

Report for Resolution

Report to Planning Applications Committee
Date 14 October 2010
Report of Head of Planning Services
Subject 09/01443/H Bayer Cropscience Ltd Sweet Briar Road
Norwich NR6 5AP

Item
5 (1)

SUMMARY

Description:	Hazardous Substance Consent for the storage of notifiable hazardous substances - full site review for all hazardous substances stored and used on site, incorporating (i) additional consent required as a result of changes to the classification of some substances in the Regulations, (ii) some generic storage to allow for some flexibility of storage on site, and (iii) alterations to existing consents required for increased quantities of some substances and reduced quantities or removal of consent for some substances no longer required.	
Reason for consideration at Committee:	Requirement to revoke existing consents and member interest	
Recommendation:	Approval, subject to conditions, including the revocation of existing consents	
Ward:	Wensum	
Contact Officer:	Ms Anne Napier	Planning Development Team Leader 01603 212502
Valid date:	18th December 2009	
Applicant:	Bayer Cropscience Ltd	
Agent:	S Brook	

INTRODUCTION

1. This item concerns an application for hazardous substances consent (HSC). As such applications are only received infrequently, the following information has been included to provide contextual information regarding the application process and purpose.
2. Since the coming into force of the Hazardous Substances Act in June 1992, the presence on, over or under land of any hazardous substance in excess of the controlled quantity has required consent from the hazardous substances authority (in this case, Norwich City Council).
3. Applications are made to the hazardous substances authority, which is required by regulations to consult with the Health and Safety Executive and the Environment Agency (and others) and is empowered to grant consent either unconditionally or subject to such conditions as it thinks fit (although any condition relating to how a hazardous substance is to be kept or used may be imposed only if the HSE has advised that any consent should be subject to such

condition(s)) or to refuse it.

4. The hazardous substance controls were phased in from 1992, with a transitional period of six months during which consent could be claimed in respect of any hazardous substance which was present on the land at any time within the 12 months immediately preceding the commencement date. There were similar transitional arrangements following the coming into force of the Planning (Control of Major Accident Hazards) Regulations in April 1999. If consent was applied for under these transitional arrangements, then a deemed consent was granted for the substances on the site in the twelve months prior to the new controls coming into force.

5. Separate regulations administered by the Health and Safety Executive implement the majority of the Seveso II Directive, which concerns the Control of Major Accident Hazards (COMAH). Bayer CropScience is a top-tier COMAH site. Hazardous substances consent (HSC) is required for the presence of hazardous substances present at any COMAH sites (which are mainly related to the chemical industry). But these sites will also need to meet the wider health and safety requirements of the Seveso II Directive, which include notifying the Competent Authority (the Health and Safety Executive and the Environment Agency) of the presence of dangerous substances and to have in place major-accident prevention policies. The COMAH regulations also include requirements to prepare a safety report, to which there is public access, the preparation and testing of on-site and off-site emergency plans and informing members of the public likely to be affected by a major accident.

6. In addition to these controls, the Environment Agency is also responsible for monitoring the site as a Part A1 site under the Integrated Pollution Prevention and Control (IPPC) Regulations under the Pollution Prevention and Control Act 1999. These controls relate to the control of pollution to air, land and ground water. To operate, the site is required to have an Environmental Permit, which is issued by the Environment Agency following consultation and is subject to a range of conditions covering the day-to-day operation of the site, ensuring that the use does not cause unacceptable impacts to the local area, as well as ensuring that measures are in place to mitigate and contain situations should an accident occur.

7. Hazardous Substance Consent controls give hazardous substances authorities the opportunity to consider whether the proposed storage or use of the proposed quantity of hazardous substance is appropriate in a particular location, having regard to risks arising to persons in the surrounding area and to the environment. If consent is agreed, a consultation zone will be established within which proposals for future development will also be referred to consultees to consider possible effects on public safety. Such a consultation zone exists for the application site.

8. The following explanation of the purpose of the controls is taken directly from the central government Circular 04/00: 'Planning controls and hazardous substances':

'The hazardous substances consent controls are designed to regulate the presence of hazardous substances so that they cannot be kept or used above specified quantities until the responsible authorities have had the opportunity to assess the risk of an accident and its consequences for people in the surrounding area and for the environment. They complement, but do not override or duplicate, the requirements of the Health and Safety at Work etc Act 1974 and its relevant statutory provisions (defined at s.53 of that Act) which are enforced by the Health and Safety Executive. Even after all reasonably practicable measures have been taken to ensure compliance with the requirements of the 1974 Act, there will remain a residual risk of an accident which cannot entirely be eliminated. These controls ensure that this residual risk to persons in the surrounding area and to the environment is properly addressed by the land use planning system.'

Local planning authorities are able to exercise a degree of control over those substances

through the development control system where the presence of hazardous substances is directly associated with a proposed development. But there are situations in which hazardous substances may be introduced onto a site, or used differently within it, without there being any associated development requiring an application for planning permission. The hazardous substances consent provisions enable specific controls to be exercised over the presence of hazardous substances whether or not associated development is involved. Hazardous substances authorities will be able to decide whether, in the light of the residual risk, and having regard to existing and prospective uses of a site and its surrounding environment, the proposed presence of a hazardous substance is an appropriate land use of that site.'

The circular goes on to state:

'The role of HSE and the Environment Agency is to advise the hazardous substances authority on the risks arising from the presence of hazardous substances. HSE has the expertise to assess the risks arising from the presence of a hazardous substance to persons in the vicinity; the Environment Agency has the expertise to assess and advise upon the likely risks arising to the environment. However, the decision as to whether the risks associated with the presence of hazardous substances, either to persons or to the environment, are tolerable in the context of existing and potential uses of neighbouring land is one which should be made by an elected authority (the hazardous substances authority).'

9. The Planning (Hazardous Substances) Act 1990 section 9(2) states that, in determining applications, the authority shall have regard to any material consideration and, in particular, but without prejudice to the generality of the foregoing: any current or contemplated use of the land to which the application relates; to the way in which land in the vicinity is being used or is likely to be used; to any planning permission that has been granted for development of land in the vicinity; to the provisions of the development plan; and to any advice which the HSE have given following consultations.

10. The application is processed in a similar way to a planning application but is distinct from that process. Unlike a planning application, the publicity for the application is carried out by the applicant prior to the submission of the application and no further publicity is undertaken by the authority. Although the views of a number of statutory consultees are sought as part of the application process, for security and site safety reasons, the details of the application are not publicised on the Council's website and consultees are asked to treat the details of the application sensitively. The application itself, however, is a public document and it is possible for those interested in the proposals to inspect the application in person at City Hall.

The Site

Location and Context

11. The Bayer Cropscience site covers a large area of land to the west of Sweet Briar Road within the north-west part of Norwich. The site extends along the highway for this part of the outer ring road and is bounded by Hellesdon Road to the west. Hellesdon Hall Road separates two parts of the site to the north with the site extending to the local authority boundary to the north and with the Marriot's Way adjoining the boundary of the site to the south. A site of special scientific interest is to the south-east of the site, with county wildlife sites to the south, south-east and south-west of the site. The overall site is partly developed with other buffer land to the south and to the west separating the site from nearby residential

uses.

12. The site has been part of the Bayer group for the last 7/8 years. In this time, the parent company has reduced the number of sites operating within the UK from 3 sites to one, with the site in Norwich being the sole remaining site in this country. As of last year, Bayer employed some 285 people directly on the site, with approximately 60 additional contractors.

Relevant Planning and Hazardous Substances History

13. The site has been in use as a chemical works since the mid-1950's and has incrementally changed to respond to the requirements of the company and safe operations on the site.

There have been four previous applications for Hazardous Substances Consent on the site. The details of the applications can be summarised as follows:

4HS9204/H – Storage and use of bromine (160 tonnes) (Deemed Consent Granted 08/12/1992)

4/1999/0915/H – Storage and use of notifiable hazardous substances as specified within the application (38 different hazardous substances with a total quantity of 2,313 tonnes) (Deemed Consent Granted 02/02/2000)

4/2000/0193/H – Storage and use of substances to manufacture NTBN (2-nitro-4-trifluoromethyl benzonitrile) (5 different hazardous substances with a total quantity of 338 tonnes) (Consent Granted 15/06/2000)

09/00124/H - Storage of notifiable hazardous substances - Anhydrous Ammonia (5 tonnes), Sodium nitrite (30 tonnes), Sulphur Dioxide (12 tonnes), Chlorobenzene (120 tonnes), Acetone (75 tonnes), Cuprous Chloride (5 tonnes), Thisa (100 tonnes). (Consent Granted - 17/08/2009)

14. In addition to the above HSC applications, there have been a significant number of planning applications relating to the operations on the site over the years including, for example, some for fencing, portacabins, offices and training facilities. The original permission for the site was granted in 1955:

19715 - Development of land (175 acres) for the erection of a factory for the manufacture of fine chemicals – (Approved - 2 September 1955)

Since that time there have been almost 150 applications on the site. Of the more recent planning applications, those most relevant to the storage and processing of chemicals on the site include:

4/1999/0300 - Installation of two chloride tanks. (Approved - 27/05/1999)

03/00231/F - Erection of extract flue and associated plant on roof (Approved - 20/01/2004)

4/2003/0296 - Construction of ester unloading bund and erection of covering structure to whole bund area. (Approved - 15/05/2003)

06/00808/F - Refurbishment of N50 building including new roof structure and over-cladding of existing building. (Approved - 22/09/2006)

06/01013/F - Provision of tank bund area, associated electrical switch room and pipe bridge to provide enhanced storage of flammable products. (Approved - 27/11/2006)

08/00513/F - Construction of new tank farm consisting of two reinforced concrete bunds in which horizontal tanks (5 No. total) shall be located. Modifications to existing reinforced concrete roadway to form tanker bay and ancillary pipeworks. (Approved - 22/10/2008)

08/01100/F - Proposed two new low level reinforced concrete containment bunds. An additional tank base and tank to be provided in adjacent existing low level reinforced concrete bund with new capacity scrubber reservoir on reinforced concrete plinths and scrubber column with steelwork supporting frame to replace existing. New low level bunded area to be

constructed at level of existing road to form new wash down area. (Approved - 21/01/2009)
09/00997/F – Works to the N50 office building and security building, new lorry holding area and access with associated demolition of other buildings (Approved 16.12.2009)
09/01455/F – reroofing of building N30 and internal alterations (Approved – 17.02.2010)
09/01460/F – Partial demolition of building N64 and erection of two steel portal frame buildings (Approved – 12.03.2010)
09/01545/F - Installation of a new containment bund, new tanker off-loading bay and a new methanol storage tank (Approved 05.03.2010)
10/01317/F – Provision of cover over existing pond within effluent treatment plant (Pending determination)
10/01407/F – Installation of windows in first floor of building N70(Approved – 13.09.2010)
10/01465/A – New advertisement signage to site frontage (Pending determination)
10/01669/NMA – Non material amendment to 09/01460/F – addition of entrance canopies to south elevation of both new steel portal frame buildings (Pending determination)

The Proposal

15. This application is for a comprehensive consent covering a whole-site review and seeking to consolidate and update the existing consents into a single consent for the site. It follows the submission of an application in February last year (ref. 09/00124/H) which was originally submitted as a comprehensive application but later amended to only apply for consent for the new substances required to allow for the production of Thisa on site. This application was approved in August 2009.

16. A pre-submission presentation for this application was given by Bayer to members of the Committee and ward members in the autumn of last year, which outlined the company's vision for the site (including changes to the 'front of house' which formed the basis of a subsequent planning application which has now been approved) and explained the background to the current hsc application.

17. Since then, new Hazardous Substances Regulations have come into force in October of last year, to reflect an earlier change to the European classification of some substances and ensure that the HSC regime in operation in England is in accordance with the European regulations. This means that some substances that have been held at the Bayer site for some time, and which previously did not require consent, are now required to be considered under the HSC application process. The regulations include a transitional period to enable this to occur and the current application, in part, seeks to meet these new requirements.

18. In addition to the above, the application seeks to include provision on site for some storage of substances as classified under their generic classification, rather than by name. This method of application is specifically allowed for within the regulations. Government guidance clarifies that, whilst the naming of substances enables the HSE and the Environment Agency to be better able to assess any risks and to apply appropriate conditions, if unspecified generic substances have been applied for then the HSE will treat them on the basis of exemplar (model type) substances within each category. Bayer wishes to include this provision within their consent to allow for some flexibility on site and in respect of possible future classification changes.

19. Bayer CropScience currently have a number of consents which cover their existing and previous operations on the site. Some of the quantities of the substances consented to be stored and used on the site no longer match current requirements, so the application also seeks to reduce or relinquish consent for some substances and increase the quantities of other substances.

20. A full list of all the substances, the quantities involved and their location within the site is contained within the application which is available for inspection in person at City Hall.

Representations Received

21. Advertised on site and in the press by the applicant prior to the submission of the application and in accordance with the regulation requirements. In addition it is understood that the local ward members circulated a letter to local residents informing them of the application. The application has been available for public inspection in person at City Hall since it was validated in December of last year. One letter of representation has been received citing the issues as summarised in the table below.

22.

Issues Raised	Response
Concern at proposal to store more substances, including some unnamed	See paragraphs 17-19
Site has expanded over the years without concern for surrounding residential areas	See paragraph 39
Will the planning committee take full responsibility for any incidents which may result	See paragraphs 5-7

Consultation Responses

23. **Broadland DC, Environmental Health** – no comment but essential to ensure that the conditions suggested by HSE are included in any decision notice. Reference to need to amend Environmental Permit in due course.

24. **Broadland DC, Development Management & Conservation** – no comment

25. **Norfolk County Council, Emergency Planning Manager** – Bayer CropScience Ltd, Norwich, works very closely with the Resilience Forum Emergency Services Liaison Group (Bayer) in the production and testing of the On and Off Site Plans as per the requirements of the Control of Major Accident Hazards Regulations 1999 (as amended). Therefore the application outlined in the paperwork provided should not have a major impact upon the emergency management process and so we have no comment to make.

26. **National Grid** – no response received

27. **Norfolk County Council, Planning & Transportation** – no response received

28. **Fire Service** – no response received

29. **Natural England** – no comments

30. **Norfolk Constabulary, Architectural Liaison/ Crime Reduction** – aware of this application and have been in liaison with the company in respect of this. Norfolk Constabulary have no further comment to make in respect of the application.

31. **Environment Agency** – confirmed that the Agency is content with the risk assessment undertaken and that the application is in accordance with the Environmental Permit, with

the exception of the proposed increase in oxynil ester capacity from 10 cubic metres to 18 cubic metres [clarified by the applicant that this was included within the current application to pre-empt the proposed vessel replacement and it is understood that this change would need to be included in a variation to the EP in the future]. Full comments are attached as Appendix 2

32. **Health & Safety Executive** – Subject to the suggested conditions, the Major Accident Risk Assessment Unit have concluded that the reduction in risks arising from the proposed application are so significant that there are no reasons, on safety grounds, for refusing the application for consent. Please see the detail of the comments provided and attached as Appendix 3 for an explanation of the assessment and the key reasons for the reduction in off-site risk. A map showing the reduced consultation zones for the site has been prepared. In the event that this application for hazardous substance consent is granted, this map will be placed on the HSE's Consultation Zone Library. An indicative copy and a comparison between the existing and proposed zones are included as Appendix 4 and 5 attached.

ASSESSMENT OF PLANNING CONSIDERATIONS

Relevant Planning Policies

Relevant National Planning Policies

PPS 1 – Delivering Sustainable Development

PPS 9: Biodiversity and Geological Conservation

PPS 23 – Planning and Pollution Control

PPS 23 Annex 1 – Pollution Control, Air and Water Quality

Relevant Local Plan Policies

City of Norwich Replacement Local Plan 2004

EP3 –Health and Safety Consultation

EP5 – Air Pollution

EMP7 – Single employer sites

NE7 – Protection of locally designated sites of nature conservation interest

Principle of Development

Policy Considerations

33. The most relevant development plan policies and central government guidance are indicated above. In addition to this, circular 04/00 is also particularly relevant.
34. The policies and guidance above require the authority to take into account issues relating to the impact of the proposed presence of hazardous substances on the surrounding area in terms of their impact both on the local population and the environment.
35. In addition to this, Policy EMP7 states: 'The sites identified as single employer sites will be retained in their primary industrial use and development providing for appropriate expansion of the industries concerned will be permitted, subject to the need for improved access provision if necessary.'
36. In relation to policy EMP7, the text of the Local Plan states: 'Certain employment sites are occupied primarily by single large employers. These are important firms, employing considerable numbers of people and the main objective of this Plan will be to maintain their position and provide for any appropriate level of expansion which is feasible within their sites.'

Other Material Considerations

37. Section 9(2) of the Planning (Hazardous Substances) Act 1990 indicates that other material considerations, as well as the above, include: any current or contemplated use of the land to which the application relates; the way in which land in the vicinity is being used or is likely to be used; any planning permission that has been granted for development of land in the vicinity; and any advice which the HSE have given following consultations
38. The site is currently used as a chemical plant and has been used as such for some considerable time. The current application would suggest that this current land use is not envisaged to cease in the foreseeable future. The way in which the land in the vicinity of the site is not considered likely to change materially in the future.
39. Permissions have been granted on the site over time, which support its continued use as a chemical plant. Permissions have also been granted for other uses and development around the site following consultation with the HSE and taking into account the advice provided with regards to risk. There are not considered to be any developments existing or proposed in the vicinity that would suggest that the current application should be refused, not least because the risks associated with the operation of the site would be significantly reduced if the application is granted.
40. The advice provided by the HSE is that there are no safety grounds for refusing the current application.
41. Advice received from the Environment Agency and other consultees does not contradict this advice or suggest that the current application would be in conflict with the other regulatory controls that exist on the use of the site, such as the COMAH and Environmental Permit regulations.
42. Other material considerations are as addressed below.

Impact on Living Conditions

Amenity of local residents inc. noise, disturbance and smell

43. Although members may wish to take these issues into account, it is suggested that only limited weight should be given to them. The current application enables this authority to assess whether the residual risk of an accident associated with the presence of hazardous substances on the site is acceptable in the context of the site and its surrounding environment.
44. The Environmental Permit regime requires the site to be operated in such a way as to minimise the impacts on local residents and the environment and to ensure that, if an accident does occur, measures are in place to contain and mitigate the impacts arising.
45. The current application is considered unlikely to have any material impact on local amenities. The Environmental Permit process for the site has already assessed the proposed operations (including the presence of the substances applied for within this application) with regard to local amenities and impact and has concluded that the proposals are acceptable, subject to conditions.
46. The Permit for the site specifies what Bayer need to achieve in terms of their impacts and management. The various plans that are produced by the company need to demonstrate how they will achieve these requirements, for example, the Environmental Management System, the Accident Management Plan, the Odour Management Plan etc. Sector guidance notes are also produced and Bayer will also need to have reference to these standards.
47. In terms of ongoing issues associated with smell from the site, the company are aware of this and the current application ref. 10/01317/F for the provision of a cover for a pond within the effluent treatment plant seeks to resolve this issue. This action was taken as a result of the continuing monitoring and review of the Odour Management Plan produced as part of the Permit requirements.
48. In terms of complaints about smell, it is understood that only a limited number of

complaints have been received by the Environment Agency, the organisation which is the correct recipient of these complaints. However, all such calls are monitored, investigated and a response is provided.

Environmental Issues

Site Contamination and Remediation

49. As a condition of the Environmental Permit, the company produces a Site Protection and Monitoring Programme. The Environmental Health service of the Council holds a copy of this (and other information associated with the Permit) as part of the public register. It is also understood that the company are working directly with the EA on voluntary groundwater monitoring for historic groundwater contamination.
50. The current application for HSC is not considered likely to lead to greater risks of adverse environmental impact generated by the use on site. As with the issues concerning local amenities outlined above, these issues are fully considered as part of the Permit process and the substances applied for in this application have already been assessed as part of that process.
51. Provided the company meet the terms of the Permit, the environmental impacts associated with the proposal and the operations on site are considered acceptable.

Conclusions

52. This is the first opportunity that the City Council members have had, since the introduction of the Planning (Hazardous Substances) Act in 1990, to consider the totality of the residual risks posed by the operation at Bayer to the people and environment of Norwich. However, in practice, this risk has been accepted by virtue of the original planning consent granted for this plant in this location and more recently through the positive development plan policy to protect and encourage development at the site.
53. The continued use of the site as a chemical plant is clearly supported in the development plan. Development on and around the site is carefully assessed and controlled taking this existing use into account. There are not considered to be any current or future development proposals around the site which would indicate that the proposal is unacceptable. The current application would significantly reduce the risks associated with this use, so much so that the HSE have advised that 'that there are no reasons, on safety grounds, for refusing the application for consent'. In assessing the merits of the application, considerable weight has been attached to the current development plan policies supporting the continued use of the site and the clear advice from the HSE on this application.
54. The EA have confirmed that they consider the risk assessment undertaken acceptable and the current proposals would be in accordance with the Permit on the site, with one exception for a substance not currently used on site. None of the other consultees have objected to or advised against the application. Considerable weight has also been attached to the views of the EA and the other consultation responses in assessing the application.
55. The proposed alteration to the substances consented to be stored and used on the site is not considered likely to have any detrimental effect on local amenities or the surrounding environment in terms of the day-to-day operation and management of the site and it is recognised that the control and enforcement of this aspect of the use is managed as part of the Environmental Permit. Although only limited weight has been attached to these considerations, they support the conclusions reached that the residual risks associated with the presence of hazardous substances, either to persons or to the environment, are tolerable in the context of existing and potential uses of neighbouring land.
56. The application is therefore considered to be acceptable. In addition to the conditions recommended to be imposed by the HSE, it is also necessary to impose a condition which

would prevent the use of overlapping hazardous substances consents on the site until the existing consents can be formally revoked. Although compensation is normally payable if the authority revokes consent, in this instance this is not considered to be a significant risk as the revocation would only occur following the grant of a comprehensive consent for the site as a whole. Bayer CropScience have been approached to confirm that they support this approach and will not seek compensation as revocation in these circumstances would not cause any damage to them. Their response is awaited.

RECOMMENDATIONS

1. To approve Application No 09/01443/H at Bayer CropScience, Sweet Briar Road, Norwich and grant hazardous substance consent, subject to the following conditions:-

1. The consent not to come into effect until
 - a) all the substances listed in table A attached to the letter of understanding are removed from the site; and
 - b) all the substances listed in table B attached to the letter of understanding are reduced in quantity and to a level no greater than that which appears in table B.
2. Until such time as the existing consents ref. 4HS9204/H, 4/1999/0915/H, 4/2000/0193/H and 09/00124/H are revoked, the site shall be operated in strict accordance with the submitted letter of undertaking.
3. The Hazardous Substance(s) shall not be kept or used other than in accordance with the application particulars provided in Form 1, nor outside the area(s) marked for storage of the substance(s) on the plan which formed part of the application.
4. No more than three full moveable containers of bromine to be present on site at the same time.
5. The following limits to apply to tanker deliveries of the following dangerous substances:

Substance	Max delivery weight (tonnes)	No. deliveries per 12 mth period
Bromine	24	180
Heptanoyl chloride	no limit	96
Octanoyl chloride	no limit	192
Sodium cyanide	26.5	180
Thionyl chloride	no limit	36

2. And to prepare and serve revocation orders for the existing hazardous substances consents at the site and, following the expiry of the statutory period following notification, to forward the orders to the Secretary of State with a request that they be confirmed.

(Reasons for approval:

1. The continued use of the site as a chemical plant is clearly supported in the development plan. Development on and around the site is carefully assessed and controlled taking this existing use into account. There are not considered to be any current or future development proposals around the site which would indicate that the proposal is unacceptable. The current application would significantly reduce the risks associated with this use. The HSE have advised that 'that there are no reasons, on safety grounds, for refusing the application for consent'. In assessing the merits of the application, considerable weight has been attached to the current development plan policies supporting the continued use of the site and the clear advice from the HSE on this application.
2. The EA have confirmed that they consider the risk assessment undertaken acceptable

and the current proposals would be in accordance with the Permit on the site, with one exception for a substance not currently used on site. None of the other consultees have objected to or advised against the application. Considerable weight has also been attached to the views of the EA and the other consultation responses in assessing the application.

3. The proposed alteration to the substances consented to be stored and used on the site is not considered likely to have any detrimental effect on local amenities or the surrounding environment in terms of the day-to-day operation and management of the site and it is recognised that the control and enforcement of this aspect of the use is managed as part of the Environmental Permit. Although only limited weight has been attached to these considerations, they support the conclusions reached that the residual risks associated with the presence of hazardous substances, either to persons or to the environment, are tolerable in the context of existing and potential uses of neighbouring land
4. Subject to conditions covering the storage of moveable containers of bromine, limits to tanker deliveries and preventing the use of overlapping consents until the existing consents can be formally revoked, the application is therefore considered to be acceptable and to meet the criteria of PPS1, PPS9, PPS23 and saved policies EP3, EP5, EMP7 and NE7 of the City of Norwich Replacement Local Plan 2004 and all other material considerations.)

NORWICH CITY COUNCIL

REVOCATION OF HAZARDOUS SUBSTANCES CONSENT ORDER (NO)
2010

BAYER CROPSCIENCE, SWEET BRIAR ROAD, NORWICH, NR6 5AP

PLANNING (HAZARDOUS SUBSTANCES) ACT 1990 – SECTION 14(1)

WHEREAS

1. Norwich City Council (hereinafter called 'the Authority') is the Hazardous Substances Authority for the area
2. Deemed consent was claimed from the Authority for the storage and use of bromine, with an established quantity of 160 tonnes on land described in Schedule 1 hereto (the land) and the Authority registered such deemed consent under reference number 4HS9204/H on 8 December 1992 (hereinafter called 'the First Deemed Consent'). The established quantity of chemicals is given in Schedule 2.
3. Deemed consent was claimed from the Authority for the storage and use of 38 different notifiable hazardous substances, with a total established quantity of 2,313 tonnes on land described in Schedule 1 hereto (the land) and the Authority registered such deemed consent under reference number 4/1999/0915/H on 2 February 2000 (hereinafter called 'the Second Deemed Consent'). The established quantity of chemicals is given in Schedule 2.
4. Consent was applied for from the Authority for the storage and use of 5 different substances to manufacture NTBN (2-nitro-4-trifluoromethyl benzonitrile) with a total established quantity of 338 tonnes on land described in Schedule 1 hereto (the land) and the Authority granted such consent under reference number 4/2000/0193/H on 15 June 2000 (hereinafter called 'the First Consent'). The established quantity of chemicals is given in Schedule 2.
5. Consent was applied for from the Authority for the storage and use of notifiable hazardous substances - Anhydrous Ammonia (5 tonnes), Sodium nitrite (30 tonnes), Sulphur Dioxide (12 tonnes), Chlorobenzene (120 tonnes), Acetone (75 tonnes), Cuprous Chloride (5 tonnes), Thisa (100 tonnes) with a total established quantity of 347 tonnes on land described in Schedule 1 hereto (the land) and the Authority granted such consent under reference number 09/00124/H on 17 August 2009 (hereinafter called 'the Second Consent'). The established quantity of chemicals is given in Schedule 2.
6. Consent was applied for from the Authority for a full site review for all hazardous substances stored and used on site, incorporating (i)

additional consent required as a result of changes to the classification of some substances in the Regulations, (ii) some generic storage to allow for some flexibility of storage on site, (iii) alterations to existing consents required for increased quantities of some substances and reduced quantities or removal of consent for some substances no longer required, on land described in Schedule 1 hereto (the land) and the Authority granted such consent under reference number 09/01443/H on xx xxxxxxxxx 2010 (hereinafter called 'the Third Consent'), subject to conditions which include a restriction preventing the consent from becoming effective until the earlier extant consents are revoked. The established quantity of chemicals is given in Schedule 2.

7. It appears to the Authority, having regard to all material considerations, that it is expedient to revoke the First and Second Deemed Consents and the First and Second Consents on the site in the manner hereinafter appearing since, having regard to the Third Consent, the continued existence of the First and Second Deemed Consents and the First and Second Consents would result in duplication and inconsistency by creating a layering of consents on the site, potentially resulting in confusion and an unacceptable increase in the residual risks to human health and the environment from the presence of hazardous substances on the site, to the detriment of the locality.

NOW THEREFORE the Authority as Hazardous Substances Authority and in pursuance of Section 14(1) of the Planning (Hazardous Substances) Act 1990 and powers enabling hereby make the following order:

1. The First and Second Deemed Consents and the First and Second Consents are revoked.
2. This Order shall be cited as 'Norwich City Council Revocation of Hazardous Substances Consent Order (No.) 2010

SCHEDULE 1

Land at Bayer CropScience, Sweet Briar Road, Norwich, NR6 5AP shown edged red on the plan attached hereto.

SCHEDULE 2

List of chemicals for which Deemed Consent was received on 08.12.1992 and 02.02.200 and Consent was received on 15.06.2000 and 17.08.2009

Substance	Established Quantity(t)
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[TO BE COMPLETED]

THE COMMON SEAL OF
NORWICH CITY COUNCIL
Was hereunto affixed in the presence of:

Leader of the Council

Solicitor to the Council

The Secretary of State for Communities and Local Government hereby
confirms the foregoing Order

F.A.O. Ms A Napier
Norwich City Council
Planning Department
City Hall St. Peters Street
Norwich
Norfolk
NR2 1NH

Our ref: AE/2010/109844/01-L01
Your ref: 09/01443/H
Date: 12 March 2010

Dear Madam

STORAGE OF NOTIFIABLE HAZARDOUS SUBSTANCES - FULL SITE REVIEW FOR ALL HAZARDOUS SUBSTANCES STORED AND USED ON SITE INCORPORATING (I) ADDITIONAL CONSENT REQUIRED AS A RESULT OF CHANGES TO THE CLASSIFICATION OF SOME SUBSTANCES IN THE REGULATIONS, (II) SOME GENERIC STORAGE TO ALLOW FOR SOME FLEXIBILITY OF STORAGE ON SITE, (III) ALTERATIONS TO EXISTING CONSENTS REQUIRED FOR INCREASED QUANTITIES OR REMOVAL OF CONSENT FOR SOME SUBSTANCES NO LONGER REQUIRED. BAYER CROPSCIENCE LTD, SWEET BRIAR ROAD, NORWICH, NORFOLK, NR6 5AL.

Thank you for your consultation on the above application. We apologise for the delay in our response and trust our comments will still be taken into consideration:

Environmental Permit

Bayer CropScience Limited ('the operator') hold an environmental permit (ref. BM5674IZ) issued by the Environment Agency for chemical manufacturing activities listed in Schedule 1 of the Environmental Permitting Regulations 2007. The permit was issued 08 December 2006, with subsequent variation notices issued 20 February 2007, 03 September 2007 and 17 August 2009.

The permit covers environmental aspects such as:

- Management (management systems, accident management plan, energy efficiency, raw materials use, waste management and site security)
- Operations (permitted activities, operating techniques including storage and containment, closure and decommissioning, site protection and monitoring programme)
- Emissions & monitoring (fugitive and point source emissions to air waste and

Environment Agency
Iceni House Cobham Road, Ipswich, IP3 9JD.
Customer services line: 08708 506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

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- land, odour, noise and vibration, plus monitoring requirements)
- Records, reporting and notifications to the Environment Agency

Detailed information on the standards and appropriate measures that we expect the operator to use in order to comply with the conditions of their permit can be found in 'Getting the basics right' available at <http://publications.environment-agency.gov.uk/pdf/GEHO0209BPHU-e-e.pdf> and specific permitting guidance for the chemicals sector (EPR 4.02 and EPR 4.03) available on our website from <http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx>

A copy of the environmental permit, variation notices plus supporting application documents are available on public registers held by the local authority and ourselves.

Environmental permitting – risk assessments

Before we can issue an environmental permit or permit variation we must be sure that the activity will not pose an unacceptable risk to the environment and that the operator will take necessary measures to protect the environment.

Applications for new permits and permit variations are supported by an assessment of the risks to the environment and human health based on our 'H1 Environment Risk Assessment' horizontal guidance.

H1 is a two part guide which deals with accidents, odour, noise and emissions. Its aim is to identify the significant risks and show that the risk of pollution will be acceptable by taking the appropriate measures to manage the risks. Insignificant risks are screened out and more detailed assessment is only needed where the risks justify it.

- H1, Part 1 covers accidents, odour, noise and fugitive emissions.
- H1, Part 2 covers point source releases to air, water and land, a method for comparing costs and benefits of the different options, and a multimedia assessment to satisfy the best available techniques ('BAT') requirements of the IPPC Directive

Our H1 guidance together with horizontal guidance for noise (H3) and odour (H4) is available on our website at:

http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx#Horizontal_guidance

Determination of the permit involved a consultation process which includes consultation with organisations such as the local authority, Health & Safety Executive, Health Protection Agency, local sewerage undertaker, Food Standards Agency and Natural England, plus public consultation. Further information on the consultation process is available on the 'How we work together' page of our website <http://www.environment-agency.gov.uk/business/topics/permitting/36420.aspx>.

Hazardous Substance Consent Application

The information provided in the hazardous substance consent application (substances, storage locations and quantities, containment etc) has been reviewed against the environmental permit and supporting information. This includes

information provided in the original permit application dated March 2006, the 'Thisa' variation in March 2009 (ref. BM5674IZ/V004) and notifications of minor changes in operation submitted by the operator.

Due to differences in the tank/location numbering system in the hazardous substance consent application and permit application further information was requested from the operator. Subsequent clarification on some points arising from initial comparison of information contained in the application and the permit documents has also been received.

During this correspondence the operator also advised that the hazardous substance consent has not been updated since 2000 (before the environmental permit application) other than to add materials related to the new NCH15342 (Thisa) process last year. The only substance in the application not already covered under the permit is the sodium iodide 40% solution which will not be built until later this year. The operator's letter accompanying the application also states that it doesn't cover any new process but it is to regularise consent for substances already used on site. It also includes new requirements due to changes in classification; increased quantities of substances with existing consents; reductions in consent requirements for some substances and substances no longer used; and speculative flexibility by adding generic entries under some of the material classifications to avoid need for minor consent applications in the future

As a result of our review, the hazardous substance consent application appears consistent with the environmental permit with the exception of the following aspects. These will require a minor operational change notification to be submitted to the Environment Agency before implementation:

- N74-1:1 (T7300), Oxynil ester – increase in capacity from 10m³ to 18m³
- N72:10, Sodium iodide – 3 new tanks to replace N72A

Any 'speculative' future generic storage that isn't already covered by the permit will also require the submission of a minor operational change notification, or a permit variation if appropriate, before implementation on site.

A minor operational change notification involves the submission of the following for approval: written notice of the details of the proposed change including an assessment of its possible effects on risks to the environment from the permitted installation; any relevant supporting assessments and drawings; and the proposed implementation date. This change in operation is also provided by Regulation 69(6) of the Environmental Permitting Regulations 2007.

Changes in operation on site and the associated environmental permitting requirements are discussed in 'EPR8: Changes in operation', available from our website at <http://www.environment-agency.gov.uk/business/topics/permitting/36419.aspx>.

Unfortunately, until we receive the above mentioned minor operational change notification/permit variation we are unable to advise your Authority of the risk associated with those aspects of the hazardous substances consent application.

Tank/location referencing

A point to note is that it may be preferable for all authorisations to include the same tank/location referencing system. For example the hazardous substance application

refers to 'Vessel no. N82-5:1', whereas the same tank in the environmental permit and COMAH documentation is 'Tank no. V1500, Location N82/C'. This potential confusion is highlighted further by the following tanks, which initially appear to be in different locations on site but are simply referenced differently:

- Haz subs ref. N93:5 / Env permit ref. T9910, N92/B
- Haz subs ref. N93:6 / Env permit ref. T9920, N92/B
- Haz subs ref. N93:4 / Env permit ref. T9970, N92/B
- Haz subs ref. N72:4 / Env permit ref. T2020, N71/D
- Haz subs ref. N72:5 / Env permit ref. T1900, N71/E
- Haz subs ref. N72:5 / Env permit ref. T1901, N71/E
- Haz subs ref. N93:2 / Env permit ref. T9985, N92/J
- Haz subs ref. N93:1 / Env permit ref. T9925, N92/H

Control of Major Accident Hazards (COMAH)

This facility is also covered by the COMAH Regulations 1999. These regulations are jointly administered by the Health & Safety Executive and ourselves. Any change to inventory will be included in the safety case.

The Health & Safety Executive is responsible for assessing risk to individuals and we look at aspects relating potential environmental incidents.

The COMAH regime aims to prevent and limit the consequences of major accidents at approximately 1000 establishments which use or store significant quantities of dangerous substances, such as oil products, natural gas, chemicals or explosives.

A 'major accident' could involve an uncontrolled emission, fire or explosion leading to serious danger to human health or the environment. A major accident to the environment would cause severe and/or long-term damage.

Further information on COMAH is available at the links below:

- Environment Agency – COMAH
- <http://www.environment-agency.gov.uk/business/sectors/37111.aspx>
- Health & Safety Executive – COMAH
- http://www.hse.gov.uk/comah/?lang=_e

Should you have any questions relating to the above comments, please contact Rob Reynolds, PPC officer, on 01473 706733.

Yours faithfully

Miss Jessica Bowden
Planning Liaison Officer

Direct dial 01473 706008

Direct fax 01473 271320

Direct e-mail jessica.bowden@environment-agency.gov.uk

cc Bayer Cropscience Ltd

End

F.A.O. Ms A Napier
Norwich City Council
Planning Department
City Hall St. Peters Street
Norwich
Norfolk
NR2 1NH

Our ref: AE/2010/109844/02-L01
Your ref: 09/01443/H
Date: 13 August 2010

Dear Madam

STORAGE OF NOTIFIABLE HAZARDOUS SUBSTANCES - FULL SITE REVIEW FOR ALL HAZARDOUS SUBSTANCES STORED AND USED ON SITE INCORPORATING (I) ADDITIONAL CONSENT REQUIRED AS A RESULT OF CHANGES TO THE CLASSIFICATION OF SOME SUBSTANCES IN THE REGULATIONS, (II) SOME GENERIC STORAGE TO ALLOW FOR SOME FLEXIBILITY OF STORAGE ON SITE, (III) ALTERATIONS TO EXISTING CONSENTS REQUIRED FOR INCREASED QUANTITIES OR REMOVAL OF CONSENT FOR SOME SUBSTANCES NO LONGER REQUIRED. BAYER CROPSOURCE LTD, SWEET BRIAR ROAD, NORWICH, NORFOLK, NR6 5AL.

Further to previous comments on the proposal the operator has provided an environmental risk assessment (received 28 July 2010) for the generic substances flexibility. In this respect, we have the following comments:

In addition to specifying maximum quantities under each generic category, the risk assessment provided considers the following:

- **Controlled releases to air.** The information provided states that an assessment of the impacts to air using our H1 guidance (annex f, April 2010) has been carried out using a worst case scenario. A summary table of this assessment is provided which advises that the short term process contribution is 7.6% of the short term Environmental Assessment Level (EAL) and the long term process contribution is 0.78% of the long term EAL. As detailed in our H1 guidance, process contributions can be considered insignificant if the long term process contribution is <1% of the long term environmental standard and the short term process contribution is <10% of the short term environmental standard.
- **Controlled releases to water.** The information provided states that no new substance will be released into the site's effluent treatment system.
- **Controlled releases to ground or groundwater.** The information provided states that there are no controlled releases to ground or groundwater from this proposal.
- **Global warming potential.** The information provided states that no substance listed in appendix A of H1 (annex h – global warming potential) will be introduced under the generic quantities.

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Email: enquiries@environment-agency.gov.uk
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- **Waste.** The information provided states that after application of the waste hierarchy, any disposal required would be by incineration.
- **Odour.** The information provided concludes that the overall risk from odour from the generic substance is not significant given the risk management measures in place.
- **Noise & vibration.** The information provided states that the proposal will not lead to any increased noise or vibration.
- **Fugitive emissions to air and water.** The information provided concludes that the overall risk to air from fugitive emissions are not significant due to low mass release and subsequent dilution. Furthermore, the overall risk to water from fugitive emissions is not significant provided the specified management measures are adhered to.
- **Accidents.** The information provided concludes that the overall risk from accidents is not significant due to implementation of specified control measures.

The above aspects are also regulated under the Environmental Permit. Further information on environmental permitting is provided in our previous letter dated 12 March 2010.

The risk assessment also acknowledges and includes a commitment to the following actions prior to the introduction of any new substance on site:

- The completion of a Hazard and Operability (HAZOP) study specific to the proposed handling and use of the substance concerned.
- Obtain agreement from the Environment Agency by variation [or change in operation notification] to the Environmental Permit. This is a requirement of condition 2.3.1 of their Environmental Permit.

Based on the information provided, as referred to above and the controls provided by the Environmental Permit, we are content with the risk assessment received 28 July 2010.

Please note, we previously made comments in relation to sodium iodide and oxynil ester. A change in operation notification has been received and agreed for the sodium iodide project involving the installation of new tanks in N72A (N72:10). However, a notification doesn't appear to have been received for the increase in oxynil ester capacity from 10m³ to 18m³.

I trust the above comments aid you in determining this consent application. Should you wish to discuss our comments further, please contact either myself on the number given below or Rob Reynolds, PPC officer, on 01473 706733.

Yours faithfully

Miss Jessica Bowden
Planning Liaison Officer

Direct dial 01473 706008 Direct fax 01473 271320
 Direct e-mail jessica.bowden@environment-agency.gov.uk

cc Bayer Cropscience Ltd

End

Generic Substance Environmental Risk Assessment For Hazardous Substance Consent Application 09/01443/H

1) Introduction

Within the Hazardous Substance Consent application ref: 09/01443/H allowances have been included for storing additional materials by generic classification. These quantities are within the classification categories of materials already stored but does not include any within the Very Toxic classification. The intention is to build-in a level of flexibility but not to increase the risk from the level within the current Consents. This is to balance some of the materials no longer used on Site and for which consent is being relinquished.

These materials will be either liquids or solids.

Solids will be delivered in moveable containers up to a maximum of 1,000 kg per container.

Liquids will be either be delivered by road tanker and discharged to a fixed bulk tank; or delivered in moveable containers up to a maximum of 1 m³ per container.

The types of substances considered under the generic category have been limit as follows:

- Toxic: generic quantity (100 tonne) limited to substances with boiling point greater than 110°C. Quantity represents ~3.5% of the named materials.
- Oxidisers: generic quantity (30 tonne) limited to those substances that present oxidising properties. Quantity represents 25% of the named materials.
- Highly Flammable: Generic quantity (100 tonnes) flammable materials with flash point less than 23°C. Total quantity 30 % less than existing consents.
- Flammable: Generic quantity (100 tonnes) flammable materials with flash point greater than 23°C. Quantity represents 30% of the named materials.
- Dangerous to Environment: Generic quantity (400 tonnes) limited to substances with R50, R51/53 risk phrases. Quantity represents ~10% of the named materials

2) General Considerations

Prior to the introduction of any new substance to the site under the generic quantities the following actions would be undertaken:

- The completion of a Hazard and Operability (HAZOP) study specific to the proposed handling and use of the substance concerned.
- Obtain agreement from the Environment Agency via a variation request to the Sites Environmental Permit.

3) **Environmental Risk Assessment**

An environmental risk assessment for these generic substances has been performed following the guidance given in the document 'H1 Environmental Risk Assessment (version 2 April 2010)'

This assessment considers the following:

- Controlled releases to air
- Controlled releases to water
- Controlled releases to ground or ground water
- Global warming potential
- Waste
- Odour
- Noise & vibration
- Fugitive emissions to air and water
- Accidents

A) **Controlled Releases to Air**

The H1 guidance (annex f, April 2010) provides a method for evaluating the potential impact of releases to air. This done by comparing calculated process emissions against reference values on a substance by substance basis.

To enable this risk assessment to be performed for generic substances the following assumptions are made:

- No new substance with a long term EAL value less than 600 ug/m³ or short term EAL value of less than 10,000 ug/m³ will be introduced under the generic quantities.
- For substances at these EALs the total maximum annual release to air would not be more than 1,000 kg and the maximum hourly release rate would not be more than 0.7 kg/h. Where it is proposed to introduce a new substances with higher EAL values, the maximum release quantities would be calculated pro rata such that the ratio between the calculated process contributions and the EAL values remains at less than 0.8% for long term emissions and less than 8% for short term emissions.
- Effective release height assumed as zero to give a worst case scenario

On this basis a worst case generic H1 assessment would be as follows:

Short term

Release rate (kg/h)	Release rate (g/s)	Dispersion factor	Calc PC _{air} ug/m ³	Short term EAL ug/m ³	%
0.7	0.1944	3900	758.3	10,000	7.6%

H1 states that were the calculated short term PC_{air} is less than 10% of the short term benchmark are likely to be insignificant.

Long term

Release rate (kg/year)	Release rate (g/s)	Dispersion factor	Calc PC _{air} ug/m ³	Long term EAL ug/m ³	%
1,000	0.0317	148	4.69	600	0.78%

H1 states that were the calculated long term PC_{air} is less than 1% of the long term benchmark are likely to be insignificant.

Impact of Deposition to Land from the Air

No new substance will be introduced to site under the generic quantities which:

- For substances with a maximum deposition rate list in the H1 guidance – the calculated long term process contribution is greater than 0.8% of the maximum deposition rate
- For substances without a maximum deposition rate list in the H1 guidance – the calculated long term process contribution is greater than 0.8% of the long term EAL value.

Photochemical Ozone Creation Potential (POCP)

No new substance will be introduced to site under the generic quantities which would increase the POCP for the site more by more than 5% based on the list of substances in H1 annex f, appendix A.

Following the implementation of the NCH15342 solvent recovery plant the total POCP for the site is currently 1,943. Therefore for a substance with POCP of 10 an additional 9,715 kg/year could be emitted to air whereas for a substance with a POCP of 100 only an additional 972 kg year would be allowed.

B) Controlled Releases to Water

No new substance introduced under the generic quantities will be released into the sites effluent treatment system and hence to the Anglian Water treatment plant at Whitlingham.

C) Controlled Releases to Ground or Ground Water

There are no controlled releases to ground or ground water from the Bayer CropScience Norwich Site operations. No new substance introduced under the generic quantities will be released to ground or ground water.

D) Global Warming Potential

No substance listed in H1 annex h, appendix A will be introduced under the generic quantities.

The use of energy also contributes to the emission of global warming gases. However, energy use is not normal related to any specific substance, more to what is required to operate the process (heating, cooling, agitation etc) therefore it has not been considered as part of this risk assessment.

E) Waste Impacts

After application of the waste hierarchy if it is necessary to dispose of a waste stream containing a new substance introduced under the generic quantities this will be done by incineration.

F) Odour

In all of the following sections F to I, potential receptors for releases to air are:

- People working on the Sweet Briar Road industrial estate, 75 m east of the site boundary
- People living in housing to the south, west and northwest of the site. Closest is St Edmunds Close 20m from the site boundary
- People walking along the footpath directly south of the site boundary
- Sweet Briar Meadows SSSI – 150 m southeast of the site boundary
- Wensum Valley SAC – Closest point is 250 m west of the site boundary

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Displacement of odourous substances during transfers between unabated vessels or bulk tanks	General public beyond site boundary – see above	Air	No new substances with an odour threshold of less than 1 ppm will be stored or handled in free venting equipment under the generic quantities	Low given risk management measures	Interference with public amenity beyond site boundary.	Not significant
Failure of systems providing abatement for odourous substances	General public beyond site boundary – see above	Air	Individual abatement systems are provided with instrumentation and interlocks to detect failure and to automatically take actions to minimise any releases. See section I - Accidents	Low given risk management measures	Interference with public amenity beyond site boundary. Risk management measures will ensure that release would be minimised	Not significant
Discharge of odourous substances to the effluent treatment system. Risk of escape of odourous substances from open holding tanks	General public beyond site boundary – see above	Air	As stated in the assessment of water impacts above, no new substances introduced under the generic quantities will be discharged to the sites effluent treatment plant	Nil given risk management measures	None	None

G) Noise / Vibration Risk Assessment

The introduction of new substances under the generic quantities will not lead to any increased noise or vibration.

H) Fugitive Emissions Risk Assessment

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
TO AIR						
Displacement from free venting tanks due to unbalanced transfers	See section F	Air	<p>Tanks are only left as free venting providing the actual mass releases per day are low.</p> <p>Such releases are taken into account when calculating the overall releases to air as per section A above.</p>	Very low due to low mass release and subsequent dilution	<p>Exposure to released substance.</p> <p>Overall significance taken into account in air impacts assessment</p>	Not significant
Displacement from free venting tanks due to breathing as temperature increases during the day	See section F	Air	<p>Releases due to breathing are generally low particularly for substances with boiling points over 100°C.</p> <p>For lower boiling substances these releases can become more significant. Such releases are taken into account when calculating the overall releases to air as per section A above.</p>	Very low to low (depending on volatility of material) due to low mass release and subsequent dilution	<p>Exposure to released substance.</p> <p>Overall significance taken into account in air impacts assessment</p>	Not significant

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
TO WATER						
Leakage of sub surface structures – drains and sumps	Ground water below site	Direct	Maps of the sites drainage are maintained. Drains and sumps are subject to inspection as detailed in procedure NEST 5.1.4	Low provided management measures adhered to	Potential for contamination of groundwater	Not significant provided management measures adhered to.
Failure of surfacing in storage, handling and process areas.	Ground water below site	Direct	Surfacing in storage, handling and process areas is inspected as detailed in procedure NEST 5.1.4	Low provided management measures adhered to	Potential for contamination of groundwater	Not significant provided management measures adhered to.
Leakage from above ground storage tanks	Ground water below site Discharge to public sewer	Direct Via site drainage system	Tanks are inspected as defined in NEST 5.1.3 All above ground storage tanks are bunded with a minimum capacity of 110%. Bunds are inspected as detailed in procedure NEST 5.1.4	Low provided management measures adhered to	Potential for contamination of groundwater	Not significant provided management measures adhered to.

I) Accidents

Prior to any new substance being introduced under the generic quantities its handling and use would be evaluated by a Hazop (Hazard and Operability) study.

The following table details typical risks and control measures likely to arise:

1) Bulk storage, discharge from road tanker and transfer to / from manufacturing plant.

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Spillage from bulk tank during filling from road tanker due to overfilling of bulk tank	Potential for release to Anglian Water ETP at Whitlingham See section F	Via site drainage and effluent system Air - fuming or evaporation of released substance	Any bulk storage tanks will be bunded to a minimum of 110% of the largest tank in the bund Bulk tanks are fitted with high level protection with actions to stop tank filling All discharges from road tankers are manned operations to written procedures	Very unlikely with control measures	Possible adverse impact on effectiveness of the Anglian Water ETP Release of substances to air with potential adverse environmental impact	Not significant with control measures
Spillage from transfers system during transfer from road tanker to bulk tank	Potential for release to Anglian Water ETP at Whitlingham See section F	Via site drainage and effluent system Air - fuming or evaporation of released substance	All discharges from road tankers are manned operations to written procedures Where possible pumps and the majority of couplings are situated within the tank bund so that spillages would be contained. Any spillages into the site drainage system can be contained prior to the final outfall to the Whitlingham works	Very unlikely with control measures	Possible adverse impact on effectiveness of the Anglian Water ETP Release of substances to air with potential adverse environmental impact	Not significant with control measures

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Spillage of flammable or highly flammable solvents during discharge and ignition either due to static discharge or other ignition source - Fire	See section F	Air	<p>Any new bulk storage for classification B6 or B8 substances will be designed as a minimum to meet HSG176 and the storage facility will be fitted with fixed fire fighting equipment (in most cases a foam, pouring system fitted to the containment bund).</p> <p>The site has a clear hazardous materials zoning policy to meet the Dangerous Substances & Explosive Atmosphere Regulations (DSEAR) to minimise ignition sources.</p> <p>All discharges from road tankers are manned operations to defined procedures including earthing to prevent static discharge</p>	Very unlikely with control measures	Release of combustion products to air.	Not significant with control measures
Leakage of transfer pipe work between bulk storage tank and manufacturing plant	<p>Potential for release to Anglian Water ETP at Whitlingham</p> <p>Contamination of below site soil / ground water</p>	<p>Via site drainage and effluent system if leak occurs over concreted areas</p> <p>If leak occurs over unmade ground</p>	<p>Materials of construction for pipe work are selected on the basis of their resistance to the substance concerned.</p> <p>Where possible transfer lines are run over concreted areas. Any spillages into the site drainage system can be contained prior to the final outfall to the Whitlingham works</p> <p>Where pipe work is run over unmade ground it is arranged such that no flanges occur over the unmade sections.</p>	Very unlikely with control measures	<p>Possible adverse impact on effectiveness of the Anglian Water ETP</p> <p>Contamination of soil / groundwater below the site</p>	Not significant with control measures

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Leakage from moveable containers	Potential for release to Anglian Water ETP at Whitlingham	Via site drainage and effluent system	New substances introduced under the generic quantities will be stored in a bunded storage area, meeting the requirements of HSG51, 71 and 141	Very unlikely with control measures	Possible adverse impact on effectiveness of the Anglian Water ETP	Not significant with control measures

2) Manufacturing Operations

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
<p>Overfilling of vessel either due to failure of an automated system or human error</p> <p>In some cases this can lead to material being spilt from the process; in other cases vessels are linked and overfill can result in material entering other vessels with the potential for adverse reactions</p> <p>If the vessel contains flammable or highly flammable materials additional risk of fire if spillage occurs and there is a source of ignition</p>	<p>Potential for release to Anglian Water ETP at Whitlingham</p> <p>See section F</p>	<p>Via site drainage and effluent system</p> <p>Air - via process vents or spilt material</p> <p>Air - fire</p>	<p>Provision of high level protection with automated actions to shut off the feed into the vessel concerned</p> <p>The site has a clear hazardous materials zoning policy to meet the Dangerous Substances & Explosive Atmosphere Regulations (DSEAR) to minimise ignition sources.</p>	Very unlikely with control measures	<p>Possible adverse impact on effectiveness of the Anglian Water ETP</p> <p>Release of substances to air with potential adverse environmental impact</p>	Not significant with control measures

Hazard	Receptor	Pathway	Risk Management	Probability of exposure	Consequence	What is the overall risk?
Failure of abatement systems for releases to air either due to: <ul style="list-style-type: none"> power failure stopping circulation pumps and/or chiller units scrubber liquors becoming exhausted Low level in scrubber reservoir 	See section F	Air - via process vents	Provision of low flow protection on scrubber and condenser circulation loops with automated actions to minimise releases such as shutting off feeds to process and stopping process heating. Provision of high temperature detection on condenser loops with automated actions to minimise releases such as shutting off feeds and stopping process heating Manufacture is controlled by written procedures including checks on scrubbing medium prior to starting a batch to ensure that scrubbing medium will not become exhausted during processing	Very unlikely with control measures	Release of substances to air with potential adverse environmental impact	Not significant with control measures
Addition of wrong substance into process particularly when charging from drums, sacks or IBCs – potential for adverse reaction and over pressure of process vessels	Potential for release to Anglian Water ETP at Whitlingham See section F	Via site drainage and effluent system if vessel ruptures Air - via process vents or spilt material if vessel ruptures	Manufacture is controlled by written procedures. This includes assembly and checking of materials prior to charging to the process Any spillages into the site drainage system can be contained prior to the final outfall to the Whitlingham works	Unlikely with control measures	Possible adverse impact on effectiveness of the Anglian Water ETP Release of substances to air with potential adverse environmental impact	Not significant with control measures

FAO: Ms Anne Napier
Norwich City Council
Planning Department
City Hall St. Peters Street
Norwich
Norfolk
NR2 1NH

Our ref: AE/2010/109844/03-L01
Your ref: 09/01443/H
Date: 29 September 2010

Dear Madam

STORAGE OF NOTIFIABLE HAZARDOUS SUBSTANCES - FULL SITE REVIEW FOR ALL HAZARDOUS SUBSTANCES STORED AND USED ON SITE INCORPORATING (I) ADDITIONAL CONSENT REQUIRED AS A RESULT OF CHANGES TO THE CLASSIFICATION OF SOME SUBSTANCES IN THE REGULATIONS, (II) SOME GENERIC STORAGE TO ALLOW FOR SOME FLEXIBILITY OF STORAGE ON SITE, (III) ALTERATIONS TO EXISTING CONSENTS REQUIRED FOR INCREASED QUANTITIES OR REMOVAL OF CONSENT FOR SOME SUBSTANCES NO LONGER REQUIRED. BAYER CROPSCIENCE LTD, SWEET BRIAR ROAD, NORWICH, NORFOLK, NR6 5AL

Thank you for your email to Jessica Bowden, dated 9 September 2010, requesting further clarification on the advice we previously provided in response to this application. I understand that you met with Rob Reynolds from our PPC team on 22 September 2010 to discuss the environmental permitting process and the conditions of the Environmental Permit. In addition to these discussions we can provide you with the following comments:

Point 2(a)

Any changes to the conditions of the Environmental Permit or the associated application documents require either an application to vary the permit or a notification of a 'change in operation'.

There are 4 types of permit variation:

- Administrative only - Variations that are administrative only as opposed to any change that requires assessment
- Minor technical change - A minor technical change will involve some technical input by us but considerably less than for a normal variation.
- Normal variation - A normal variation is a technical change that would normally

Environment Agency
Cobham Road, Ipswich, Suffolk, IP3 9JD.
Customer services line: 08708 506 506
Email: enquiries@environment-agency.gov.uk
www.environment-agency.gov.uk

Cont/d..

require a new risk assessment.

- Substantial variation - A substantial variation is a 'substantial change' to an installation or mining waste operation (i.e. one that has significant negative effects on the environment), Our guidance RGN8: Substantial changes in operation (available at [http://www.environment-agency.gov.uk/static/documents/Business/RGN_8_Substantial_Change_\(v2.0\)_30_March_2010.pdf](http://www.environment-agency.gov.uk/static/documents/Business/RGN_8_Substantial_Change_(v2.0)_30_March_2010.pdf)) explains more about how we define substantial changes and decide whether public consultation is required.

Please refer to section 4.5 of our Environmental Permitting Charging Scheme Guidance 2010/11 (available at http://www.environment-agency.gov.uk/static/documents/EP_scheme_and_guidance_2010-11.pdf) for further examples of these variations.

Where the proposed change in operation is not contrary to the permit conditions, then before implementation the operator should submit the following to us for approval:

- written notice of the details of the proposed change including an assessment of its possible effects on risks to the environment from the permitted installation;
- any relevant supporting assessments and drawings; and
- the proposed implementation date.

A copy of the Environmental Permit and associated application documents are available from the public registers held by us and yourselves.

Bayer have stated that they have not submitted details of the proposed change in operation for increase in the oxynil ester capacity because they don't need this volume yet.

Point 2(b)

The risk assessment has been produced by Bayer, not us.

As above, any changes to the conditions of the Environmental Permit or the associated application documents require either an application vary the permit or a notification of a 'change in operation'.

This is a point for Norwich City Council to answer. But Bayer's covering letter for the Hazardous Substance Consent review dated 03 December 2009 states '*It should be noted that we have also included some speculative flexibility by adding some generic entries under some of the material considerations; this is to help to avoid the need for minor consent applications in the future*'.

It's noted that 'Circular 04/00: Planning controls for hazardous substances' appears to allow applications for 'unspecified generic substances'.

Point 2(c)

As above, the risk assessment has been produced by Bayer and not us. The terminology unlikely / very unlikely is used in our environmental permitting Horizontal Guidance H1 Risk assessment framework (available at <http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx>).

However, Bayer have provided the following comments: '

The terms 'low/very low and unlikely/very unlikely' occur in the risk assessment in the sections on odour, fugitive releases and prevention of accidents. As discussed these sections of the risk assessment were prepared following the H1 annex (a) document (amenity and accident risks from installations and waste operations) and we used the wording used in the examples. Our HAZOP methodology uses slightly different words but does relate these to broad probability range:

Rarely (low or unlikely)	$10^{-3} \leq x < 10^{-1}$ per year
Improbable (very low or very unlikely)	$10^{-5} \leq x < 10^{-3}$ per year

Point 2(d)

This has been understood to mean that their use does not involve a waste that is sent to the effluent lagoons. This question should be put to Bayer for clarification and in terms of other named substances.

Odour question

Odour is assessed as part of the environmental permitting process. The Environmental Permit includes a condition for use of 'appropriate measures' to prevent or minimise any impact. As part of the permitting process the operator is required to produce an odour management plan in accordance with recommendations provided in our new 'H4 Odour guidance' (available at <http://www.environment-agency.gov.uk/research/library/consultations/108783.aspx>) and 'How to comply with your environmental permit (EPR1.0)' (available at <http://www.environment-agency.gov.uk/business/topics/permitting/32320.aspx>). Bayer have been asked to review their odour management plan in accordance with 'H4' and to include the proposal to cover 'holding tank 2'.

Points 3(a) and 3(b)

The Environmental permit covers day to day activities and measure taken (and whether appropriate) to control odour in the event of an accident. This is discussed in our guidance 'H1:Annex A - Amenity and accident risks from installations' and 'How to comply with you environmental permit (EPR1.00).

The permit also includes a condition requirement for the operator to maintain and implement an accident management plan. The Bayer facility is also covered by the Control of Major Accident Hazard Regulations 1999 (COMAH). These regulations are jointly administered by the Health & Safety Executive and the ourselves. The Health & Safety Executive is responsible for assessing risk to individuals and we look at aspects relating potential environmental incidents.

As a COMAH top-tier site Bayer are required to prepare on-site emergency plans to mitigate the consequences of a major accident and the local authority is required to produce an off-site emergency plan. Local Authorities are required to test these plans at intervals not exceeding 3 years. The most recent exercise for Bayer was carried out on 14 & 22 September 2010. Further information about COMAH is available on our website (<http://www.environment-agency.gov.uk/business/sectors/37111.aspx>) and the HSE's website (<http://www.hse.gov.uk/comah/index.htm>).

We have a statutory regulatory duty to protect human health and the environment.

We can't remove all risk of harm to health from the industries we regulate because it would make them uneconomic and deprive society of the goods they produce and the services they provide.

We are working closely with public health bodies in England and Wales to make sure that roles and responsibilities are clear and that we deal with public health issues related to pollution in a coordinated way. We have a Memorandum of Understanding (MoU) with the Department of Health (DoH), the Department for Environment, Food and Rural Affairs (Defra) and the National Assembly for Wales (NAW). We have a working agreement with the Health Protection Agency and are developing a working agreement with the National Public Health Service for Wales. Our Position Statement on environment and health is available on our website (<http://www.environment-agency.gov.uk/research/library/position/41187.aspx>).

Information on who and when we consult as part of the permitting process is provided in our 'Working together' agreements available on our website (<http://www.environment-agency.gov.uk/business/topics/permitting/36420.aspx>).

To safeguard human health we will seek advice and help from health professionals whenever needed as we are not medical experts. It is suggested that if Norwich City Council have specific concerns relating to the Hazardous Substance Consent application, they consult the local Primary Care Trust / Health Protection Agency.

We trust this information is useful.

Yours faithfully

Miss Jo Hardwick
Planning Liaison Officer

Direct dial 01473 706016

Direct fax 01473 271320

Direct e-mail jo.hardwick@environment-agency.gov.uk

Norwich City Council
Planning Department
City Hall
Norwich
Norfolk
Attention Anne Napier

Date 20 July 2010

Our ref HID CI3A

Your ref 09/01443/H

CORPORATE RESOURCES

20 JUL 2010

POST ROOM

Dear Madam

Hazardous Installations
Directorate

Paul Elliott

Chemical Industries Division
Wren House
Hedgerows Business
Colchester Road
Chelmsford
CM2 5PF

Tel: 01245 706228
Fax: 01245 706260
paul.elliott@hse.gsi.gov.uk

<http://www.hse.gov.uk/chemicals>

Head of Chemicals Industries
Eastern Region

Mr Peter Hornsby

**THE PLANNING (HAZARDOUS SUBSTANCES) REGULATIONS 1992
APPLICATION FOR HAZARDOUS SUBSTANCES CONSENT
BAYER CROPSCIENCE LTD, SWEET BRIAR ROAD, NORWICH, NORFOLK**

The Major Accident Risk Assessment Unit of the HSE has assessed the risks to the surrounding areas from the likely activities resulting from the hazardous substances consent application.

Only the risks from hazardous substances for which Consent is being applied for have been assessed. Risks which may arise from the presence of other substances have not been taken into account in this assessment.

In considering this application for Consent, HSE has made the assumption that the requirements of the Health and Safety at Work etc. Act 1974, and all relevant statutory provisions, will be met at the establishment should Consent be granted. Accordingly HSE advises that you should direct the applicant's attention to section 29 of the Planning (Hazardous Substances) Act 1990. This makes it clear that should the establishment, as built and operated, not comply with the relevant statutory provisions then any Consent granted shall be rendered wholly, or partly, void.

Following Central advice that particulars in the application do not automatically become conditions of consent, it is important to include conditions such as:

"The hazardous substances shall not be kept or used other than in accordance with the application particulars provided in the Hazardous Substances Consent Application Form and the associated site substance location plans numbered: 22410; 22411; 22412; 22413; 22414; 22415; 22416; 22417; and 22418."

Furthermore the following conditions are suggested to control important aspects of the site operations that are not included in the particulars of the consent application.

1. No more than three full moveable containers of bromine will be present on the site at the same time.
2. The following limits to the number of tanker deliveries will apply to the following dangerous substances.

Substance	Maximum delivery weight (tonnes)	Maximum number of deliveries in any 12 month period
Bromine	24	180
Heptanoyl chloride	20	96
Octanoyl chloride	20	192
Sodium cyanide	26.5	180
Thionyl chloride	20	36

On the above basis, the Major Accident Risk Assessment Unit have concluded that the reduction in risks arising from the proposed application are so significant that there are no reasons, on safety grounds, for refusing the application for consent. An explanation of the assessment and the key reasons for the reduction in off-site risk is provided at the end of this response.

A map showing the reduced consultation zones for the site has been prepared. In the event that this application for hazardous substances consent is granted, this map will be placed on the HSE's Consultation Zone Library. This is available to your authorised administrator and users via the extranet. An indicative copy is attached for your information. This also shows a comparison between the existing and proposed zones.

Background to HSE's assessment

HSE's advice is based on the residual risk to people which remains after all reasonably practicable measures, as required by the Health and Safety at Work etc. Act 1974 and its relevant statutory provisions, have been taken at the Bayer Cropscience site. It takes into account the maximum quantities of hazardous substances permitted by hazardous substances consent and any conditions attached to that consent. On the basis of this assessment HSE sets three consultation zones defined by different levels of individual risk.

Bayer Cropscience have a hazardous substances consent entitlement to store dangerous substances. This was established by way of the transition arrangements of the 1999 Planning (control of major-accident hazards) Regulations. HSE has assessed the residual risks taking into account the maximum quantity of dangerous substances that are allowed by this entitlement. The assessment also takes into account the location of those dangerous substances on site as specified by the conditions of the consent. The result of the assessment is shown in the three zone map issued by HSE for consultation purposes so that advice can be given in respect of any proposals for development in the vicinity of the site. The current version of the map is dated 11/12/2006. It shows individual residual risks to a typical house resident expressed in terms of chances per million per year (CPM) of receiving a dangerous dose of toxic substances.

HSE defines a dangerous dose as having the following effects:

- severe distress to almost everyone
- a substantial fraction requires medical treatment
- some people are seriously injured, requiring prolonged treatment
- any highly susceptible people might be killed

This is a lower level of harm than fatality. In other words, HSE's assessment, and therefore its safety advice takes into account the risks arising from injuries as well as the risk of being killed by a major accident.

The three zones on the map show the contours for the following residual risk levels:

outer zone contour is 0.3 CPM dangerous dose; middle zone contour is 1 CPM dangerous dose; and inner zone contour is 10 CPM dangerous dose.

HSE assessed the residual risks arising from the modified hazardous substances consent dated December 2009 taking into account the changes arising from: more specific information on the location of dangerous substances; a greater proportion of the dangerous substances have been individually named; some dangerous substances are present in reduced quantities; and some substances have been re-classified and therefore assessed more appropriately for their classified hazards.

The total residual risks from this proposed consent have been assessed and compared to those arising from the existing entitlement. Overall there is a reduction in risks in all areas with the exception of a small part of the inner zone which has increased to the East of the site. This offset by a greater reduction in the inner zone to the West of the site. The overall effect of all of these changes is to show a reduction in the residual risk.

The following explanation can be given for the differences between current (1999) and proposed (2009) zones for Bayer Cropscience Ltd, Norwich.

Explanation for the reduction in land use planning zones

In general, the substances included within the 2009 consent present a reduction in the off-site risks from those deemed to have hazardous substances consent in 1999. The proposed land use planning consultation zones are distinctly smaller than the previous zones. This is for five main reasons:

- 1 Bayer Cropscience Ltd has now specified the locations of the hazardous substances more precisely;
- 2 They have specified substances in more detail which has allowed HSE to place less reliance on worst case exemplar substances;
- 3 Less bromine is present and in smaller vessels;
- 4 Less ammonia is present; and
- 5 Some substances have been reclassified in CHIP and have thus been assessed more appropriately for their classified hazards.

Additional details

1. Location. The previous zones were based on the deemed consent claimed by Aventis Cropscience (the previous operator) in 1999. The Deemed Consent Regulations contained the concept of "Vessel Areas", which allowed operators to re-locate vessels containing hazardous substances within a specified area without the operator having to re-apply for consent. The operator only had to supply details of the largest vessel, and the storage area. Because of this arrangement, the offsite potential risks were assessed by HSE taking account of this larger area of potential storage, resulting in a larger offsite area "at risk" and correspondingly larger zones.

Bayer's recent application was for Express consent, which does not include the concept of "Vessel Area". Instead, operators are required to list each individual vessel, and to provide a plan showing the precise location of each of these vessels. There is no longer a facility to move vessels. Therefore the locations of the sources of risk have been defined more precisely in the express consent, and this has been reflected in smaller zones.

Many of the vessels containing the most hazardous substances (dominated by bromine) are actually located towards the south-east of the Lower South Site; this results in a small displacement of the proposed zones in a south-easterly direction.

2. Specified substances. In the 1999 assessment several of the B2 toxic substances were assessed as a worst-case exemplar substance in the assessment, because specific toxicity information was not available for the individual substances. Additional toxicity information is now available, and the extent of using exemplar substances has been correspondingly reduced so that only the 100 tonnes of "other toxic materials unnamed" are assessed in this way. Account has been taken of the limit on the boiling point to greater than 110 °C which is included in the consent application.

3. Bromine. The quantity of bromine allowed on site has reduced from 160 te to 100 te, and the largest vessel from 18 m³ to 8 m³, resulting in a significant reduction in offsite risk.

4. Ammonia. The quantity of ammonia in the new consent has been reduced from 69 te to 5 te. This was included in the June 2009 application ref 09/00124/H which has been consolidated into the December 2009 application which applies to the whole site. Therefore it is appropriate to include in the comparison between the 1999 deemed consent and the December 2009 application.

5. Re-classification. Some substances have been reclassified in the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 and have thus been assessed according to their updated classification. In addition, heptanoyl and octanoyl chlorides have been re-classified from B11 (reacts with water) to B1 (very toxic) and B2 (toxic) respectively. This gives the opportunity to assess these substances in a specific way taking into account their properties, and the site specific arrangements for storage and unloading.

If consent is granted for this application, please send a copy of the decision notice to this office so we can update our records.

Yours faithfully



Paul Elliott
Land-use Planning Co-ordinator

Anne

I refer to the e-mail from Stuart Brooke at Bayer which explains that the tanker sizes provided as additional information to HSE were intended to be typical values rather than maximum values. I have reviewed the contribution of this information to the risk assessment that HSE has carried out. I find that for these three substances: Heptanoyl chloride, Octanoyl chloride and Thionyl chloride the assessment is not sensitive to the maximum quantity in the road tanker. [The reason for this is that the risk for these substances is dominated by releases from the transfer hose during the unloading operation. This depends on the surface area of the unloading facility that is available for reaction of these substances with water and generation of toxic fumes, which is the principle hazard. This is not sensitive to the maximum quantity in the road tanker.]

Therefore I suggest that the most appropriate action is to remove the condition for these three substances, but to retain it for the other two substances in the table (bromine and sodium cyanide). The conditions on maximum number of deliveries should be retained for all five substances.

I suggest that the condition is amended as shown below.

2. The following limits to the number of tanker deliveries will apply to the following dangerous substances.

Substance	Maximum delivery weight(tonnes)	Maximum number of deliveries in any 12 month period
Bromine	24	180
Heptanoyl chloride	no limit	96
Octanoyl chloride	no limit	192
Sodium cyanide	26.5	180
Thionyl chloride	no limit	36

Please let me know if you would like to discuss this.

Regards

David

David,

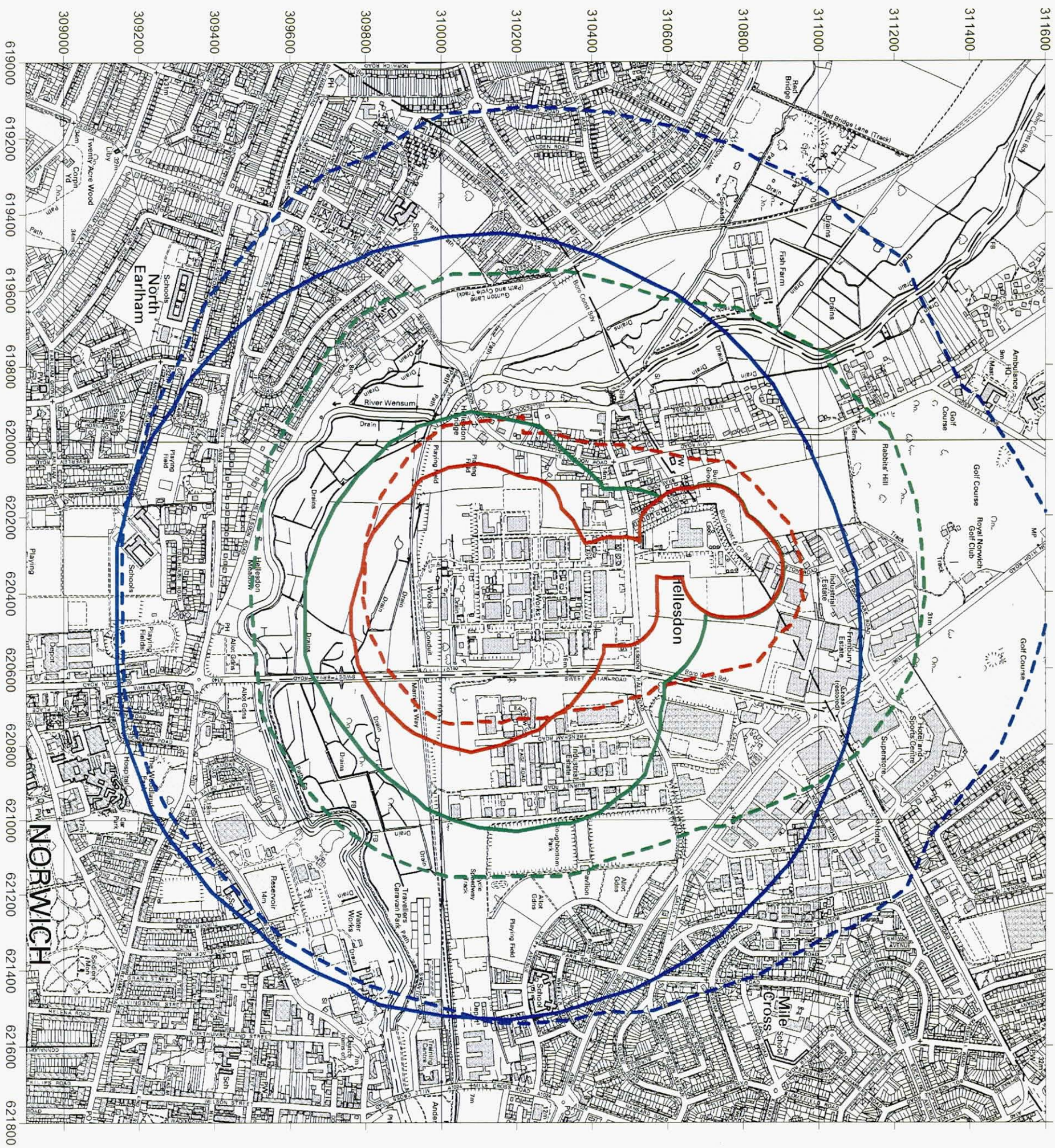
Following our telephone conversation regarding the Tanker Delivery table within your letter to Norwich City Council (ref HID C13A). The additional information provided during the assessment process gave typical tanker delivery weights and although this is not an issue for the figures given for Bromine or Sodium Cyanide the maximum delivery weight for Heptanoyl chloride, Octanoyl chloride and Thionyl chloride can be up to 23 tonnes. Although normally the deliveries are typically well within 5% of the figures shown they do not reflect a maximum weight historically received to Site. I understand from our discussion that this clarification / change would not change the overall risk assessment, therefore can I request the maximum delivery weights for these three substances be changed from 20 to 23 tonnes.

Best Regards

Stuart

Stuart Brook
Process Safety Manager
Bayer CropScience Ltd, Sweet Briar Road, Norwich, NR6 5AP,
UK

FIG 2 – BAYER CROPSCIENCE, NORWICH - PROPOSED NEW ZONES, with previous (current) zones

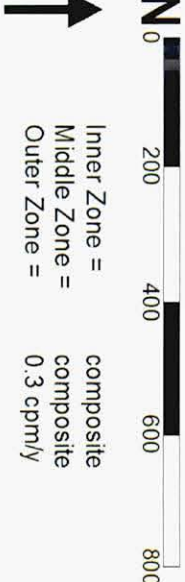


Filename: #0434_Final_28 June 2010.srf
#0434
28 June 2010
rev 1 July 2010

HSE Consultation Zone
Bayer CropScience Ltd
Sweet Briar Road
Norwich
NR6 5AP

Site Grid Reference: TG 204 103
HSE HID CI 5 Ref: #0434
Case Refs: TRIM 4.2.1.1214.
Approved by HID CI 5. 1 July 2010

This map supersedes all previous or undated maps
Original scale 1 : 10,000 (plotted scale may differ)
Dimensions in metres



Inner Zone = composite
Middle Zone = composite
Outer Zone = 0.3 cpm/y

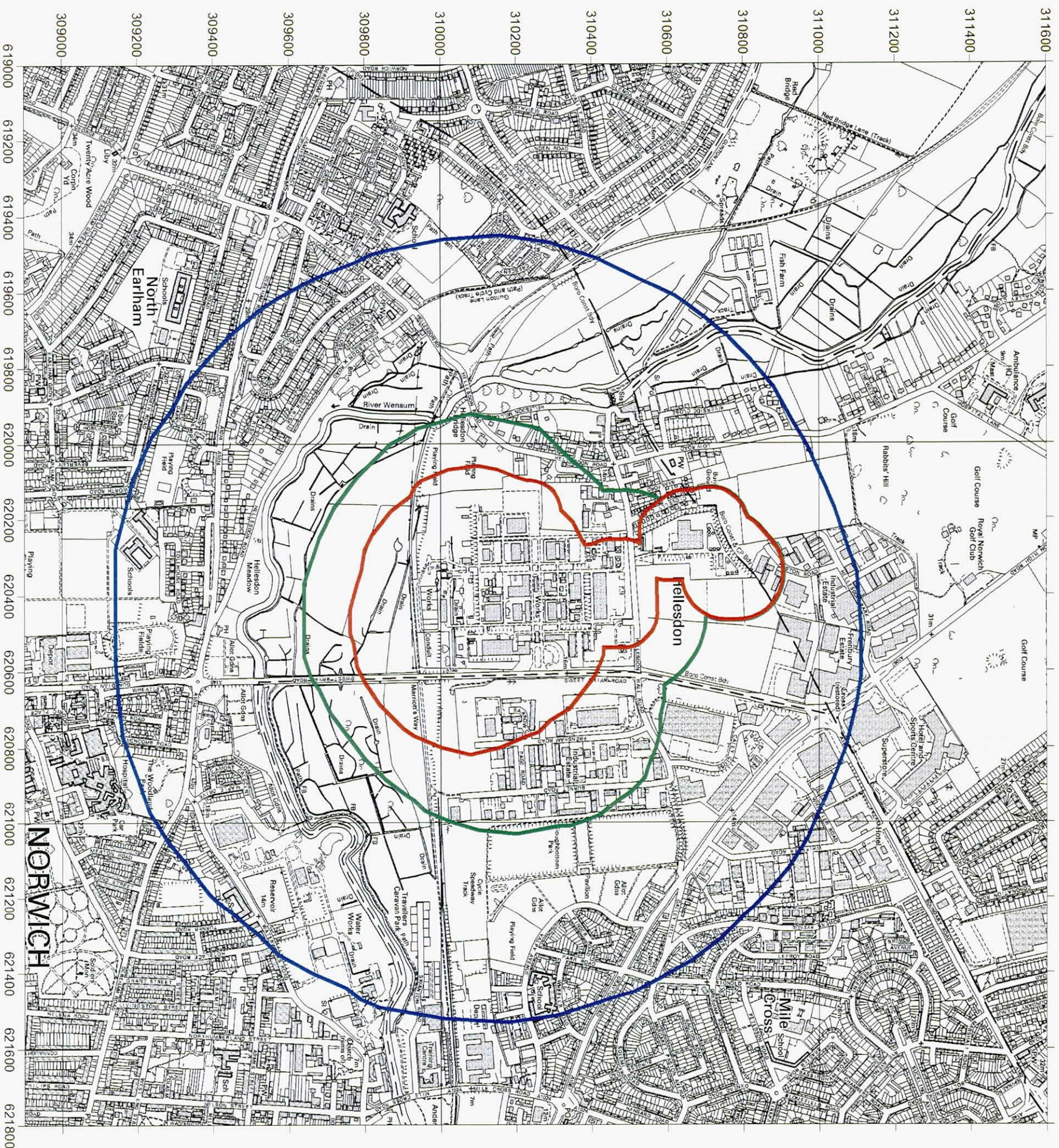
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Solid colour lines - 2010 final zones
Dashed lines - Previous zones (re-digitized)

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FIG 1 – BAYER CROPSCIENCE, NORWICH - PROPOSED NEW ZONES



Filename: #0434_Final_28 June 2010.srf
#0434

28 June 2010
rev 1 July 2010

HSE Consultation Zone

Bayer CropScience Ltd
Sweet Briar Road
Norwich
NR6 5AP

Site Grid Reference: TG 204 103
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Approved by HID CI 5. 1 July 2010

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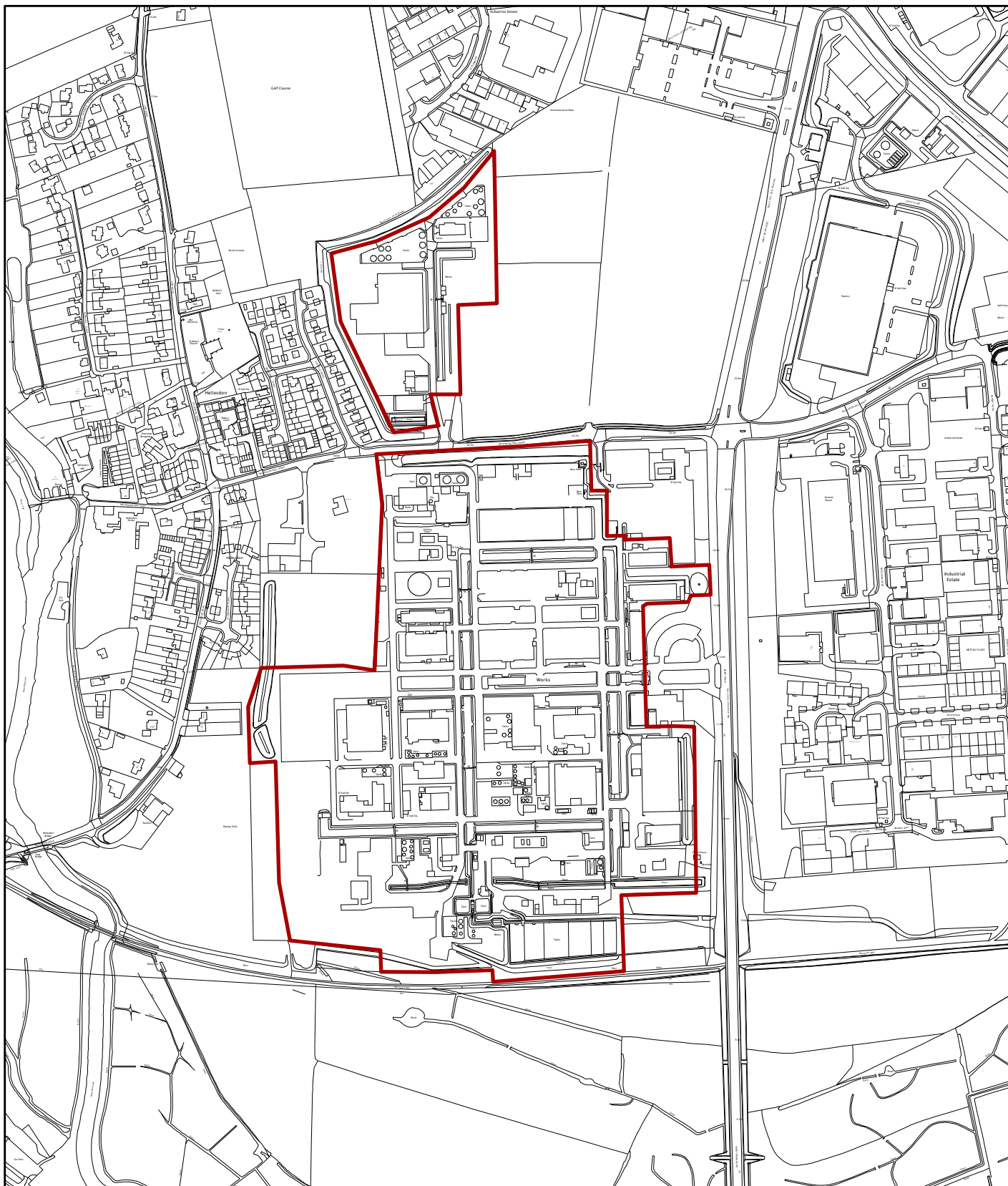


Inner Zone = composite
Middle Zone = composite
Outer Zone = 0.3 cpm/y

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Solid colour lines - 2010 final zones
Dashed lines - Previous zones (re-digitized)

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20 JUL 2010
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Planning Application No - 09/01443/H

Site Address - Brayer Cropscience Ltd Sweet Briar Road

Scale - 1:5,860



NORWICH
City Council

PLANNING SERVICES

