NORM strategy, stating the policy principles and key themes for the strategy. It also describes the roles and responsibilities in achieving these principles and themes, including the key role of waste producers.

Chapter 5. Early developments and proposals, describes some key recent and forthcoming developments that will affect the development of the NORM waste management sector in the UK. Government proposes to use these developments to advance the policy principles and proposed key themes for the

NORM strategy set out in Chapter 4, while ensuring that we fulfil our international obligations. This chapter also discusses some proposed further clarifications to the regulatory regime, and considers how data available to the NORM market can be improved.

Chapter 6. Longer-term developments and monitoring, presents information on how government proposes to consider developments during the next five to ten years, including the possibility that volumes of NORM waste will rise, and risks to the implementation of the strategy.

4. The three main key principles set out in the consultation draft strategy were:
 - (i) reforming the regulatory framework to ensure it is clear, coherent and effective;
 - (ii) removing policy barriers to the development of a robust and efficient market for NORM waste management; and
 - (iii) supporting efforts by waste producers and the waste management supply chain to generate better data and information about current and future NORM waste arisings.

Analysis of Responses

5. A detailed Summary and Analysis of Responses was published at the same time as the Strategy. This is available on the Scottish Government website: <http://www.scotland.gov.uk/Resource/0045/00455807.pdf>
6. Overall there were thirty responses to the consultation and one expression of interest. A majority of the respondents were from firms creating or treating NORM wastes. Further responses came from trade associations adding to the industry responses. There are two responses from regulatory bodies and four responses come from local authorities or local authority groups. There is one individual respondent and two other respondents, these are the Ministry of Defence (MoD) and the Nuclear Legacy Advisory Forum (NuLeAF).

Government Response to consultation

7. This government response to the consultation will answer the main points that were raised by respondents. It will not, however, seek to answer every point made in every response.
8. It is important to remember that the published Strategy sets out the agreed policy of the four governments. This document provides some additional information to assist in the understanding of the strategy's development, but is not itself a statement of policy.

Question 1: Do you have any comments on Chapter 1, which includes discussion of the background, scope and objectives for the proposed NORM Strategy?

Summary of responses to consultation

9. Most responses to this question offered support of the consultation draft, with only a small number opposing the draft strategy's background, scope and objectives. There were suggestions to clarify some aspects of the consultation draft, and general support for a consistency of regulation across the UK.
10. There was discussion of the intentions to review the strategy, with some calling for a review earlier or no later than 5 years, due to the level of uncertainties highlighted within the strategy.
11. Most consultation responses agree with the application of the waste hierarchy to NORM. Respondents would like to see a comprehensive regulatory process to ensure that as much of the NORM is pushed up the waste hierarchy as possible.
12. One respondent expressed views against the promotion of an expanding NORM industry and would like to see the waste eliminated through the replacement of the NORM producing sector by alternative means.
13. There is wide industry support for the strategy's listed objectives and a general strong support from industry for the simplification of regulations to support more effective waste management.

Government response

14. Moving NORM waste up the Waste Hierarchy remains a fundamental goal of the final strategy. One of the strategy's three confirmed key themes is to increase the clarity of regulation.
15. In the final strategy, we clarified our intentions with respect to future review of the strategy. The issues covered in this strategy are long term in nature, and the strategy is intended to set out a clear policy framework for many years, with government and agencies responding to developments within this framework. Government intends the strategy document to remain for a minimum of five years, and will consider when to review the strategy in light of developments in NORM waste arisings and disposal practices.
16. Government believes that NORM waste producing sectors are important to sustaining economic prosperity. We believe that regulation of NORM wastes, to standards recognised by international bodies as appropriate to protect human health, is appropriate, and ensures that these industries can continue to prosper and contribute to the economic without danger to human health.

Question 2: Do you have any comments on Chapter 2, which includes discussion of the current regulatory framework in the UK for NORM wastes, including the land use planning system.

Summary of responses to consultation

17. Many of the responses indicated that the summary of the regulatory framework contained in the consultation paper was sufficient to allow development of the strategy. Respondents were keen to see the resolution of the unclear or confusing legislative and policy matters highlighted in Chapter 2. Views were expressed about the desirability of a UK wide set of standards and guidance that all service providers must follow when developing and operating treatment and disposal facilities.
18. A few responses asked that the new BSSD be strongly considered for any decisions made regarding regulatory control of NORM wastes. Some responses stated that greater clarity is needed on the guidance of the implementation of the regulations.
19. A few of the responses highlight that the key requirements are for local authorities to actively consider the waste arisings in their area of responsibility and plan accordingly as well as the enforcement of duty to cooperate where needed at a national level. There is response to say that even though there is uncertainty into what the 'duty to cooperate' involves it is still important to include it in this iteration of the strategy so that it can be adequately reviewed in later iterations. In addition, views were expressed that there needs to be a better route for planning and licensing applications for NORM handling and treatment. The industry responses believe that it isn't the reluctance from the industry to develop capacity of disposal but it is the difficulty in attaining planning permission for even minor adjustments that causes the reluctance.

Government response

20. The radiation protection framework for NORM waste regulation in the UK will have to comply with the new requirements in the new Euratom Basic Safety Standards Directive (BSSD) which was adopted in January 2014 and is binding on all Member States, including the UK. The new BSSD must be transposed into UK law by February 2018.
21. The new BSSD is more explicit regarding when NORM waste may be exempted from regulatory control (which has the same effect as 'out of scope' in the UK regulatory structure). To provide the necessary clarity, government will review the appropriateness, applicability and consistency of the various criteria, constraints and dose limits that apply to NORM Industrial Activities and to the disposal of NORM waste prior to the implementation of the new BSSD. Government believes that it is desirable to make the changes to NORM regulatory limits in a single revision of the regulatory regime at the point of implementation of the BSSD, rather than piecemeal over the coming years.

22. Annex A of the final strategy includes information about how the planning system is developing in the four countries.

Question 3: Do you agree Chapter 3 adequately describes UK NORM waste arisings and routes for treatment and disposal? What additional information can you provide?

Summary of responses to consultation

23. Most respondents were satisfied with the information presented in the consultation paper on the current waste arisings and disposal routes. Some respondents expressed concern that not enough data had been collected on some areas of NORM producers. Some responses provided additional data on current NORM waste arisings in industries that had little data in the consultation document.
24. There were a range of views expressed about future arisings and their treatment and disposal. There is a general consensus that there should be some flexibility in the predicted capacity of NORM treatment and disposal routes, however some of the respondents increased their concerns around volume and disposal routes a little further.
25. Responses highlighted particular areas of uncertainty, such as decommissioning in the oil and gas industries and unconventional gas. These sources may create significant volumes of NORM waste, requiring additional capacity. Additionally, there may be a need for a specialist capacity for the NORM waste containing liquids. There is further suggestion from another respondent that there should be the inclusion of more than just the current NORM industrial activities. There should also be information on the historical industries that generated NORM, i.e. tin smelting, as these industries will have legacy waste that still requires treatment.
26. A number of responses disagree that there is no 'capacity gap' for NORM treatment and disposal. There is a general feeling that even a small rise in the amount of NORM produced could be more than the current capacity at permitted UK facilities. However there is agreement that no gap exists in current arisings.

Government response

27. Useful review of information on current arisings – reasonable confirmation that the data collection exercise led by SEPA produced the best set of information that has been available about current NORM waste arisings.
28. Government agrees that there is significant uncertainty about future arisings, and therefore an ongoing need to improve the availability of information about developments in NORM waste producing sectors. Improving data is one of the main themes of the final strategy, and we will be working with stakeholders to continue to improve data accuracy and availability.
29. Ultimately, commercial decisions about the development of treatment and disposal capacity are a matter of judgement for the firms involved. Government expects firms that will create significant volumes of NORM in the future to give

early consideration to the treatment and disposal routes they will use.

Question 4: Do you agree with the Key Themes for the NORM waste strategy set out in Chapter 4? What Different or additional themes should the strategy address?

Summary of responses to consultation

30. Responses to the consultation set out general agreement with the key themes set out in Chapter 4 of the draft strategy. Most highlighted that they agreed with the need for clarity within regulatory regime. A number of the respondents feel that the strategy should have less of an emphasis on the collection of data in the industry. They feel that it should be up to the industry, both waste producers and managers, to collate the data for effective information flow; this should not need to be in the strategy.
31. Responses agree with the emphasis within the strategy to make the waste hierarchy the heart of the document and encourage the development of new treatment technologies in the industry. The responses generally agree that the policy barriers for the development of NORM waste treatment and disposal facilities should be identified and then removed as part of the NORM strategy. Some responses would like to see the strategy actively encouraging the industry to invest in new infrastructure and technology to advance the NORM industry to cope with market changes. However, it is commented on by one respondent that the encouragement of developing new technologies should still come with robust regulation to protect the environment.
32. There is agreement that the quality of NORM waste data would be improved through the national collection of the records held by waste producers. It is felt by one respondent that this would be useful in the impact of the possible review of the exemption levels.
33. There is concern from some responses that the strategic objectives of the strategy are not explicitly highlighted in this section as well as there being no outlined action plan for achieving the objectives. It is felt that the inclusion of these would improve the strategy and make it more informative.

Government response

34. The three key themes from the consultation are the key themes of the final strategy. Moving NORM wastes up the waste hierarchy remains the central purpose of the strategy. In the final strategy, the NORM waste management issues that are a priority for action by government and regulators are clearly set in the context of the key theme that they are addressing.
35. We believe that there is a role for government and regulators in seeking to improve data on NORM wastes. However, we agree that there is also a role for industry in improving the flow of information. Options for improving data on current and future NORM waste data will be discussed in the implementation of this strategy with business representatives and other stakeholders.

Question 5: do you have any comments on how NORM waste producers are performing with respect to the roles and responsibilities set out in chapter 4?

Summary of responses to consultation

36. Most waste producing industry respondents to the consultation document were of the view that they conform to the roles and responsibilities set out in Chapter 4. Some of the waste handlers consider there to be a lack of clarity from some firms that produce NORM wastes, as a result of a lack of upfront planning carried out with regards to NORM. Respondents that thought that some waste producers fall short of the roles and responsibilities considered that a published strategy would help align the industry with their adoption of best practice.
37. Some of the waste producer responses discussed issues with the public misconception of radioactive waste. Industry feels that there is a shared responsibility between governments and industry to help resolve the perceived risk levels associated with NORM wastes and ubiquitous nature of daily exposures to radiation. This will help resolve the reluctance in the industry to highlight NORM wastes publically.
38. There is a consensus across the majority of local authority responses that the promotion of NORM handling facilities to cope with an expanding NORM market is problematic. Their concern is mainly regarding promoting the expansion of newer industry sectors, yet there is still an issue with the unaddressed NORM wastes associate with existing industry including oil and gas decommissioning.
39. Some of the industry responses, despite agreeing that the described are within the roles and responsibilities of industry, consider that there are connections between the effective carrying out of these responsibilities and access to routes for the recovery of NORM wastes that are proportionally regulated.
40. Some of the non-industry responses called for more explanation of the government's opinion and understanding of the proximity principle.

Government response

41. The strategy reiterates the fundamental responsibility that NORM waste producers have for providing for the safe treatment and disposal of those wastes. The greater regulatory clarity and flow of information introduced by the strategy will help waste producers to fulfil this responsibility, and to move a greater proportion of NORM wastes up the waste hierarchy.
42. The 2007 LLW Policy statement sets out the factors that should be considered within a waste management plan and says that an 'options assessment study' should be conducted that explicitly considers the environmental impacts of transporting radioactive waste over long distances.

Question 6: Do you agree that the various values underpinning NORM waste regulation should be reviewed? If yes, please provide any information you feel would be appropriate to take into account including how best the outcome of the review can be implemented.

Summary of responses to consultation

43. In general the majority of the responses highlight that there is no need to review the underpinning values of NORM regulation. A small proportion of the responses suggested there should be no difference in the limits set for the levels for NORM waste categorisation and the categorisation of anthropogenic wastes, but the majority of the responses agreed that there should be different limits for NORM and anthropogenic wastes. In some responses, there was a call for clarity of the limits.
44. The majority of responses did suggest that there should be great consideration into the limits placed on the categorisation of NORM wastes, to be in line with the limits used across the rest of Europe. A major reason for wanting to raise the limit is that this gives more scope to move more of the waste up the waste hierarchy and into the reuse/recycle section. It is also widely believed that it would become too expensive for the industry if there were to be stricter limits put onto what is categorised as NORM waste. If the limits were raised this would also reduce the costs experienced by the smaller parts of the NORM generating industry. There is caution highlighted towards the ALARA principle, any raising of limits should be justified against this and the perception of a change in limits.

Government response

45. Government agrees that there is no immediate need to review thresholds for NORM waste regulation. In the strategy, we have set out as clearly as possible the current limits and thresholds for NORM regulation in the UK, to assist in providing greater clarity to both industry and regulators.
46. The new BSSD is more explicit regarding when NORM waste may be exempted from regulatory control (which has the same effect as “out of scope” in the UK regulatory structure). To provide the necessary clarity, government will review the appropriateness, applicability and consistency of the various criteria, constraints and dose limits that apply to NORM Industrial Activities and to the disposal of NORM waste prior to the implementation of the new BSSD. This review will include consideration of the 1.0 Bq/g out of scope level for NORM that is contained in the new BSSD against the current out of scope limits in the UK, including the impacts of adopting this limit. Government believes that it is desirable to make the changes to NORM regulatory limits in a single revision of the regulatory regime at the point of implementation of the BSSD, rather than piecemeal over the coming years.
47. Along with all international standards and practice, we believe that it remains appropriate to have different limits for NORM wastes from those for anthropogenic nuclear materials. Naturally occurring radiation is a ubiquitous part

of the natural world, and it is only significant concentrations of NORM that need to be regulated.

Question 7: Do you have any comments about the implementation of Article 37 requirements in the UK with respect to the management of NORM waste?

Summary of responses to consultation

48. Most responses to this question agreed that the implementation of Article 37 possibly adds a disproportionate level of submission for NORM handling sites. However, most did agree that some form of supervision on NORM waste handling is required and something should be installed that is appropriate and consistent with the spirit and intent of Article 37.
49. The majority also agree that the alignment with Europe is advantageous. Examples are given to the fact that the full application of Article 37 to NORM waste handlers in the UK might be too much of a burden on the development of NORM processing technologies.

Government response

50. Government agrees that it is important to ensure a proportional implementation of the requirements under Article 37. Submissions are only required where a radioactive substances discharge authorisation or permit is necessary. The Article 37 Recommendation states that in most cases submissions for NORM operations would not need to include information on unplanned releases or emergency plans. Operators should make best use of existing information (for example some of the information for an Article 37 submission will also be required in permit or authorisation applications) and the detail should be commensurate to the level of risk. In many cases, this will mean that the information on local effects prepared for the permit or authorisation application can be expected to be sufficient for the Article 37 submission.
51. The new Basic Safety Standards Directive (BSSD) contains new provisions related to the regulation of NORM which are intended to apply minimum standards across the EU. We will keep under review the interpretation of the requirements of the Article 37 in conjunction with the new provisions of the BSSD to ensure that the UK is not making submissions that are disproportionate, while ensuring that we remain within the spirit of Article 37.

Question 8: Do you have any comments about the regulation of the import and export of NORM waste in the UK?

Summary of responses to consultation

52. There was an even split in responses to this question between the amount of respondents that thought that the same rules should be applied to NORM as are applied to the anthropogenic industry and the amount that considered NORM differently to the anthropogenic radioactive wastes. A number of the responses agree that the import and export of waste for treatment should be the same as that for anthropogenic wastes. The waste would be transported internationally for processing, any residual waste after processing is returned to the originating county.
53. There is also support from a number of respondents for the use of importing NORM waste for processing in order to support the growth of the domestic NORM market. There is also concern for the fact that some complicated wastes may need to be exported for processing outside of the UK due to lack of current UK based facility capabilities. It is believed that a freedom to move waste to the most appropriate location for processing might open up more avenues for reuse/recycling of NORM contaminated material.
54. A few respondents believe that the proximity principle should be applied to the processing of waste. It is stated that the waste should be processed as close to the site it was made as is possible, that is also to say that UK waste should be treated by UK industry. Although, this may be found to be not economically viable so export may be required for some waste discharges. In the majority of responses there is the requirement for more clarity in how the transfrontier shipment will be applied to and affect NORM wastes.

Government response

55. Government supports the import and export of NORM waste where it contributes to the objectives of the industry strategies and this NORM waste strategy, providing that it is undertaken in accord with all relevant legislation and policy. Government will ensure that the UK's implementation of international conventions and EU legislation enables import and export of NORM waste where it is practical and appropriate to do so and contributes to the overall objectives of this NORM waste strategy.
56. Government accept that there is some confusion associated with the legislative framework accompanying import and export of NORM waste and to help resolve these issues will do the following:
- Clarify the UK policy and legislative framework for import and export of NORM waste in the strategy;
 - Engage with international partners to share best practice and increase harmonisation where appropriate.

Question 9: Do you have any comments on the approach in the UK to the averaging and characterisation of radioactive waste, or on the adequacy of guidance on this issue?

Summary of responses to consultation

57. There was general support in responses for the approach set out in the consultation document. Many respondents believed that the current nuclear and radioactive waste industry has managed to come up with best practices, and the NORM industry should adopt the same actions as already exist.
58. A number of respondents are concerned with the application of the current nuclear industry practices. It is stated that there should be different and specific guidance on NORM waste and dilution onshore. It is also stated that there are practices that are applicable to the nuclear industry but are difficult to apply to the oil and gas industry when referring to radioactive materials.
59. It is highlighted by one respondent that there is widespread evidence that the dilution of NORM materials to meet criteria for exempt disposal is currently commonplace. There is a reluctance to provide these details to the regulators and government. It is also highlighted that there are accepted treatment and practices which could effectively be regarded as dilution, including the co-incineration of radioactive wastes in conventional incinerators and the disposal of radioactive effluents into the sewer. They state that deliberate dilution is a grey area, but is almost impossible to quantify, partly because there is no requirement for those utilising exemptions to register, so the regulators do not often know how to police.

Government response

60. In the final strategy, government confirmed the broad approach to the issues of averaging and characterisation set out in the consultation paper. Additional detail and clarity was provided, in response to consultation comments.
61. The issues with respect to dilution are considered in the response to the next question.

Question 10: Do you agree with this position on dilution that takes place during the conditioning of the waste?

Summary of responses to consultation

62. Many respondents made comment on issues with respect to dilution. Only one respondent fully disagreed with the statement, the rest were in general agreement with what the position set out in the consultation document. A few respondents make further comments to advance what the consultation document states.
63. A few respondents state that there could be an issue with difficulties in determining what is classed as inappropriate dilution. And one respondent had stated that there could also be an issue with techniques developed for appropriate dilution could be advanced and used in inappropriate dilution of NORM wastes.
64. One respondent calls for the advancement of dilution beyond that of just the radiological hazard. It is possible that a NORM waste package may need to be diluted to address some other chemical hazard that is posed, in this case dilution would be unavoidable. Another respondent states that in the case of scale removal dilution is difficult to avoid.

Government response

65. In the final strategy, government confirmed the broad approach to the issues of dilution set out in the consultation paper. Additional detail and clarity was provided, in response to consultation comments.
66. Government sets out clearly in the strategy that the deliberate and inappropriate dilution of waste is unacceptable. This may needlessly use raw materials, take up additional unnecessary capacity by sending additional waste to landfill and avoid appropriate regulatory controls. In addition, such practices may put compliant businesses at a commercial disadvantage. Government expects the environmental regulators to clearly communicate their expectations from waste producers when conditioning to facilitate disposal. Government should also review current arrangements to ensure unnecessary dilution is avoided. This may include the regulators working with industry to develop common guidance on this conditioning for disposal.
67. Government believes that adequate controls already exist under the radioactive waste legislation to allow the regulators to prevent inappropriate conditioning. Where it is apparent that an operator is carrying out a process with the main purpose of diluting the radioactive waste to avoid regulatory controls, we would expect the environmental regulator to take appropriate action to stop the process. Government expects the environmental regulators to ensure requirements for conditioning NORM waste are complied with as part of their routine permitting and inspection regime

Question 11: Do you agree with the written criteria proposed by government to assess whether or not conditioning of NORM waste to facilitate recovery is acceptable?

Summary of responses to consultation

68. The majority of the respondents agree with the criteria proposed in the consultation document. There are some further comments on how to advance what the consultation document covers.
69. Most respondents comment with the fact that there will have to be a strong regulation of what is covered in the consultation document, this will ensure that the strict values are adhered to. There is also call for the need of a robust demonstration for the benefits and feasibility of the conditioning of NORM wastes.
70. A few of the respondents disagree with what is covered in the consultation document. There were concerns over that fact that the NORM industry should adhere to the same rules as the anthropogenic industry, when dealing with radioactive waste. There is also call to adopt the same procedures as the rest of Europe when dealing with NORM.
71. A few respondents ask that the re-use and recycling of NORM materials is consistent with the BSSD (Article 75) provisions for NORM building materials.

Government response

72. Government believes that conditioning of NORM waste, including mixing with non-radioactive waste, to facilitate a further use or recovery can be an effective means of moving up the waste hierarchy and reducing the amount of wastes going for disposal. It can help wider efficiency in the economy by reducing the use of newly extracted materials.
73. Government also recognises the legitimate concerns that such conditioning could be used as a way to avoid regulatory controls. In addition, depending on the use, this may result in additional radiation exposure to the public. Therefore, when waste managers are making decisions about waste re-use, we expect those decisions to be based on a legitimate use and demand for the conditioned material. In addition, we expect conditioning to be carried out such that it is not an operation simply to dilute the NORM waste and so to avoid regulation relating to its disposal.
74. In the strategy, government sets out criteria to help industry and regulators to correctly identify acceptable conditioning.

Question 12: Do you think it is necessary to put in place regulatory mechanisms to facilitate the recovery and use of NORM wastes, and if so please give details?

Summary of responses to consultation

75. There was general support in responses about the desirability for regulatory mechanisms to facilitate the recovery and use of NORM wastes. However, there was no clear agreement about the form of mechanism that should be employed.
76. A number of respondents demonstrated that if there is to be a regulatory position there would have to be a simple application for exemption of waste. Any simple waste exemption would have to be for a common application, for example use in building materials. Where a regulatory document already exists (for reactivity of building materials RP112) this should be taken as the regulatory position statement; meaning that no specific exemption is needed.
77. Some respondents stated that the existence of additional regulatory mechanisms covering the re-use/recycling of NORM materials may make the use of such materials an undesirable prospect. The re-use/recycling of NORM must be kept competitive with that of other recycled materials.

Government response

78. Government believes that recovery and use of NORM wastes is an effective means of moving up the waste hierarchy. However, potential users of NORM waste do not want to be associated with dealing with radioactive wastes that require an environmental permit. This concern about a material being labelled as radioactive waste, which can give rise to negative perceptions among customers and stakeholders, can stand in the way of otherwise viable and safe recovery options.
79. Government considers that the criteria set out in the strategy for conditioning for recovery may help to remove this problem as waste producers will be able to condition their own wastes in order to facilitate reuse. However, this is only possible where the waste producer has the capability and other material available to condition their own wastes. It does not help with situations in which a transfer of waste from one waste producer to another potential user exists.
80. Government will continue to consider the possibility of a new exemption or exemptions to accommodate particular 'uses' of NORM wastes. In the short term, government expects the environmental regulators to make use of regulatory position statements to enable them to set out the case for any specific circumstances, on the basis of proposals from industry. Over time, government will assess if the use of regulatory position statements to facilitate recovery is effective and if the statements reflect a pattern of activities suitable for inclusion in one or more exemptions. Government could consider creating an exemption similar to the assessed landfill exemption, i.e. it would be for operators to submit an assessment to the regulators, showing that predefined criteria have been met. The operator will then be exempt unless the regulator informs them otherwise.

Questions 13: Do you agree that there should be no requirements to inform waste management companies about exempt radioactive waste? If not please provide any information that would justify a change to the current position.

Summary of responses to consultation

81. Most respondents agreed with the position set out in the consultation document, although some respondents disagreed. The respondents associated with waste disposal and/or handling are concerned about there being undeclared exempt waste. This is mainly down to the duty of care that they have towards their workforce under Ionising Radiation Regulations 1999. Waste managers are also concerned that a waste might start out exempt but after processing it may become more concentrated and fall out with these limits.
82. Further note is made to the nature of 'assessed landfills' and the need for the waste producer and landfill operators to work together in NORM cases. Some respondents stated that it is best practice within industry to declare what is contained in exempt waste.
83. A few respondents also disagree on the bounds that it would allow waste managers to efficiently and reliably process waste within their permitted waste streams to ensure compliance with permits. This is even if there is a small risk of exposure to workers and the public. There is further concern from another respondent that no regulation might lead to ambiguity and result in putting worker safety at risk.

Government response

84. Government does not intend to change the situation that there is no legal requirement to inform the next recipient that the waste contains radioactivity. We considered carefully the responses to consultation. Some waste management companies have expressed concerns that they may not know when they are receiving exempt radioactive wastes, including NORM wastes. There are two main concerns, one relates to ability to comply with their permits and the other is worker safety.
85. Government has created the exemption regime to minimise the regulatory burden in relation to radioactive waste where the risks are such that no special controls are required. This was underpinned by radiological impact assessments that take into account exposure to waste management workers including those on waste sorting lines.
86. The environmental regulators already require operators to have arrangements in place to ensure compliance with their permits, which may include waste acceptance criteria. On this basis, government considers that the regulatory framework is robust and does address the provision of information relating to handling of exempt NORM wastes. Waste companies are able to request confirmation of the presence or otherwise of exempt NORM waste as part of their waste acceptance criteria, if they need this information for operational purposes or to comply with regulatory limits.

Question 14: Do you support measures to improve the collection and sharing of data on NORM wastes? What processes could be used to collect data with an acceptable burden to business? What role can industry and industry groups play in collecting data?

Summary of responses to consultation

87. Industry responses contain a general call for a simple reporting method that creates less of a burden than the current multi-format approach employed in the industries. Reducing the burden is a common theme in responses and most agree that data collection and sharing is a positive if the burden does not exceed the worth. It is recognised that industry groups play a big role in data collection.
88. Several respondents suggest an online portal to record and view data of NORM wastes would be beneficial to the industry in terms of planning NORM management activities. There is support from another respondent to adapt EEMS for the reporting of NORM within the oil and gas industry.
89. There is call from one respondent that the data submitted to the EA, as part of the EPR permit conditions, should be collated and forwarded to the government for sharing. Several other respondents considered the sharing of this information within industry to be a positive. However, public reporting of this information is potentially counterproductive. The vulnerability to the press and NGOs of publically published information is a huge concern for many of the respondents, it is a consensus that the information is shared with the regulator(s) and distributed to industry carefully.
90. Two respondents reference the lessons learnt from the nuclear industry when reporting waste flow. This model should then be applied to the NORM industry. There is recognition that the sharing of data of materials in the nuclear industry is what has provided the waste supply chain, strategy implementers and waste producers with better quality information on which to base business decisions. It has been possible through the obligatory reporting of waste streams, to the NDA, for businesses to put in strong business cases for investments into new waste handling facilities. Lessons learnt from other industries are also drawn upon in responses, such as that of declaring exempt wastes.

Government response

91. Improving the quality and availability of data on NORM wastes is a key theme of the NORM waste strategy. However, government recognises that it is important that disproportionate burdens are not placed on firms to supply data
92. The strategy presents a list of possible data improvements that will be considered by government and regulators, in full consultation with industry and other stakeholders.

Question 15: Do you have any information about the areas for potential growth in NORM arisings identified in Chapter 6, or on possible growing sources of NORM wastes

Summary of responses to consultation

93. Most respondents considered that the growth areas had already been identified for their areas and a robust strategy should help facilitate a successful NORM waste industry. Other than that most felt that they had no further information.
94. A number of the respondents expressed concern about the lack of information provided on waters and sludges that contained NORM. It is thought that these will be a large contributor to the amount of NORM waste that needs treatment and disposal.
95. There is concern about the NORM generated from the remediation of non-coal mines and how this has been considered for the strategy. It would be worth investigation into this area and ensuring that the strategy covers what would happen to these and similar wastes.
96. Oil and gas sector respondents would like to highlight the difficulty in predicting the future waste arisings from the decommissioning of the facilities. There have been some decommissioning activities already so it may be worth looking at how waste is generated and in what quantities to get a picture of what one platform produces in the way of NORM. There will also need to be investigation into how much of this waste is eligible for disposal in the UK.
97. The potential for the release of more NORM containing liquids from all unconventional gas routes (not just shale gas fracturing) is highlighted in the responses. It would be worth investigation into how the growth of these industries might contribute to the NORM industry, especially to the volumes of aqueous NORM wastes produced.
98. Irregular processes, such as tank cleaning, might also contribute to the rising of NORM wastes. The effects and quantities of these wastes are unknown and will need further consideration.

Government response

99. In the strategy, there is consideration of the major sectors expected to give rise to increasing volumes of NORM wastes. There is expected to be some significant changes in NORM waste producing sectors in the next five to ten years. Government and the environmental regulators will monitor these developments, in order to provide information to waste producers and treatment/disposal providers about emerging volumes of NORM waste needing treatment. We will also keep under review the regulation of these sectors to ensure that there is an effective regime in place that allows for growth with protection of the environment and human health.

Question 16: How can the functioning of the market for NORM treatment and disposal services be improved? Is there a potential role for an enhanced brokerage facility for NORM wastes?

Summary of responses to consultation

100. Most respondents stated that there is no need for an official brokerage service and that simplification of the regulatory processes will aid a functioning market. There is also a feeling that if the governments were to encourage the growth of the market and its technologies the market would tend to operate successfully. There is suggestion also that the government's role in simplification of the industry could be facilitating better discussion between industry bodies.
101. Some of the industry responses believe that the waste management companies are already providing an adequate brokerage service to the industry. This is because they already arrange the most suitable logistical route for the waste stream. However, a government published list of the permitted storage, treatment and disposal facilities would be welcomed to aid the industry. There is also suggestion for the publication of the amount of wastes that is produced to help make a more efficient system.
102. Some responses believe that the private waste market will respond to changes in market conditions. It is believed that this will all fit in line with the practices seen in other waste management industries. There is a strong belief that simplification of the regulations and regulatory processes will aid an adapting market with good practical support. There is even the suggestion that all landfills could be permitted to take all exempt wastes, especially that or NORM exempt waste. This would heavily expand the capacity of the market.
103. There is concern that a brokerage system could add too much administration to the industry. Any encouragement of one should undergo serious consideration to weigh up the benefits to thoroughly understand its worth. There is a feeling from one particular respondent that the inclusion of an official brokerage service might let the industry lose control of the current strength it has.

Government response

104. Following the clear response of industry stakeholders to the discussion of a possible brokerage role in the consultation document, government believes that this would not be a useful development.
105. Government expects the measures in the strategy will improve the functioning of the market for NORM treatment and disposal.

Question 17: What is the best way to involve the industry in the implementation of this strategy?

Summary of responses to consultation

106. Some responses suggested that there is no need for there to be the creation of new groups, but the existing groups should be used to facilitate the implementation strategy. These can be used, especially the industry bodies, to reach all the industry members when creating awareness of the strategy. A few respondents feel that only a clear strategy containing clear guidance is enough to ensure that the strategy is effectively implemented.
107. A number of the respondents feel that the workshop held as part of the consultation was a good way to engage the industry at the consultation phase. It is thought that carrying this forward for the implementation of the strategy would facilitate a good industry response. If this is aimed at the industry bodies there could be more chance that member organisations would be reached in a more efficient manner.

Government response

108. Implementation of this strategy will be led by government, working closely with the environmental regulators. Overall progress with the strategy will be monitored through the liaison arrangements between the administrations, currently the UK Radioactive Substances Policy Group.
109. This strategy benefited, in its development, from input from industry representatives, both on a project board and in a consultative workshop. Government is keen to maintain this input during the implementation and further development of the strategy. Government and the environmental regulators will consult, as appropriate, on changes to regulations and guidance. The views of industry will also be sought through existing groups, such as the Small Users Liaison Group and the Scottish Non-Nuclear Industries Liaison Group.
110. Government proposes to hold periodic open forums for industry, where the overall progress with implementation of the strategy and its future development can be discussed. We expect to hold these biennially.

Question 18: do you have any comments on the risks to the implementation that are described in Chapter 6? Would you identify any additional risks?

Summary of responses to consultation

111. Most respondents were content with the risks identified in the consultation document.
112. Some comments highlight that the clarity of the strategy is a major risk. Throughout comments there is a concern for the clarity of the strategy and the guidance that will be provided. A few of the respondents comment on the lack of capacity in all involved for the implementation of the strategy. This includes the capacity of the industry, governments and the regulators. It is believed that this simple effectiveness of all will be the most fundamental risk that the strategy will experience. It will be important to ensure that this is addressed openly when the implementation is being considered.
113. One of the highlighted risks is the lack of willingness within the organisations of the waste producing industry to implement the strategy. There is also the risk of the unknown and unaware waste producing organisations which will not be part of those approached during the implementation of the strategy. The industries that are unaware of their waste production might show more resistance to the implementation since they will be surprised by their inclusion in new radioactive waste management strategy.
114. There is concern raised regarding the loss of LLW disposal capacity. If the governments' current drives to push more waste, in general, up the hierarchy then it may be found that there is less value in the holding of an LLW permit as revenue in the waste disposal market drops. It is felt that the risk of losing routes for LLW is a higher risk than the document makes out. This problem would felt more if there is to be a sudden and substantial increase in the amount of NORM arisings.

Government response

115. The strategy includes discussion of what government considers to be the major risks to the implementation of the strategy. Government has also noted the other risks raised in responses to the consultation, and will consider these risks as implementation proceeds.

Question 19: Do you have any other comments about the consultation paper or the proposed NORM strategy?

116. A range of comments were raised in response to this question, which are set out in the **summary** analysis of the consultation responses. These were considered by government in the finalisation of the strategy.