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Summary of responses to our consultation  
“H1 Environmental Risk Assessment”  
March 2010

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# Introduction

When an operator applies for a bespoke permit under the Environmental Permitting Regulations, they use the H1 Risk Assessment guidance to assess the health and environmental risks associated with their activity. Our existing H1 guidance covers Integrated Pollution Prevention and Control Directive (IPPCD) installations and waste operations.

In April 2010 the Regulations will also cover mining waste, surface and groundwater discharge activities, so we revised the guidance to include these. We consulted the public on the changes to the guidance and this document summarises the responses we received.

H1 Annex J (Groundwater) includes documents that the public did not previously have direct access to. No changes to our procedures or environmental standards will occur as a result of making these documents public.

We consulted for 12 weeks, ending 23 December 2009. We asked seven questions about the modular approach to the guidance and its technical content. We published the consultation on our website and notified over 1300 stakeholders. There were 45 responses from industry, trade associations and other interested parties. Appendix 1 lists the respondents.

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# 1 Summary of responses

- The detailed response demonstrated the benefit of undertaking this public consultation in respect of revision of the Environment Agency's H1 risk assessment methodology.
- The proposed modular format was viewed as a streamlining of the previous versions of H1. Instructions on how to undertake a risk assessment were welcomed.
- A perceived change in the minds of water companies that applications for discharge consents would require a detailed and costed BAT assessment, akin to PPC installations, was prominent amongst the responses.
- The proposal to include an assessment of the cost of damage resulting from the release of pollutants into the environment was generally welcomed, although worked examples to explain the methodology were requested. Environment Agency is working to provide worked examples within a revision of the H1 document.
- Conservation Agencies sought confirmation that the protected status of sites, defined by the Habitats Regulations, would not be compromised by results of an assessment of the costs and benefits of reducing pollutant emissions from regulated activities.
- Environment Agency recognises that there are changes in the content of the consultation document and the unchanged software tool H1, which was not included in the consultation. We also recognise that some modifications to the software tool would be of benefit to the user, and will endeavour to complete individual items on a priority basis.

## 2. The consultation questions

The questions that we asked were:

**Question one:**

What do you think of the modular structure of the guidance? Is it easy to navigate and clear what you have to do?

**Question two:**

For operators of intensive livestock farms, we have changed the method for assessing ammonia emissions in Annex (b) because of feedback we received. Do you think the new approach is helpful and easy to follow?

**Question three:**

For installations and waste operators carrying out assessments of Best Available Techniques, we have given advice for the first time in Annex (k) on putting economic costs on environmental damage. Do you think this approach is helpful?

**Question four:**

For installations and waste operators, we have simplified the method in Annex (g) for assessing the environmental impact of recovery or disposal of site wastes. What do you think of this new approach?

**Question five:**

Do you have any other comments on the technical content of the annexes?

**Question six:**

Do you have any further comments about this consultation document and the way that we have conducted this consultation?

**Question seven:**

How did you find out about this consultation?

# 3. Responses to questions one to seven

This section summarises the responses to the questions in the consultation.

## **Question one: What do you think of the modular structure of the guidance? Is it easy to navigate and clear what you have to do?**

The vast majority of 45 respondents who offered an opinion to this question found the modular structure easy to navigate. Consistency across the various annex was positive, but some observed a significant degree of duplication. It was noted that the H1 software tool no longer carried the same content as the consultation document. A list of changes from the previous version of H1 was seen by some as a significant omission and provision of a glossary was thought advantageous. Some suggested that a single consistent numbering system throughout the document would help.

One other query regarding operation of the Environment Agency web site was received:

Table 1.2 within Annex (a), (b), (i) provides sources of information on common receptors. Within the table a link to the Environment Agency website homepage is given for data on water abstraction points. A trade association commented that they found navigation around the EA website difficult and they suggested that a link be provided direct to the relevant page.

**Our response:** Some links to the Environment Agency website do not take the enquirer to the appropriate page. In such cases the content of Table 1.2 will be changed to provide greater support to operators seeking guidance on the making of permit applications.

**Question two: For operators of intensive livestock farms, we have changed the method for assessing ammonia emissions in Annex (b) because of feedback we received. Do you think the new approach is helpful and easy to follow?**

Comments on the Intensive Farming annex were received from 8 respondents and these are listed below.

**2.1** Two respondents asked us to explain the basis of the 400m distance referred to consistently in the “Example assessment of odour and noise risks” within the Intensive Farming Annex. They also advised that certain noise and odour sources could have an impact on properties at much greater distances.

**Our response:** The 400 metre distance originates from the Town and County Planning General Development Order of 1988. Applicants must submit an odour and noise management plan if there are sensitive receptors within 400 metres of the installation.

**2.2** A consultant observed that significance criteria for air quality in Annex (f), used to define the impact on SAC’s and SSSI’s, contradict those defined in section 7.4.3 of Annex (b).

**Our response:** The 4%, 20% and 50% significance criteria is specifically for the assessment of ammonia emissions from Intensive Farming installations. This issue is part of ongoing technical discussion between the Environment Agency, Natural England and the Countryside Council for Wales through the Air Quality Technical Advisory Group (AQTAG).

**2.3** A trade association suggested that the time and effort required to gather some of the preliminary information, such as Special Areas of Conservation, National Nature Reserves, ancient woodlands, and carrying out the subsequent calculations, are likely to make it a very long-winded and time consuming process with very little actual benefit.

**Our response:** The applicant should contact their local Environment Officer to arrange a pre-application discussion. The Environment Officer will be able to undertake an ammonia screening assessment to ascertain if a detailed assessment is necessary. The Environment Agency will provide information about the proximity and the sensitivity of nearby nature conservation sites, and using the Ammonia Screening Tool calculate whether the applicant will need to submit detailed dispersion modelling with their application.

**2.4** A conservation agency highlighted that in section 7.4.3 Step 3 of Annex (b) an emission is insignificant where the PC (process contribution) is <4% of Critical Levels for SAC’s, SPA’s and Ramsars. The 4% is larger than the 1% significance criteria used throughout the rest of H1. Whilst the 4% relates to use of the Environment Agency’s ammonia screening tool, the SCAIL dispersion model uses 1%.

**Our response:** The Environment Agency understands this position and hopes to resolve it by dialogue through the Air Quality Technical Advisory Group to which both parties are members.

**2.5** Farmer’s representative suggested replacing the term “smell” with “offensive odour” as some smells are not off-putting. In addition they felt that ‘flies’ are not fugitive emissions and their effect is already dealt with by local authorities.

**Our response:** The term “smell” will be changed to “odour”. Environment Agency are responsible for investigating incidents involving flies associated with EPR Intensive Farming activities. The use of appropriate measures by operators of these activities should serve to minimise such incidents.

**2.6** Farmer’s representative identified inconsistencies between the significance criteria for assessment of ammonia emissions for conservation and non-conservation sites between sub-section 7.4.3 and 7.6.1. They indicated that section 7.6.1 reflected their view of the assessment criteria.

**Our response:** Environment Agency applies simple distance and impact criteria to identify conservation sites at risk. For 'other conservation sites' (local wildlife sites, ancient woodland etc..) we judge that sites may be at risk if they are within 2km of a farm and the ammonia contribution from the farm is equivalent to more than 50% of the appropriate critical level or load. For Habitat Directive sites the equivalent criteria are 10 km and 4% and for SSSIs 5km and 20%. For sites which are screened in, more detailed modelling and assessment is required and in the case of other conservation sites, further controls on ammonia emission may be needed if the farm contribution exceeds 100% of the critical level or load. For European sites the equivalent thresholds where further controls may be needed are 20% and for SSSIs, 50%. We have some evidence that the screening model we use may underestimate impacts so to avoid missing sites at risk we have set the screening criteria lower than the criterion at which further controls may be needed.

2.7 Figure 2 within Annex (b) whilst helpful was considered somewhat unclear by one respondent. They suggested that :

- reference to "Section 5" should be to "Section 7.5",
- does detailed assessment mean modelling?,
- some operators will not understand the term PC,
- further information about what is involved in modelling or monitoring is required,
- Agency's policy approach to non-statutory sites is far too precautionary.

**Our response:**

- The text of section 7.4 will be modified and the phrase "See Section 5" removed.
- Detailed assessment may include modelling and is explained in section 7.5 of the annex.
- Step 2 of the assessment process requires determination of the process contribution (PC) originating from the farm. This is the predicted ammonia concentration in air resulting from emissions released from the farm and dispersed in the wind.
- Environment Agency has produced guidance on the modelling of ammonia emissions from farms and a link to this document will be placed into H1 Annex B: <http://www.environment-agency.gov.uk/business/regulation/38791.aspx>. The guidance is aimed principally at consultants who undertake the modelling of ammonia emissions.
- Policy dialogue between the Environment Agency and farming representatives continues.

2.8 It was suggested that Nitrate Vulnerable Zones should be added to Table 1.2 of Annex (b) because of the risks intensive farming can pose.

**Our response:** Nitrate Vulnerable Zones are designated through the Nitrates Directive to protect watercourses/bodies that are affected by nitrate pollution. EPR Intensive Farming installations must be designed and operated to prevent pollution of any watercourse/bodies regardless of it being designated as in or near a Nitrate Vulnerable Zone.

2.9 Exclusion of Groundwater Protection Zones (GPZ) from Screening concerned one respondent. Adding that whilst there was a lot of focus on ecology there was little on other aspects of the environment such as GPZ's, proximity to stream or water course, aquifer outcrop and wetlands.

**Our response:** The environmental risks for the Intensive Farming sector are: odour, noise, dust, flies and airborne ammonia emissions. Screening in section 7 focuses on airborne ammonia emissions and therefore water features are unlikely to be affected. The applicant needs to consider the proximity of a watercourse/body and Groundwater Protection Zones in their application. EPR Farms must operate in accordance with Sector Guidance Note EPR6.09 and designed and operated to prevent pollution of any watercourse/bodies regardless of the designation.

2.10 The view of a consultant was that although the screening methodology was clearly set out it may not be straightforward for farmers without experience of environmental assessment. They suggested the Environment Agency should offer to carry out the screening calculation based on necessary information being supplied by the farmer. They observed that in Section 7.7 of Annex (b) a statement was included advising that "Monitoring of ammonia is not simple, and should be

carried out by experienced consultants.” They suggested that a similar comment should be added regarding modelling of ammonia emissions in Section 7.6.

A minor correction: in the example screening calculation (table 1), the final row is not clearly set out.

Instead of this:

**Total ammonia emission rate (g/s) = A + B + C\*1000/3600/8760**

It should say this:

**Total ammonia emission rate (g/s) = (A + B + C)\*1000/ (3600 \* 8760)**

**Our response:** The applicant should contact their local Environment Officer to arrange a pre-application discussion. The Environment Officer will be able to undertake an ammonia screening assessment to ascertain if a detailed assessment is necessary. Environment Agency will provide information about the proximity and the sensitivity of nearby nature conservation sites, and using the Ammonia Screening Tool calculate whether the applicant will need to submit detailed dispersion modelling with their application.

A sentence will be added to section 7.6 and a correction inserted into Table 1.

**Question three: For installations and waste operators carrying out assessments of Best Available Techniques, we have given advice for the first time in Annex (k) on putting economic costs on environmental damage. Do you think this approach is helpful?**

Comments were received from 16 respondents and these are summarised below.

**3.1** A small number of respondents noticed some anomalies in Section 4.2 “Resolve Cross Media Conflicts”. They said that modules in earlier versions of H1 for visible plumes, raw materials consumption and performance indicators had been removed. Yet Table 2.1 retained an entry for “visual” and the guidance still refers to how the measures compare with BAT for resource efficiency (raw materials, water, energy use and waste) listed in the appropriate TGN.

**Our response:** Environment Agency will review the content of section 4.2.

**3.2** One respondent highlighted the importance of confining appraisal options to those that are realistic (for LCP application). Since data requirements for options appraisal are demanding and the appraisal of unrealistic options is difficult since reliable performance and cost data on the scale of an LCP may not be available.

**Our response:** In such circumstances we recommend the best approach would be to discuss the scope of the options to be appraised with the Environment Agency eg. in the pre-application stage.

**3.3** The same respondent suggested that if only the basic risk assessments have been performed for odour, noise and accidents in module (a) and no further assessment indicated appropriate, then these impacts should be considered negligible or not applicable.

**Our response:** Environment Agency think this is a sensible suggestion.

**3.4** Having described POCP impacts for combustion plant as invariably irrelevant they added that a not-applicable ranking in Table 2.1 would be more appropriate than a ‘low’.

**Our response:** Environment Agency disagrees; ‘not applicable’ is intended to be used when there is no impact in that category at all.

**3.5** The apparent removal of a section on visual impacts from previous versions of H1 generated concern for a number of respondents. They acknowledged that the visual assessment of structures should not be part of H1 since it is not associated with emissions. But where planning considerations would rule out the use of an option which is covered in BREFs, it can be treated in a BAT appraisal as not an option at the specific site (i.e. not feasible). They quoted the example of the assessment of visual plumes. This would be relevant to options such as FGD reheat and cooling techniques such as natural draught, direct cooling, air cooling and forced draught. The BAT Reference on cooling considers plume formation as an impact so in this regard the H1 guidance is inconsistent.

**Our response:** This is a key factor for large emitters and Environment Agency needs to review the content of the consultation document.

**3.6** It was observed that guidance placed emphasis on ranking options and deciding which the best environmental option is. Yet, in some appraisals, options may have similar impacts below the significance threshold - for example, should an impact with a LT EQ of 0.4% be considered preferable to an option with a LT EQ of 0.6% or is there no significant difference? If the option with an EQ of 0.6% is preferred by the operator, is further justification either by cost analysis or otherwise necessary?

**Our response:** We would suggest that ranking arguments should be based on expert judgement as it isn't always appropriate to use a simple arithmetic approach.

**3.7** One observer noticed that guidance provides a series of templates defining the detail to which cost data should be provided. They added it is unlikely that such detailed costs would be available at the time of a BAT assessment for a new project, and even if they were they would probably be commercially sensitive. The templates should be referred to as advice of what might be included.

**Our response:** Operators can apply for commercial-in-confidence. The templates present a transparent way of setting out costs, in cases where Environment Agency needs clarity behind how an operator has derived the total costs. Without detailed costs, we consider it likely that you would have had to estimate at least some of the components to come up with a total cost. Environment Agency will consider highlighting the essential elements as opposed to those which are desirable, or might be needed in particular cases where there is cost sensitivity.

**3.8** One respondent suggested that the base case may not always be the existing configuration. IED calls for periodic BAT assessments, hence it may be necessary to consider whether a recently installed abatement system is still BAT. In such cases it may be necessary to consider the unabated plant as the base case.

**Our response:** If in any doubt we would recommend that operators discuss the options they are appraising with the Environment Agency before submitting their application.

**3.9** One observer noticed that guidance on the selection of control options for appraisal is clear and reasoned and there is a clear requirement to avoid appraising options unnecessarily. They added that they would expect the Environment Agency to follow this guidance. However, there had been occasions when H1 assessments were requested for very minor plant modifications. Operators had also been required to appraise abatement measures for large combustion plants (LCPs) that have yet to be demonstrated outside the laboratory, or combinations of different measures that we have already assessed when it is obvious that their combination is entirely additive.

**Our response:** Environment Agency hears what is said here. We would suggest that the guidance is satisfactory but further work is required to ensure that we implement it appropriately.

**3.10** Considering damage costs one respondent suggested that the monetary valuation of the damage costs of emissions of sulphur dioxide and nitrogen oxides is extremely uncertain and, as a result, the range of plausible values is wide. For this reason it is argued that policy development should seek to find cost-effective means for attaining environmental targets, rather than using monetised damage cost-benefit analysis to determine the environmental target level.

In particular, the great majority of the damage costs attributed to emissions of sulphur dioxide and nitrogen oxides are posited to arise from the impacts of secondary particles on human health. This is because gaseous sulphur dioxide and nitrogen oxides form secondary particles through reactions in the atmosphere.

However, there is a growing body of evidence and expert opinion that secondary particles from these gases have minimal health impacts. Sulphate and nitrate particles have minimal ability to cause oxidative stress and inflammation. Primary particles from other sources are the most likely cause of the observed health effects. In particular toxicological studies clearly show the adverse effects of carbonaceous particulate matter, especially diesel exhaust particles (ultrafine particles).

If secondary particles from sulphur dioxide and nitrogen oxides do not have significant impacts on human health, then the damage cost range for these emissions will be very much lower than the current range of published estimates, nearly all of which assume a secondary particle health impact.

**Our response:** Your comments are noted. IPPC BAT hinges on an assessment of the costs and benefits of pollution control techniques firstly at a sector level (to set indicative standards in the Bref) and at a site specific level if there are exceptional local factors that may affect this balance either way. It is not determined by a national or international target reduction level, although any such targets (mandatory or otherwise) will be taken into consideration in considering the priority for reduction of the particular pollutant.

We acknowledge that there is uncertainty in the evaluation of monetary values and we are reviewing the existing methodologies to investigate the significance of this. The analysis will also consider uncertainties of pollution abatement cost data.

In terms of the health impacts of air pollutants COMEAP 2009 reported:

"It is our view that the associations reported in the literature linking long-term exposure to particulate air pollution, represented by PM2.5, and effects on mortality almost certainly represent causal relationships in respect of the air pollution mixture of which PM2.5 forms part, and are highly likely to be causal in terms of particulate air pollution specifically."

**3.11** Comments were received asserting that this risk assessment should not confuse the provisions of the Habitats Regulations and the precautionary principle enshrined within that legislation, with cost-benefit analysis in relation to control measures. They added that if a permitted activity is likely to be significant in relation to a Natura 2000 or Ramsar site, or will have adverse effects on that site, no cost-benefit analysis can be carried out on proposed mitigation measures unless that measure will remove any significance or adverse effects to the said protected sites. In short, the primary concern of mitigation measures under the Habitats Regulations is to remove risk of damage to a Natura 2000 or Ramsar site and no other types of analysis shall be considered unless this test has been carried out first.

**Our response:** Environment Agency agrees that Habitats requirements should not be based on costs and benefits. Whilst in theory if detriment at all costs cannot be stopped it is a criterion for refusal, dialogue with conservation agencies would be required so that Environment Agency were made aware at what level detriment may occur.

**3.12** A number of respondents requested worked examples of the cost benefit analysis/damage costs approach to assist understanding.

**Our response:** Environment Agency is working to provide worked examples into Annex (k) within a revision of the H1 document.

**3.13** Without monetary values one respondent suggested that carrying out a cost/benefit analysis would be difficult.

**Our response:** There are several existing methodologies that can be used to assign monetary values for the damage costs of specific pollutants. These include CAFÉ, EXTERNE, and the IGCB. Environment Agency are currently investigating the applicability of these methodologies to the IPPC regime.

**3.14** A water company representative thought Annex (k) misleading, in that much of it was associated with appraising Best Available Techniques (BAT) rather than cost benefit analysis. They added that it would be helpful if the BAT content was included in the title of the section to give transparency to this part of the guidance.

**Our response:** Environment Agency tends to agree with this comment.

**3.15** Extending BAT requirements from IPPC to Waste Water Treatment Works and Combined Storm Overflows was not considered proportionate by a water company representative.

**Our Response:** Environmental Permitting (England and Wales) Regulations 2007 place a duty upon the regulator to deliver the obligations in the relevant Directives. Except for the situation where a waste stream was taken to a sewage works for disposal, there was no requirement within the IPPC Directive to apply the use of best available techniques to sewage works or combined storm overflows.

**3.16** Some grammatical errors in Part 5 were highlighted by a consultancy. They observed the first sentence in the 2<sup>nd</sup> paragraph "The approach used here.." and the first sentence in the 3<sup>rd</sup> paragraph "Note also that the costs.." were not clear and need revision.

**Our response:** Environment Agency agrees.

**3.17** A number of water companies explained that decisions were made subject to a group of internal and external factors which normally were not shared with the Environment Agency. They suggested that if the principles of Modern Regulation were applied, that for the majority of schemes, the companies should be trusted to make their financial assessments without external regulatory input.

**Our response:** For investments at the larger end of the scale it will be necessary to understand the particular sensitivities affecting pollution control costs as part of reaching a decision; such as assumptions made for life of plant, discount rate etc. However, the Environmental Permitting Regulations (England and Wales) 2007 place duties on regulators to exercise their permit-related functions to deliver the obligations in the relevant Directives.

**3.18** One respondent suggested it should be more explicit that only in exceptional circumstances, with justification provided by the regulator, should there be a requirement to evaluate further options and impacts where it can be clearly shown that indicative BAT standards are met.

**Our response:** Meeting BAT standards may not be sufficient in situations where the background air quality is such that an Air Quality Management Plan has been established. H1 enables releases to be assessed, indicating where detailed modelling may be used to refine earlier predictions. If detailed modelling predicts exceedance of the long term EAL, then it is likely additional techniques to those described will be necessary.

**Question four: For installations and waste operators, we have simplified the method in Annex (g) for assessing the environmental impact of recovery or disposal of site wastes. What do you think of this new approach?**

Comments on the revised version of Annex (g) waste module were received from 16 respondents. Areas requiring clarification or response are summarised below:

- Benefit provided by the scoring in the tables was questioned and clarification sought on the use of the hazard score. Using the scores it was questioned whether landfill (at 30) is deemed to be only 3x 'worse' than incineration with recovery (at 10) - thus if it costs more than 3x as much to incinerate you can go to landfill instead?
- With the scoring for liquid wastes under 'score for residual waste' – one respondent asked if the water content and/or the weight of the off-site treatment chemicals was included?
- One respondent asked why the distance criteria had been removed from the options appraisal, citing the example of Construction and Demolition wastes which through the need of transportation imposed considerable risk on the local environment.
- The need to assess the environmental impact for the disposal or recovery of wastes from installations and waste operations was seen by some respondents as not in accord with the principles of Better Regulation.
- The lack of guidance on how to calculate the waste impacts score to inform BAT decisions was seen as a gap that should be filled. Without guidance it was suggested that operators may choose the lowest score for each activity/option. Inclusion of a worked example was requested.
- Screening out of insignificant waste streams was identified by one respondent as potentially problematic. They repeated text from section 2.3 of annex (i) and suggested that biogas, produced by the anaerobic digestion of waste and its subsequent combustion in gas engines, could be described as the recovery of energy from waste. As such it would be screened from further consideration of risk. They contested that such operations have resulting emissions of their own and are not free from risk.
- It was observed by one respondent that the weighting of risk scores weighed heavily on sustainability whilst risks to protected sites and landscapes were ignored.
- Mass units of waste resulting from treatment were requested.
- The supply of a series of reduction factors enabling calculation of the hazard score for each waste stream were requested by a number of respondents.
- More than one respondent requested the provision of worked examples explaining calculation of the waste hazard score.
- One respondent commented that the proposed methodology fails to take account of any site specific or operator constraints (infrastructure, availability of space) and such factors should be included within the initial screening assessment.
- What defines a “waste operation” was posed by a trade body. Did it mean all waste operations or those listed within Schedule 2 to the Environment Permitting Regulations 2007?
- The reasons for quantifying the mass of waste before and after treatment was questioned, particularly as it appeared to have no impact on the hazard score.

**Our response:** The most significant change made to Annex (g), from that contained in the previous version of H1 (section 3.6), was its simplification. The removal of the requirement to consider the distance waste is transported for each disposal or recovery option was generally well received. The methodology allows other factors to be considered in the selection and justification of the waste disposal or recovery option, and factors such as distance, availability and cost could be brought into the assessment here if they are significant on a site/process-specific basis.

Positive comments were also received regarding the changes made to the lists of waste categories and disposal/recovery options. Additional categories and options had been included in order to make them more comprehensive and better reflect the waste hierarchy. A number of comments were received questioning the basis of the scores assigned to the different waste categories and disposal/recovery options. Clarification has also been requested for the units that should be used to quantify the amount of waste produced (we recommend using “tonnes/year”).

A number of comments were received regarding the Waste Hazard score, querying how the score should be calculated and what function it provides in the overall assessment, specifically asking how operators can quantify the mass of waste following the identified disposal or recovery option(s). As a result of those comments we will review this aspect of the calculation.

A number of respondents queried whether it is proportionate to extend the application of H1 risk assessments to waste operations, referring to the principles of Better Regulation. This module is not required to be completed for Non-IPPC activities.

## Question five: Do you have any other comments on the technical content of the annexes?

A variety of comments from 22 respondents were received and these are summarised below.

### 5.1 Overview and general comments

**5.1.1** One respondent was concerned that within Table 1 discharges of sewage or trade effluent to surface water or to ground are shown as complex for Surface Water with no option for basic. They suggested that with EPP2 and small discharges not requiring consent there could be a range where risk assessments could be basic. They quoted the example of small condensing boilers discharging more than 5m<sup>3</sup> which would appear to be complex even though their only potential issue is pH.

**Our response:** Some of the small discharges raised above may be covered by standard permits. Tiny discharges from condensing central heating boilers do not require a permit to discharge.

**5.1.2** A number of respondents sought advice on how what they termed 'this extremely precautionary guidance' was compatible with the OPRA and Operator Self-Monitoring initiatives, which they said encourage a more pragmatic risk based approach.

**Our response:** H1 is used to assess risks from activities that are part of an application for a bespoke permit. OPRA is used to determine a banded profile for the activity undertaken which informs the application and subsistence fee, the later of which defines Environment Agency regulatory effort going forward. Operator Self Monitoring delivers a Better Regulation approach to compliance assessment which provides benefits to the operator and regulator. The following link to the Environment Agency website maybe useful:

<http://www.environment-agency.gov.uk/business/regulation/31823.aspx>

**5.1.3** One respondent observed the Overview document appeared to suggest, but did not make clear, that an operator could carry out a partial H1 to address an issue which prevented an application being made for a standard permit. They asked that by submitting a standard permit application plus an H1 assessment could they obtain a standard permit?

**Our response:** No, H1 assessments are carried out in support of bespoke permit applications.

**5.1.4** The same respondent asked why should a series of costs be produced to help justify a preferred project, when the act of producing those costs added further cost and was non-productive if the preferred option met the necessary criteria? They added that such requests would delay the application process, be abortive work and provide no environmental benefit.

**Our response:** Before it can issue a permit the Environment Agency must be satisfied that the operator has used appropriate measures to minimise the risk from their activity. In most cases it will be sufficient to implement the control measures set out in technical guidance notes and show that the residual risk is acceptable. However, as set out in Step 3 of the Overview document, there may be occasions when the operator needs to carry out an options appraisal or cost-benefit analysis to justify their choice of control measures and there is not sufficient benefit in reducing releases further.

**5.1.5** One water company highlighted the lack of any technical guidance note for urban waste water treatment works. They noted that the timeframes and robustness of the urban waste water treatment plant rendered the retrofitting of "indicative" requirements to existing plant as impracticable or impossible in many instances, or excessively costly for no environmental gain.

**Our response:** Existing technical assessments for companies who operate urban waste water treatment works are not changing as a result of EPP2. Environment Agency is working to produce a technical guidance note for water quality in time for EPP2 in April 2010.

**5.1.6** Water companies sought confirmation on when an H1 assessment is required in support of a permit application. They asked would it be required for a simple variation, such as changing start dates or reducing CCF where it had been agreed compensatory storage would be provided? What about a grid reference change?

**Our response:** Any change in operation of the regulated activity, which changes the original H1 assessment or it's equivalent, should be assessed to an extent appropriate to the risk presented by the change. H1 is the Environment Agency's preferred tool for risk assessment.

**5.1.7** A conservation agency suggested that operators were not the best people to carry out a full and objective risk assessment of their activities. They posed the question 'how will the EA recognise optimism in such risk assessments and associated risk management'?

**Our response:** Environment Agency has procedures and training in place to take account of such issues when determining permit applications.

**5.1.8** Some water companies expressed the view that H1 forms one layer in extensive existing or proposed EPR guidance. They were concerned that the quantity and structure of the guidance with extensive cross referencing made it difficult for those affected by EPR to follow.

**Our response:** Environment Agency understands operator's concerns and acknowledges that some may find the H1 approach challenging. For those discharging "simple" effluents we would recommend that they complete the application form and let us undertake the risk assessment. Those discharging "complex" effluents may seek our help on a site specific basis.

**5.1.9** It was suggested by a trade association that Mining Waste operations should be referred to within page 3 of the Overview document , as they are very much separate from other waste operations.

**Our response:** Environment Agency will add 'Mining Waste' to this paragraph.

**5.1.10** Having two annexes for water quality risk assessments was confusing to some. One respondent quoted the example of a quarry operator having to manage storm waters, yet were only dealing with waste operations.

**Our response:** Annex (d) basic is aimed primarily at installations and waste operations. Annex (e) complex is aimed primarily at water companies and other organisations with water quality modelling skills, technical knowledge and experience of effluent treatment. So Annex (d) would be most appropriate.

**5.1.11** A water company representative noted that the Overview referred to BAT. They sought clarification on whether this meant BAT or BATNEEC. They sought provision of a clear definition and examples of relevant technologies that would be expected.

**Our response:** The IPPC Directive refers to BAT, BATNEEC relates to the IPC regime which was replaced by IPPC. The current technical assessments that apply to water companies are not changing with the introduction of EPP2, except the option is presented for the operator to use H1 to carry out a risk assessment if they so choose.

**5.1.12** Several respondents questioned why the H1 guidance did not cover Radioactive Substances Regulation (RSR)?

**Our response:** Environment Agency will publish separate, but equivalent RSR guidance to H1. It will be titled "Principles of Optimisation" and complement our published "Radioactive Substances Regulation Environmental Principles (REP's) document.

The reason for this separate guidance is that requirements set out in Government policy and statutory guidance mean that RSR needs to adopt a different approach to optimisation and BAT compared to that adopted in the H1 guidance.

The “Principles of Optimisation” document will be a slightly amended version of our published BAT [Best Available Techniques] Assessment Guide that was subject to formal consultation in 2008. The amendments are editorial in nature and reflect publication of our REPs and Government’s development of RSR guidance as part of the documentation supporting the EPR. The changes are not substantive and we will therefore not be consulting on the revised document. This is consistent with the Environment Agency’s general approach for guidance associated with EPR. We consulted on the H1 guidance because there were changes to some assessment methods.

**5.1.13** One respondent suggested that RSR had been withdrawn from the EPR.

**Our response:** Environment Agency can confirm that it is still proposed to bring RSR within EPR in 2010 and that the scope and nature of the legislation for RSR will remain broadly the same as that under the Radioactive Substances Act 1993. An important change proposed under the EPR is introduction of a new power to enable the Environment Agency to implement staged regulation for underground radioactive waste disposal facilities. This will provide regulatory control from the start of an intrusive site investigation programme at any candidate site for a future geological disposal facility.

**5.1.14** We have noted one respondent’s comments on risk assessment in the context of radioactive waste disposal, and, more generally, on the risks associated with managing radioactive materials.

**Our response:** These comments lie outside the consultation on the H1 guidance.

**5.1.15** One respondent questioned why there was no equivalent cost per manSievert for use in radiological assessments to price per tonne of carbon set out in the H1 guidance.

**Our response:** Cost per unit dose figures have not been defined in Government policy and are not part of the Environment Agency’s requirements for assessment of Best Available Techniques or radiological dose.

**5.1.16** A trade association noticed a significant degree of duplication and repetition in the documents and annexes. They said that one of the plus points of the early EPP guidance was that introductory paragraphs and descriptions were omitted from supporting guidance and annexes and they appeared only once in the main guidance. They suggested it would be better if this approach were adopted for H1 guidance and associated annexes.

**Our response:** It’s a balance between reducing repetition and enabling people once they have read the document to go straight to the relevant annex, where context to the risk assessment is provided. We will review the proposed structure after a period of use.

**5.1.17** Does the term “bespoke permit” refer to Part A processes or does it include Part B?

**Our response:** “Bespoke permit” relates to activities defined within the Environmental Permitting Regulations (England and Wales) 2010 which are regulated by the Environment Agency.

**5.1.18** One respondent sought guidance on financial provision in relation to mining waste activities.

**Our response:** Following a round of public consultation Environment Agency has produced draft guidance notes, aimed at assisting mining waste operators comply with their permit and on financial guarantees for mining waste facilities. They are available via the Environment Agency website: <http://www.environment-agency.gov.uk/research/library/consultations/108895.aspx>

## **5.2. Annex A Amenities & accident risks from installations & waste operations**

**5.2.1** A number of respondents suggested that Drinking Water Protected Areas should be added as a receptor to Table 1.2.

**Our response:** Environment Agency believes that these receptors are adequately covered by reference to source protection zones which already feature within Table 1.2.

**5.2.2** Some major industrial sites observed that previous versions of H1 exempted operators from carrying out an accident risk assessment where a HAZOP or COMAH assessment was to be made. Yet the new H1 guidance omits this exemption.

**Our response:** : A properly completed HAZOP or COMAH assessment is regarded as equivalent to that required by H1 and we will clarify this in the final document. Environment Agency notes this observation and will amend the consultation document to reflect current guidance.

**5.2.3** One respondent suggested it was not clear how to determine the risk of accidents ie. the probability of occurrence.

**Our response:** Within the Environment Agency publication “How to comply” we set out the components of an Accident Management Plan, including guidance on the likelihood of events and their consequence. Maintenance, implementation and review of an accident management plan is a requirement of the permit.

### 5.3. Annex C Accidents

Comments were received from 7 water companies or their representatives and these are summarised below.

**5.3.1** A group of water companies considered the requirement to carry out an assessment of the environmental impact of accidents a new obligation and a departure from the existing consenting process. They were concerned about the extent to which this assessment could apply across each site.

**Our response:** Environment Agency has entered into dialogue with the water companies at meetings and in correspondence. An accident management plan is an inherent part of a good environmental management system, which all the companies profess to have already. We have now incorporated the accident plan condition into the management system condition in the permit to make this clear.

**5.3.2** The same group suggested that a generic risk assessment should be acceptable for their industry given the number of premises this will apply to and limited number of processes used.

**Our response:** Environment Agency has explained to these operators that we expect one management system (and so one accident plan) for each company, not each discharge. Operators will write their plans and so they can be as generic as they wish.

**5.3.3** They added the assessment set out in Section 3, stating that operator error will occur at least once in every hundred operations is ill founded and unsubstantiated. They affirmed such errors can be designed out of routine processes which could cause pollution, and that the water industry has taken that approach to date.

**Our response:** Environment Agency welcomes this statement that water companies are using design techniques to remove operator errors from their operations.

**5.3.4** One water company thought that Annex C was not required as a stand alone annex because it was adequately covered within many of the other annexes. They suggested Annex C be removed and covered within the additional annexes.

**Our response:** Environment Agency originally had separate annexes for accidents and each of the amenity assessments noise and odour. However in that form applicants were faced with considering 10 annexes which seemed unnecessarily cumbersome and so we compiled specific annexes for Intensive Farming (IF) and Installations. So Annex A for Installations includes accidents assessment plus the amenity assessment. Annex B for IF contains accident assessment and IF amenity assessment. Annex C is accidents alone, as amenity assessments were not considered appropriate for discharge consents.

## 5.4. Annex D Surface Water (basic)

Of the 17 responses received the majority were concerned about a perceived change in regulatory approach, as sites previously regulated under the Water Resources Act became subject to the Environment Permitting Regulations 2010.

**5.4.1** Industry representatives made a number of points concerning the change in regulations. They were concerned that changes were being proposed without their acknowledgement on the impact on their operations and agreement of the implications with their financial regulator. They believed that guidance assumed the application of best available techniques (BAT) into their regulated sector, but it failed to recognise the role of their independent financial regulator who governs their costs and charging regime.

**Our response:** Water UK have been involved with Environment Agency in a Task & Finish group since mid-2009 which has covered the role of phase 2 of the Environment Permitting Regulations. We will continue dialogue with our customers to ensure their understanding of the new regulations. The guidance does not assume BAT for water discharges.

**5.4.2** They expressed disappointment that within the new permitting regime most sewage treatment sites would not be regulated by standard permit conditions.

**Our response:** Standard permits are only possible for low risk discharges. Most water industry discharges DO affect the environment, and so require us to set appropriate permit limits. If we set standard limits for small to medium sized water company discharges, to be environmentally protective they'd have to be very tight limits, thus increasing the cost of treatment unnecessarily by around £250,000 per discharge.

**5.4.3** Industry representatives perceived a change in emphasis from the current regulatory arrangements to the new EPR2 programme and transfer of responsibility for assessment to the operator. They also sought advice on what would trigger the need for an H1 assessment in terms of permit modifications, operator transfers and consent reviews. And what additional cost this change in approach would bring to their operations.

**Our response:** In discussion, Environment Agency has repeatedly told the industry that they can use H1 if they wish, but that if they so decide they can continue to use the current approach. So there is no change to the current arrangements.

**5.4.4** Respondents acknowledged that to take account of extreme weather conditions the current consent issuing process permits periods of consent exceedance. They sought assurance that this practice would continue.

**Our response:** Environment Agency is able to confirm that a risk-based approach to environmental regulation will continue.

**5.4.5** Operators sought assurance over periods of time when problems occur with site operations. Where actions in the solution adopted through risk assessment do not adequately protect the environment, then there is the ultimate threat of stopping operations under permit conditions if problems persist. This would not be an option for a waste water treatment works discharge which needs to process incoming waste water at all times.

**Our response:** The operator must comply with their permit conditions. If a problem is caused by entry into the works of something they are not bound to receive, then that is something Environment Agency would consider in any action it may choose to take.

**5.4.6** Noting that the surface water "basic" guidance is for complex industrial installations and waste operations, yet the more "complex" assessment is for Combined Storm Overflows (CSO) and Waste Water Treatment Works (WWTW), which in the respondents opinion are generally less polluting, they asked that we explain our designations.

**Our response:** The term “Basic assessment” might be mis-named. It is simpler than the Complex assessment, but in fact generates a more conservative set of permit limits. Operators may choose to use the complex assessment or let Environment Agency carry out the assessment for them.

**5.4.7** Operators suggested that to undertake Direct Toxicity Assessment (DTA) for domestic effluent, or where there is influence of trade effluent, appeared extremely precautionary. They felt this would raise application costs and would be seen as a new obligation.

**Our response:** Operators retain the option to use H1 if they wish, but if they so decide may continue to use the current approach. So no change.

**5.4.8** Operators expressed deep concern of a potential change in them undertaking the current assessments undertaken by Environment Agency in their processing of applications for Consent to Discharge.

**Our response:** Operators retain the option to use H1 if they wish, but if they so decide may continue to use the current approach. So no change.

**5.4.9** Operators believed that businesses expecting to discharge to the foul sewer would implicitly use this guidance. Hence there should be reference to the need for them to consult with their local water company as part of their consenting process.

**Our response:** This guidance is for discharges to surface and ground waters, not to public sewers. We aren't the regulator for the latter – they are. We aren't writing guidance for the people they regulate, but for the people we regulate.

**5.4.10** Operators noted that assessments previously carried out by the Environment Agency are now being passed to the applicant. Will Environment Agency make available basic information and will they reduce the application fees acknowledging this transfer of work?

**Our response:** Operators retain the option to use H1 if they wish, but if they so decide may continue to use the current approach. So no change.

**5.4.11** Four respondents suggested that Environment Agency should define the distance within which receptors are identified in relation to conservation sites. They suggested 50 km.

**Our response:** Environment Agency do not believe a de minimus is appropriate. The 50km suggested is too much for some circumstances.

**5.4.12** A series of technical queries were raised by power generators concerning determination of the process contribution (PC) in river, estuarine and coastal environments. Concern was expressed that in some circumstances the PC in the receiving environment could be predicted to exceed the mean release pollutant concentration within the effluent leaving the site. Also that guidance on the determination of PEC for estuarine and coastal waters was missing.

**Our response:** These observations are valid and Environment Agency will review the content of Annex (d).

**5.4.13** Comments were received concerning the acceptability of releases as defined within Annex (d). They added that within mixing zones the PC could be many times the Environment Quality Standard (EQS).

**Our response:** Assessment of predicted PC within the receiving waters is a permitting decision for the Environment Agency, but we believe it is right within the guidance to indicate what is likely to be unacceptable. Mixing zones are permitted within assessments relating to receiving water quality.

**5.4.14** Respondents expected the latest applicable standards to have been included in Appendix A of Annex (d). They quoted DEFRA guidance and Directive 2008/105/EC. They observed that Appendix A did not include ammonia, but that ammonia featured in some detail in Annex (e). They asked if this was to imply that all discharges containing ammonia are to be considered as complex?

**Our response:** Since the H1 documents were published for consultation DEFRA has published new regulations for Persistent and Persistent Hazardous Substances (in December 2009). We will revise the text of H1 annexes to incorporate the revised standards from the new regulations. Operators who choose to do their own assessments would need to ask Environment Agency where the EQS is already exceeded.

**5.4.15** One respondent observed that the risk assessment failed to take into account discharges to lakes, ponds and ditches when defining surface waters. They asked how are discharges to these water bodies to be assessed?

**Our response:** Environment Agency acknowledges that we need to add a statement for lakes that requires dischargers to seek our advice. However, to cater for the small number of lakes and their site specific nature would have made the guidance unduly complex.

**5.4.16** The same respondent was unclear if the guidance covered the discharge of nutrients.

**Our response:** Environment Agency can confirm that the guidance does cover the assessment of discharges containing nutrients.

**5.4.17** The last paragraph of section 5.1 of Annex (d) raised additional concerns, because the permitting approach was identified as not in keeping with the provisions of the Habitats Regulations.

**Our response:** Environment Agency disagrees. The respondent suggests the text is a pragmatic way to permitting developments whilst protecting the interests of sensitive receptors such as protected sites.

**5.4.18** It was suggested by one respondent that the term 'transitional water' should replace the term 'estuary' as Water Framework Directive terminology was used in section 3. And there should be a fourth type of estuary, one which is predominantly saline to be treated as coastal waters.

**Our response:** Environment Agency believes that to call estuaries 'transitional waters' simply adds another term to a technical glossary without providing additional benefits. Environment Agency will reconsider the tidal waters assessment in light of these comments.

**5.4.19** A consultancy suggested that the apportioning of responsibility between the sewerage undertaker and operator of the installation may need to be reviewed or clarified, where discharges from the installation to the sewer are treated and then discharged to surface water.

**Our response:** IPPC Directive requires the Environment Agency to set environmentally protective standards when permitting an installation. Operation of the sewage works would be regulated by the Environment Agency through a water discharge activity permit subject to conditions within the Environmental Permitting Regulations. Substances which may impact upon the normal operation of the sewage works may be subject to additional controls prior to leaving the installation.

**5.4.20** One respondent asked why there was need for two annexes for the assessment of the impact on surface water of pollutant releases.

**Our response:** Annex (d) can be used as a screening tool to assess the risks posed by pollutant releases into surface water from either installations or stand alone discharge consents. This tool gives a simple methodology which most applicants can follow, but the simple method generates precautionary solutions. Annex (e) is a more complex methodology, consistent with the approach used by the Environment Agency. Although it requires specialist expertise it more accurately models the environmental effect, so solutions can be less precautionary.

## 5.5. Annex E Surface Water (complex)

Operators who responded to Annex (d) did also to Annex (e).

**5.5.1** Operators observed that Annex (e) is applied to continuous and intermittent discharges. Yet of those discharges they considered many were not 'complex' and should not be subject to this assessment. However, whilst the Environment Agency's consenting policy remains, using a standard set of clauses, this they felt was good reason for many waste water discharges to be subject to standard permitting.

**Our response:** The term "Basic assessment" might be mis-named. It is simpler than the Complex assessment, but in fact generates a more conservative set of permit limits. Operators may choose to use the complex assessment or let Environment Agency carry out the assessment for them.

**5.5.2** Operators sought clarity on who will do the assessments and the implications in terms of cost and resource for the operator.

**Our response:** Operators retain the option to use H1 if they wish, but if they so decide may continue to use the current approach. So no change.

**5.5.3** Operators noted that although written from the regulators perspective current consenting policy is reflected in Annex (e). They requested a review of text to reflect the role change to a work instruction for applicants.

**Our response:** Environment Agency accepts that a review may be useful, but not essential for day 1.

**5.5.4** It was noted that in section 3.5 reference to 99%ile, or FIS standards, would be a useful reference.

**Our response:** This text has been taken from a document recently agreed with the industry working group. There is no need to change it for now.

**5.5.5** Clarification on the definition of 'receiving water' was sought by some respondents.

**Our response:** Receiving water is the water body which the discharge goes into. We have to protect that, so applies to the Water Framework Directive water body definition, the immediate downstream stretch of watercourse and the next significant tributary.

**5.5.6** Justifying proposed discharge limits within an application using the River Needs/MCARLO approach and UKWIR for Dangerous Substances calculations was seen by some respondents as a new obligation. In addition they said that Dangerous Substances recommendations have yet to be formally issued as Environment Agency policy. And there is a lack of feedback to permits issued by the Environment Agency which regulate point discharges of substances to the river.

**Our response:** Operators retain the option to use H1 if they wish, but if they so decide may continue to use the current approach. So no change. The Environment Agency is working to produce a modified policy for Dangerous Substances (Persistent Substances and Persistent Hazardous Substances), compatible with both the Water Framework and EQS Directives. This is currently being discussed with the industry prior to a formal change which will probably require Environment Agency Board approval.

**5.5.7** Disagreement with the principle that improvements to intermittent discharges should address historical deterioration was raised by some respondents. They quoted the example of the need to upsize sewers to account for historical catchment growth where the CSO is satisfactory and had not resulted in environmental deterioration. Also they did not accept the minimum requirement for Pass Forward Flow as Formula A as the 'norm'. They maintained that variations on retained flow should depend on site specific river needs and UPM studies where appropriate.

**Our response:** The points raised here will be dealt with site by site along the lines of our current policies which incorporate the UPM methodology.

**5.5.8** The view was expressed there is a still a presumption that new CSO's are created to reduce flooding which is not the case.

**Our response:** This text has been taken from a document recently agreed with the industry working group. There is no need to change it for now.

**5.5.9** Operators noted that Appendix C of Annex (e) had been written from a regulators perspective. They suggested it was unlikely an applicant would want to make a case that their storm overflow discharges were unsatisfactory. To present this appendix from an applicant's perspective would require a change in title and in text.

**Our response:** Environment Agency accepts that a review may be useful, but not essential for day 1.

**5.5.10** Respondents objected to the Environment Agency's 'no deterioration within class' policy as presented in Annex (e). They suggested that a new discharge, meeting sector indicative BAT, could be allowed where the wider environmental and socio-economic benefits warrant it (in line with Water Framework Directive Article 4 etc.).

**Our response:** Issues raised by this query would be considered as part of the Environment Agency's permit determination process.

**5.5.11** It was observed by one respondent that the risk assessment did not appear to fully address the issue of damage caused to protected nature conservation sites and the importance of the Habitats Regulations as a piece of legislation designed to protect such sites.

**Our response:** Environment Agency disagrees. Target standards vary by water body, so it is not practical to include a list within this Annex. Environment Agency will supply this information on request.

**5.5.12** Consideration of water bodies other than rivers and use of the term 'dangerous substances' as opposed to Persistent Substances and Persistent Hazardous Substances concerned one respondent.

**Our response:** Since the H1 documents were published for consultation DEFRA has published new regulations for Persistent Substances and Persistent Hazardous Substances (in December 2009). We will revise the text of H1 annexes to incorporate the revised standards from the new regulations.

**5.5.13** A series of bullet points were presented in one response which highlighted the challenges perceived by a potential applicant in undertaking their own risk assessment when most of the required information is held by the Environment Agency.

**Our response:** Environment Agency has made H1 optional for water discharges. We acknowledge that some operators may choose to avoid H1, fill in the application form and let us do the assessment.

**5.5.14** Concern was raised that Environment Agency through the Environmental Permitting Project are bringing water discharges into the PPC regime. And that in regulating the water industry Environment Agency need to determine the most stringent limits for the discharge. They challenged this interpretation of government policy when applied to discharges of sewage effluent. Concerns were also raised that Environment Agency plans to impose onerous odour management conditions on sewage treatment works.

**Our response:** Environment Agency is not using the Environment Permitting Regulations to bring water discharges into the PPC regime. Modifications are proposed to Annex (e) such that stringent limits on consent for discharge will be commensurate with relevant costs and benefits.

Environment Agency does not impose odour management plans on sites where they regulate only the water discharge consent.

**5.5.15** Comment was received from one respondent that by imposing Water Framework Directive Standards at the point of discharge, the Environment Agency was likely to impose tighter standards, even where the receiving water body may be compliant.

**Our response:** Environment Agency will impose Water Framework Directive standards, but within the receiving water body and beyond the mixing zone.

**5.5.16** The plethora of guidance and annexes was described by one respondent as thoroughly inconsistent with the declared aims of the EP programme to reduce bureaucracy. They added that it was not clear what shortfall in existing regulation this guidance seeks to fill; it simply creates additional burdens.

**Our response:** To be transparent the Environment Agency needs to publish guidance. The generic guidance for EPR will replace much of the Water Quality guidance which hitherto has been published on the Sharepoint website and through the CDROM's we have circulated to water companies. The publication of generic guidance should reduce the overall amount. Introducing H1 will not increase the regulatory burden, because water discharge applicants have the option to continue to fill in an application form and let the Environment Agency do the assessment, as was the case before EPR.

## 5.6. Annex F Air emissions

Comments were received from 15 respondents. They included issues relating to changes in Environment Assessment Levels (EAL's), BAT standards, dispersion modelling and Habitat's sites.

**5.6.1** It would be helpful if guidance was provided on how PEC's should be assessed against the new EPAQS Guideline value of  $0.2\text{ng m}^{-3}$  for Chromium VI.

**Our response:** Air Quality Guidelines do not have the same status as Air Quality Standards. A consultation is currently being held on whether these guidelines should be incorporated into H1, but no decision has been made on this at this time.

**5.6.2** Impact Acceptability Criteria were the focus of a number of respondents, together with the comparison between pollutant PEC and relevant AQS. One particular response reflected on written text within Annex (f). In particular where guidance stated releases that constitute a major proportion of an EQS or EAL may also be judged unacceptable. This appeared to contradict the PEC criterion by implying that a release maybe unacceptable even if it does not result in exceedance of the EQS or EAL. Further context should be provided. Operators would not expect to have to go beyond BAT in such a case.

**Our response:** Environment Agency guidance in section 6.2 of Annex (f) refers. Our policy is that no installation should make a significant contribution to the breach of an EQS or EAL. Operators should be using BAT to ensure they don't make a major contribution to the headroom between background and EAL/EQS. If an EU EQS is already exceeded, or maybe exceeded as a result of additional contribution from an EPR activity, then consideration of further control measures needs to be taken.

**5.6.3** Performance Indicators within section 2.5 of Annex (f), generated some comments. Guidance refers to the supply of specific consumption data to enable performance indicators to be determined as specified in the relevant technical guidance note. However, this requirement is absent from Combustion Activities EPR 1.01.

**Our response:** Environment Agency notes that performance indicators are absent from EPR 1.01 Combustion TGN and this will be reviewed. Environment Agency is taking forward a programme on Resource Efficiency Appraisal and Development following a round of public consultation in 2009. Further information is available via the Environment Agency website at: <http://www.environment-agency.gov.uk/business/topics/performance/110996.aspx> Environment Agency will look to give greater coverage of resource efficiency within future revisions of H1.

**5.6.4** Member of the Joint Environmental Programme (JEP) sought assurance that validated procedures developed to determine the methodology for assessment of power station emissions against environmental standards will be retained.

**Our response:** Where agreements of this type have been agreed with the Environment Agency it is expected that they would continue to operate. However, the introduction of flue gas desulphurisation at large coal fired power stations has reduced the load of sulphur dioxide and particulate matter on the local environment. This has led to a review of the continued need for an Air Quality Management Plan in relation to the local environment around these power stations. The review is not yet complete.

**5.6.5** A number of respondents pointed out that the new short term EAL for carbon monoxide, quoted from Table B5 EAL's for Air (Human Health) as  $30\mu\text{g m}^{-3}$  should read  $30\text{mg m}^{-3}$ .

**Our response:** Environment Agency agrees and will correct this error.

**5.6.6** It was observed by a couple of respondents that the Table B5 entry for Vanadium listed a long term EAL that was of higher value than the short term EAL.

**Our response:** The World Health Organisation is at the top of the hierarchy used by Environment Agency to determine environment assessment levels. The short term value of  $1\mu\text{g m}^{-3}$  is

precautionary, however the studies from which the WHO figure is derived suggests that the lowest observed effects can be assumed to be  $20\mu\text{g m}^{-3}$ . They have added a protection factor of 20 to cover uncertainty over where the adverse effects were actually adverse.

**5.6.7** Discrepancy on assessment levels for Arsenic was raised in one enquiry. Table B1 for Other Metals quotes an annual mean Target Value for Arsenic of  $6\text{ng m}^{-3}$  whereas in Table B5 the EPAQS recommended annual mean guideline value for Arsenic is quoted as  $3\text{ng m}^{-3}$ . Clarification was sought on which value to use in assessing the impact of a proposed emission to air of Arsenic.

**Our response:** Air Quality Guidelines do not have the same status as Air Quality Standards. A consultation is currently being held on whether these guidelines should be incorporated into H1, but no decision has been made on this at this time. Hence the target value of  $6\text{ng m}^{-3}$  should be used until further notice. It should be noted that Target Values are applicable but would not involve measures beyond the application of best available techniques (BAT) and, in particular, would not lead to the closure of installations.

**5.6.8** One respondent questioned why with the introduction of Workplace Exposure Limits in 2005 - as replacement for Occupational Exposure Limits, Occupational Exposure Standards and Maximum Exposure Limits – the footnotes (a) and (b) to Table B5 and paragraphs below Table B6 - had not been revised.

**Our response:** In recognition of an HSE consultation on Workplace Exposure Limits, Environment Agency is planning a public consultation of its own in 2010 to reflect on issues raised by the HSE consultation.

**5.6.9** Inconsistency in current Environment Agency guidance on impact assessment of emissions to air was highlighted by one respondent. Guidance in Appendix C of Annex (f) from the Environment Agency's Air Quality Modelling and Assessment Unit (AQMAU) was described as different to that provided to consultants and other external bodies. The comments focused on model uncertainty, model output grid resolution and assessment of the Waste Incineration Directive (WID) "Other" Metals Group (As, Co, Cr, Cu, Mn, Ni, Pb, Sb, V).

Model uncertainty – the supply of a procedure for estimating model uncertainty would be welcomed.

**Our response:** Due to the complexity of the issue, it is not possible to produce a detailed procedure dealing with uncertainty. In fact, the section "Sensitivity analysis" of Appendix C has covered an important part of model uncertainty. AQMAU will consider expanding the "sensitivity analysis" section to "Sensitivity analysis and model uncertainty" section by adding some general tips about dealing with model uncertainty.

Grid resolution – to introduce some consistency into modelling studies by external companies it would be helpful if a minimum grid resolution could be indicated.

**Our response:** There is general rule to set the grid resolution smaller than 1.5 times the stack height for an elevated release. For ground level release, a high grid resolution is needed to catch the hotspot concentrations.

WID "Other" Metals Group – guidance is sought on how this combined group of nine metals should be assessed in WID modelling studies. Three options are often used: assign  $1/9^{\text{th}}$  of the group limit of  $0.5\text{mg m}^{-3}$  for each metal, model the release of each metal at the group limit or use actual monitoring data for a plant of similar throughput and design and use "proportioning factors" relating the measured concentration to the group limit.

**Our response:** AQMAU supports the use of monitoring data and proportioning factors providing the data is obtained using the appropriate standards and the factors can then be justified.

**5.6.10** It was observed that guidance on dispersion factors were produced using ADMS 3 and it was questioned if they are still relevant with the Environment Agency recommendation to use the latest ADMS 4 modelling package.

**Our response:** Dispersion factors are relevant for use with ADMS 4.1.

**5.6.11** The “Arsenic effect” on choice of stack height in WID plants caused concern for one respondent. They suggested that tighter ambient standards on Arsenic meant this pollutant was the determining factor in stack heights for Energy from Waste plants regulated under the WID. Assigning the group limit of  $0.5\text{mg m}^{-3}$  as the elv for Arsenic, coupled with the EPAQS Guideline value of  $3\text{ng m}^{-3}$  meant that stacks were becoming an item for objection to planning applications.

**Our response:** Without reliable monitoring data assessments at the elv should be undertaken. Operators need to adopt appropriate measures to minimise the risk from released pollutants associated with their regulated activity. Assessments should be carried out against the appropriate standard.

**5.6.12** The existence of insignificance criteria for POCP was sought by a single respondent.

**Our response:** The method in H1 is based on a simple assessment of the relative reactivity of different substances. There is no screening step so all emissions with the potential to create ozone should be assessed. This is simply a means of ranking options in terms of their POCP.

**5.6.13** Distance criteria located below Table B1 in Annex (f) relating to ‘exclusion zones’ where Habitats sites may not require assessment gave cause for concern to Conservation Agencies. They wanted to draw Environment Agency attention to a long standing agreement that air quality objectives for the protection of ecosystems would be applied to all (sensitive) designated sites during the environmental risk assessment process, irrespective of whether they occurred within these ‘exclusion zones’. They advised that text in this section needed to be clearer in order to avoid any confusion on the matter.

**Our response:** Table B4 includes all values which are relevant at nature conservation sites regardless of location. However, to avoid confusion, Environment Agency will add a sentence to the footnote to direct users to this table, stating: Note: The critical levels in Table B4 apply at nature conservation sites.

**5.6.14** Omission of the short term objective for  $\text{NO}_x$  for protection of vegetation and ecosystems ( $75\ \mu\text{g NO}_2/\text{m}^3$  24-hour mean) in Table B4 concerned one respondent.

**Our response:** Environment Agency acknowledges this omission and will insert this value into Table B4.

**5.6.15** In addition published short term assessment levels for ammonia and nitrogen oxides were found to be missing from Table B4.

**Our response:** The 24-hour mean value of  $75\ \mu\text{g NO}_x/\text{m}^3$  has been added to Table B4; however, as the annual mean for ammonia is more stringent than the monthly mean, we do not feel it is necessary to add the monthly mean for ammonia. If further discussion is needed it can be raised through the AQ TAG.

**5.6.16** New proposed standards for hydrogen fluoride at conservation sites concerned one operator. They suggested that even with appropriate abatement it was conceivable that conservation sites located close to such industrial sources could be exposed to concentrations close to the proposed critical levels.

**Our response:** Environment Agency will regulate emissions of hydrogen fluoride based on evidence reviewed by the APIS (Air Pollution Information Systems) steering group. The daily and weekly values are included in APIS for the protection of vegetation, and more information regarding the use of these values is available on the website ([www.apis.ac.uk](http://www.apis.ac.uk)). The uncertainty in the data are reported as ‘reliable’ due to the number of papers showing comparable results (referenced in APIS under ‘hydrogen fluoride’ in a search by pollutant and habitat). One and three month values have been removed from use as they are less certain. Any exceedance of these values at nature conservation sites close to the facility would need to be considered on a case-by case basis.

**5.6.17** It was recognised by one respondent that short term EAL's for arsenic, cadmium, chromium(vi) and nickel are no longer listed within Table B5. Was it therefore necessary to include short term impacts of these metals in dispersion modelling assessments?

**Our response:** Substances listed in Table B5 are being reviewed to reflect HSE considerations following their public consultation on Workplace Exposure Limits. The hierarchy used to determine EAL's and the presence of substances within Table B5 are to be the subject of an Environment Agency public consultation in 2010. We will also be considering the needs of the Pollution Inventory in any proposed changes to the list of substances in Table B5 in H1.

**5.6.18** Advice was sought on how to deal with a modelling scenario that predicted the point of maximum ground level concentration to be within the installation boundary. Should these values be used in assessing impact or should the highest off-site values be used?

**Our response:** On site air quality and the potential impact on employees is a matter for the Health and Safety Executive. Predictions of maximum ground level concentrations off-site are of interest to the Environment Agency in their role of protecting the environment.

## 5.7. Annex H Global Warming Potential

**5.7.1** One respondent asked why waste installations are not required to carry out greenhouse gas assessments. They observed that many waste installations deal with materials that can have major greenhouse gas implications depending on how they are recovered or disposed of, and that it seemed logical and consistent with stated government policy to require such installations to assess the greenhouse gas implications of their operations.

**Our response:** Global Warming Potential represents a factor that should be considered if an operator is choosing between alternative control options and measures i.e. as detailed in Annex (k) of H1. We are in agreement that applications for bespoke waste operations may require an assessment of Global Warming Potential. Waste operations, such as anaerobic digestion, composting and mechanical biological treatment, may release both point-source and fugitive emissions of greenhouse gases that require quantification as part of the H1 environmental risk assessment. Such waste operations will also have indirect emissions of greenhouse gases associated with their use of energy for power or heat and therefore the energy efficiency of these operations should also be considered as part of the assessment.

Environment Agency will amend Table 1 in the Overview document.

**5.7.2** One observer suggested that it would be helpful if the substances in Table A1 were listed in alphabetical order and that there were inconsistencies in carbon dioxide factors and duplication of text in Appendix B.

**Our response:** Environment Agency agrees that the factors for carbon dioxide require review to ensure a consistent approach.

## 5.8. Annex I Landfill

Environment Agency received 9 responses specifically related to landfill activities from conservation agencies, a trade association and a body representing navigation and stewardship of historic waterways.

**5.8.1** The waterways representative suggested that many landfills may not have postcodes, so following Environment Agency advice of using a postcode to locate nearby receptors was unhelpful. They added that the approach adopted in section 1.3 of annex (d) and 1.4 of annex (e) should be followed.

**Our response:** Our application form requires a postcode to be provided as part of the application for a landfill site, although we do appreciate that some landfills do not have postcodes. Table 1.2 of Annex i provides a list of receptors and identifies useful websites which can assist an applicant in finding out if any are near to their sites. Some of these are non-Environment Agency websites and are not within our control. The Environment Agency website searches can be undertaken on either postcode or place name.

**5.8.2** Conservation agency commented that simple risk assessments were presented, supplemented by technical guidance notes and risk assessment templates, however these were not yet ready. They observed that whilst most hazards from landfills relate to human receptors they could affect environmental receptors eg. dust and seagulls/other birds. Also that in Table 3 the risk management for leachate should read balancing pond. Whilst acknowledging the assessment of groundwater was covered in detail in Annex J, they felt that there should be a mention of groundwater and a link to this annex as this is an important part of landfill risk assessment.

**Our response:** The landfill risk assessment templates are available on the Environment Agency website however they have not been updated since the EP Regulations were introduced (i.e. they still refer to PPC Regulations.) These will be updated soon.

Within Annex (i) Environment Agency will be providing more information on when a Habitats risk assessment is required, and what information that should contain.

The reference to balancing pond will be amended.

A link to the groundwater annex is given in Section 7 'what you should do next' but Environment Agency agree that the groundwater risk assessment (and annex) forms a fundamental part of a landfill application and will be making clear reference to these earlier on in Section 1 of Annex i).

**5.8.3** A trade association found that after reading through the documents and various annexes there was a lot of duplication. They quoted the example of making application for landfill activities which they observed required completion of annexes (a), (d), (f), (h), (i), (j) and (k). They added that annex (a) had a chapter on fugitive emissions and required the operator to list each source of fugitive emissions, noise and vibration. Annex (i) repeats this request. For the operator this was confusing and created the need for more paperwork.

**Our response:** This is a drafting error in the overview document - landfills do not need to complete Annex (a). Annex (f) is not applicable to mining waste or inert landfill activities since they do not have stack emissions and rarely do they release substances of concern. Annex (i) will be amended to include a table of annexes applicable to the different classes of landfill (inert, non-hazardous and hazardous). As all landfills are covered by annex (i) it is not possible to enter into this level of detail within the Overview document.

**5.8.4** The trade association also proposed a splitting up of annex (i) into inert and other (non-hazardous and hazardous) landfills. They suggested this could be justified by recognising the greater potential for non-hazardous and hazardous landfills to cause risk to the environment or human health. They added that since inert landfills pose little threat to the environment operators of these sites should not have to consider annexes (i) and (f).

**Our response:** As stated above Environment Agency will be amending annex (i) to reflect the more limited risk assessments which are required for inert landfills, as compared to non-hazardous and hazardous landfills. This will include highlighting that inert landfills don't need to look at annex (f) and that they don't need to assess Odour.

**5.8.5** Conservation agency found a lack of clarity on how ammonia emissions should be addressed along with leachate issues. They presumed the risk assessments listed in the H1 Overview document should be completed together with annex (i), but felt this should be reiterated within annex (i). They suggested this would prevent mistakes being made and help the operator understand what they needed to assess. They added that as it stands annex (i) does not cover all the issues associated with landfills.

**Our response:** The Environment Agency risk assessment within H1 is a 4-step process. The overview document explains step 1 and lists the different types of risk to the environment from each activity. By reference to a series of technical annexes, Step 2 assists identification of receptors and requires assessment of risks associated with the activity. Step 3 requires justification of appropriate measures, if needed, to ensure residual risk is acceptable. Where various options exist cost benefit analysis is used to enable choice of the appropriate measure. Step 4 requires presentation of the risk assessment.

Annex (i) will be improved to signpost further guidance.

Operators may obtain copies of the Environment Agency Habitats Directive Handbook by requesting same from the following link: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk). The handbook contains a series of appendices which are specific to various media and explain the assessment process for existing and new sites.

**5.8.6** The lack of clarity in saying just what the risk assessment requires of the operator and why concerned one respondent. They added that the landfill risk assessment would benefit from more detail in explaining the reasoning on the consideration of certain risks, especially in relation to protected sites. They observed that in the final section there are certain risk assessments which require completion which are not mentioned elsewhere in the document. They asked if these are compulsory and, if so, where do they fit into the process in Figure 1 of the H1 overview document.

**Our response:** Annex (i) will be improved to highlight to applicants which risk assessments need to be completed. Some risk assessments are not (always) relevant to inert landfill sites (for example, a groundwater risk assessment is only required in certain cases for an inert landfill) and this will be highlighted in the form of a table which will list the risk assessments (and annexes) which need to be completed for each classification of landfill. In terms of Figure 1 of the Overview document, all the detailed information (annexes, risk assessments) will be provided within the landfill annex - which acts as a signposting document to other, more detailed technical documents.

**5.8.7** It was suggested by one respondent that section 6 – Accidents within Annex (i) would benefit from some emphasis on adequate maintenance of equipment and infrastructure as a means to preventing accidents. Table 4 should be enhanced with examples of this type.

**Our response:** Environment Agency has considered including an example about poor maintenance within this table on accidents. On a landfill the reason for maintenance is to ensure that the appropriate control measures employed at the site work effectively, managing the risks from the disposal of waste. Therefore poor maintenance of the leachate extraction system, leading to failure of that system, would result in an increased risk to groundwater, and will be covered within the groundwater risk assessment as a failure scenario. As such it is better dealt with as an underlying principle in the risk assessment rather than a separate risk. Please note that once a permit is issued the operator is required to maintain all control measures through a management system (required by condition 1.1.1 of the permit) :

1.1.1 The activities shall be managed and operated:

- (a) in accordance with a management system, which identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents,

incidents, non-conformances and closure and those drawn to the attention of the operator as a result of complaints; and

- (b) by sufficient persons who are competent in respect of the responsibilities to be undertaken by them in connection with the operation of the activities.

## 5.9. Annex J Groundwater

Comments on Annex (J) groundwater module were received from 12 respondents. They comprised water companies, conservation agencies, farmers representatives and a body representing navigation and stewardship of historic waterways.

**5.9.1** For some respondents the scope of this annex was described as not completely clear in its application to all water based Environment Permitting Project (EPP) applications or just discharges to groundwater.

**Our response:** Annex j groundwater applies only to groundwater activities. We have further sector specific guidance on the hydrogeological risk posed by landfills (Hydrogeological Risk Assessments for Landfills and the Derivation of Groundwater Control and Trigger Levels (draft consultation version 2010).

**5.9.2** Some felt the onus was now on the discharger to provide a conceptual hydro-geological model. This was described as a new obligation that will generate additional application costs for discharges to ground.

**Our response:** Nothing has changed. We will still undertake the risk assessment for most sewage discharges up to  $15 \text{ m}^3 \text{ day}^{-1}$ . We will continue to assist and work with operators where further information is required. A hydro-geological risk assessment has always been required for discharges over  $15 \text{ m}^3 \text{ day}^{-1}$  or for trade effluents. The Environmental Permitting Regulations (EPR) and the H1 documentation has provided us the opportunity to explain the level of risk assessment required. This will relate to the type of activity and sensitivity of the receiving environment.

**5.9.3** The obligation to undertake surveillance of groundwater for larger and complex discharges was described by some as a new burden. So clarification was sought as to what size of discharge is considered 'large' and what level of 'surveillance' is required.

**Our response:** The requirement for "requisite surveillance" of groundwater was introduced by the Groundwater Regulations 1998. It applies to all discharges of pollutants to groundwater. However, taking a risk based approach, we do not consider that many of the discharges need monitoring, but there will be site specific circumstances where the size of discharge or sensitivity of the environment make it appropriate to monitor to confirm that pollution is not being caused.

**5.9.4** Clarification was sought on the application of the new guidance to water discharges from secondary disinfection sites. It was considered that such discharges should be subject to the lowest tier of risk assessment, since risks from these discharges would be extremely low.

**Our response:** We have requested further information on Secondary Disinfection Sites and may be able to refer to these in our guidance on Groundwater Risk Assessment for Treated Effluent Discharges to Infiltration Systems.

**5.9.5** One respondent found difficulty in locating a copy of the Groundwater Protection Policy (GP3) on the Environment Agency website.

**Our response:** Please use the following link:  
<http://www.environmentagency.gov.uk/research/library/publications/40741.aspx>

GP3 is currently being updated. We are aiming to externally consult in the summer of 2010.

**5.9.6** It was proposed that reference to Drinking Water Protected Areas (DrWPA), Safeguard Zones (SGZ) and Water Protected Areas (WPA) are added to section 3.4.2 of Annex j.

**Our response:** These will be included in the revised document.

**5.9.7** It was concluded by one respondent that comprehensive workshops would be needed to ensure the complexity of these assessments are properly communicated and understood.

**Our response:** In the final document Environment Agency will attempt to simplify some of the material in Annex j.

**5.9.8** One of the conservation bodies described as vague issues relating to the protected nature of conservation sites, such as the conservation status of a protected site. They informed us that the Countryside Council for Wales (CCW) website holds data on the conservation status of all Natura 2000 and Ramsar sites in Wales and a link to this could be added to this section.

**Our response:** Environment Agency welcomes this and will provide a hyperlink in the revised document. Environment Agency will also contact Natural England to see if we can have a similar link to cover sites in England.

**5.9.9** They added that hydrological connectivity to protected nature conservation sites was not specifically mentioned.

**Our response:** Environment Agency will consider putting in actual screening distances in the final report

**5.9.10** They expressed the view that section 3.3.3 of Annex j was unclear in specifying what is required in the assessment of damage to protected nature conservation sites and would benefit from a clear statement on exactly what the operator must provide in terms of supporting information. They observed that section 3.4.4 requested sensitive receptors, including nature conservation sites, to be assessed in relation to effects from groundwater permissions. And the section specifically mentions 'nature conservation sites supporting groundwater dependent ecosystems'. Advice was given that protected species are also potentially at risk from groundwater permissions and would remind the EA of their duties under the NERC Act in relation to protection of biodiversity.

**Our response:** Environment Agency will include Protected Species as potential receptors.

**5.9.11** They expressed concern that the importance of the Habitats Regulations as a piece of legislation designed to protect Natura 2000 sites had not been highlighted in the document. They called for total transparency so the applicant was clear that if their application put a Natura 2000 site potentially at risk then the process for obtaining a permit was significantly harder. As currently written the guidance appeared to be stating that the applicant simply had to contact the Environment Agency or the conservation agencies.

They said that more clarification on designated sites was needed. For instance, what they are and what it may mean to the applicant? They suggested that clarity was needed to guide the applicant towards maps of the location of designated sites. And questioned what distance criteria are being used for applications outside the boundary of a protected site?

**Our response:** Valid Point. Environment Agency will address this point in the final revision. We have an internal facing Operational Instruction where some of the text could be incorporated. We will consider putting in actual screening distances in the final report.

**5.9.12** Farmers representatives expressed concern that wording within the overview document contradicted some of the wording in the Annexes. They gave the example from page 5 of the overview document where it stated that the Environment Agency "may be able to carry out the risk assessment on behalf of the farmer", whereas in Section 1.8.1 on page 7 of Annex J it is stated that the Environment Agency 'will' carry out the risk assessment on behalf of the farmer.

**Our response:** Groundwater Policy can confirm that we will carry out the risk assessment for the discharge of used / waste sheep dip and /or pesticide washings to ground. Page 5 of the overview document needs to be amended. In rare circumstances the following would apply: if a particular application in theory was so complicated as to require a Level 3 assessment, our position for the last 10 years is to require the farmer / his consultant to finalise the r/a themselves. The above consultation does not change our adopted approach to determining such applications which has

been in place since the GWR 1998 first came in. So essentially here, there is no change.

**5.9.13** The requirement, outlined in paragraph 3.3.5 of Annex J, to mark on a map the position and abstraction details of all groundwater abstractions within 1km of the discharge site presented serious reservations to farmers representatives. They asserted that this would be an impossible task, as there is no complete record of all groundwater abstractions and a farmer could be expected to know everyone who abstracts groundwater within 1km of the disposal site.

**Our response:** The Environment Agency do not have access to private water supply abstraction boreholes. We do have access to other abstractions and receptors and we will use this when undertaking the risk assessment on behalf of the farmer. We would do all we can to assist the farmer with their application.

**5.9.14** The waterways representative observed that for groundwater the assessment seemed to cover all discharges. It did not differentiate between discharges that may be covered by standard rules.

**Our response:** The Environment Agency has new guidance that is specific to discharges to ground. Entitled Groundwater Risk Assessment for Treated Effluent Discharges to Infiltration Systems, it is currently subject to a period of public consultation. This guidance is more specific to discharges and explains more fully the requirements for discharges based upon volume and the sensitivity of receptors. The consultation closes on 8<sup>th</sup> March and is available via the Environment Agency website at:

<http://www.environmentagency.gov.uk/research/library/consultations/114576.aspx>

Environment Agency is also producing guidance specific to small sewage discharges of 2m<sup>3</sup> day<sup>-1</sup> or less that will be subject to registration (Technical Guidance for the Registration of Small sewage effluent discharges).

**5.9.15** The waterways representative expressed the view that nitrate was now deemed a non-hazardous substance and so any discharge to groundwater should not fall under the H1 assessment process. This point should be clearly expressed.

**Our response:** Nitrate is now classed as a non hazardous pollutant (not substance). The terms hazardous substance and non hazardous pollutants replace the old List I and List II substances. Formerly nitrate was not List I or List II. The input of all non-hazardous pollutants to groundwater shall be restricted (limited) to ensure that such inputs do not cause deterioration in status or significant and sustained upward trends in pollutant concentrations in groundwater and ensure that pollution of groundwater does not occur. To avoid pollution by non-hazardous pollutants we must limit inputs of these pollutants into groundwater to ensure that:

- there is no deterioration in the status of the groundwater body;
- there is no significant and sustained upward trend in the concentrations of pollutants in groundwater;

the concentrations of pollutants remain below a level such that harm to a receptor does not occur, or that local maximum allowable concentrations (such as quality standards to protect the groundwater resource) are not exceeded. Therefore, nitrate will fall under the H1 assessment. More on this is explained in Box 4.1 of Annex (j) groundwater

**5.9.16** One of the water companies made some general comments on Annex j. They found the annex significantly different in structure to others and more prescriptive about the risk-assessment process. The section also made reference to the need for experienced technical staff or consultants to undertake detailed qualitative risk assessment and defined “likely effort required” which had not been mentioned elsewhere.

**Our response:** Environment Agency notes these observations.

**Question six: Do you have any further comments about this consultation document and the way that we have conducted this consultation?**

**6.1** Water industry representatives assumed that the current permitting process for water quality, where Environment Agency undertakes risk assessments for continuous discharges and operators intermittent discharges, would continue. Any change from that position raised serious concerns for the water industry because of the resource they felt would be required if they were to undertake all risk assessments. Environment Agency has confirmed this position has not changed. However, H1 is provided so that operators may undertake their own assessments should they wish.

### **Question seven: How did you find out about this consultation?**

Respondents to this consultation first became aware via one of the following options:

- By visiting the Environment Agency website;
- By personal communication from an Environment Agency staff member; or
- Following notification of the consultation by the Environment Agency

## 4. Other comments

A small number of respondents raised queries about the H1 software tool and these are summarised below.

**4.1** A trade association pointed out that the H1 software tool is mentioned at various points throughout the annexes. They suggested that it would be useful if links were provided to the software tool.

**Our response:** Environment Agency is aware of the need to provide these links and will endeavour to make them as soon as we can.

**4.2** Use of the H1 software tool caused concern for one user. They observed that because the tool was written in "Approach" data entry was cumbersome, especially when trying to rerun different options. They suggested that if the tool was written in X-Cel it would allow efficient cut and pasting from other documents.

**Our response:** To convert the current H1 tool from its present Access format to an Excel format would be a significant piece of work. In the short term Environment Agency will endeavour to provide a background link to an Excel spreadsheet that will enable improved data input to the tool.

**4.3** A consultant thought the guidance was OK with previous versions of H1 but the accompanying software proved restrictive and cumbersome to work with. They cited that when used for options appraisal the software does not cope with looking at a release point where different release conditions apply to different options. Also the tools do not keep pace with the guidance: visual impacts is in the current software but not in the consultation document. They suggested that the ability to screen out all unrequired elements, rather than have blank entries, would be an advantage. And printing from the software was time consuming with no easy method of printing the whole document.

**Our response:** Environment Agency believes that printing of various pages may be possible by using a series of keys in a defined manner. We will review the printing facility to check the operation and if possible make some minor changes to the current operation of the tool to enable printing of the whole document.

# Appendix 1 List of respondents

Boston Borough Council  
Sellafield Ltd  
Institution Of Civil Engineers  
Food Standards Agency  
Shasun Pharma Solutions Ltd  
Society Of Motor Manufacturers And Traders  
Air Quality Consultants Ltd  
Angling Trust  
United Kingdom Petroleum Industry Association Limited  
Bristol Water Plc  
Mineral Products Association Ltd  
British Coatings Federation Ltd  
RWE Npower  
South West Water Ltd  
National Grid  
Wessex Water  
Natural England  
Farmers Union Of Wales  
Countryside Council For Wales  
Drax Power Ltd.  
Environmental Compliance Ltd  
Association Of Electricity Producers  
Chemical Industries Association  
NFU  
Friends Of The Earth, Cumbria  
URS Corporation Limited  
Cambridge Environmental Research Consultants Ltd (Cerc)  
United Utilities Water Plc  
Anglian Water  
Severn Trent Water Ltd  
Portsmouth Water  
EDF Energy  
Water UK  
Parsons Brinckerhoff  
United Kingdom Renderers' Association  
South East Water Ltd  
RPS  
Thames Water Limited  
British Waterways  
Northumberland County Council  
Enviros Consulting Ltd  
BPEX  
Tysers

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**incident hotline 0800 80 70 60** (24hrs)

**floodline 0845 988 1188**

**\* Approximate calls costs: 8p plus 6p per minute (standard landline).  
Please note charges will vary across telephone providers**



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