



**Cyfoeth
Naturiol**
Cymru
**Natural
Resources**
Wales

Natural Resources Wales permitting decisions

Banc Gwyn Farm Poultry Unit

Decision Document

Bespoke permit

The Application number: PAN-012685

The Permit number: EPR/CB3297FF

The Applicant / Operator is: Mr Carl Thomas

The Facility is located at: Banc Gwyn Farm Poultry Unit, Banc Gwyn, Llawrllan Hill, St Harmon, Powys, LD6 5NG

We have decided to grant the permit for Banc Gwyn Farm Poultry Unit operated by Mr Carl Thomas.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account
- justifies the specific conditions in the permit other than those in our generic permit template.

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Structure of this document

- Table of contents
- Key issues
- Annex 1 the consultation and web publicising

Table of Contents

Contents

Bespoke permit	2
Purpose of this document	2
Structure of this document	2
Table of Contents	3
Contents	3
Key issues of the decision	5
1 Our decision	5
2 How we reached our decision	5
2.1 Receipt of Application	5
2.2 Consultation on the Application	6
2.2.1 Draft Permit Consultation	6
2.3 Requests for Further Information	7
3 The Legal Framework	7
4 The Installation	8
4.1 Description of the Facility and related issues	8
4.2 The site and its protection	9
4.3 Operation of the Installation – general issues	10
5 Minimising the Facility’s environmental impact	13
5.1 Assessment of Impact on Air Quality	14
5.2 Assessment of odour impact	14
5.3 Assessment of impact to surface and ground water	15
5.4 Emissions to sewer	15
5.5 Fugitive emissions	15
5.6 Noise Assessment	16
5.7 Impact on Habitats sites, SSSIs, non-statutory conservation sites etc....	17
HRA consultation:	18
6 Setting ELVs and other Permit conditions	18
6.1 Translating BAT into Permit conditions	18
6.2 Monitoring	19
6.2 Reporting	19
ANNEX 1: Consultation Responses	20
A) Advertising and Consultation on the Application	20
1) Consultation Responses from Statutory and Non-Statutory Bodies	20

2) Consultation Responses from Members of the Public and Community Organisations	20
a) Representations from Local MP, Assembly Member (AM), Councillors and Parish / Town / Community Councils	21
b) Representations from Community and Other Organisations.....	21
c) Representations from Individual Members of the Public	21

Key issues of the decision

1 Our decision

We grant the Permit to the Applicant. This will allow it to operate the Installation subject to the condition in the permit.

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the permit will ensure that a high level of protection is provided for the environment and human health.

This Application is to operate a regulated facility which is subject principally to the Environmental Permitting Regulations 2016 (EPR) and is subject to the requirements of the Industrial Emissions Directive (IED).

The permit contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of EPR and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard conditions appropriate.

This document should be read in conjunction with the application and supporting information and permit.

2 How we reached our decision

2.1 Receipt of Application

The Application was accepted as duly made on **14/07/2021**. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

The Applicant made a claim for no claim for commercial confidentiality. We have not received information in relation to the Application that appears to be confidential in relation to any party.

2.2 Consultation on the Application

We carried out consultation on the Application in accordance with the Environment Permitting Regulations (EPR), the Industrial Emissions Directive ('IED'), our statutory Public Participation statement ('PPS') and our Regulatory Guidance.

We advertised the Application by a notice placed on our website, which contained all the information required by the EPR/IED, including advising people where and when they could see a copy of the Application. The consultation started 14/07/21 and ended 11/08/21.

A copy of the Application and all other documents relevant to our determination (see below) are available for the public to view. Anyone wishing to see these documents could arrange for copies to be made.

We sent copies of the Application to the following bodies, which includes those with whom we have "Working Together Agreements":

- **Powys County Council Planning Authority**
- **Powys County Council Environmental Protection Department**
- **Food Standards Agency**
- **Health Protection Agency**
- **Public Health Wales (PHW)**

These are bodies whose expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

Further details along with a summary of consultation comments and our response to the representations we received can be found in Annex 1. We have taken all relevant representations into consideration in reaching our determination.

2.2.1 Draft Permit Consultation

We are now carrying out/we have carried out a consultation on our draft decision. This consultation will begin/began on **27/09/21** and end/ended on **25/10/21**.

2.3 Requests for Further Information

In order for us to be able to consider the Application duly made, we needed more information. Further information was requested by way of a Not Duly Made Letter requiring the applicant to submit an updated Form B3 and to provide a Manure Management Plan. The Not Duly Made Letter was sent on the 01/07/21 and the applicant responded with the relevant information on the 12/07/21. Upon receipt of this information we were able to consider the application Duly Made.

Further information was also requested by way of a Schedule 5 Notice requiring the applicant to submit an amended ammonia modelling report. The Schedule 5 Notice was sent on 18/08/21 with a response date of 01/09/21. The Applicants response to the Schedule 5 Notice was provided on 24/08/21 which included a revised Form B3.

A copy of the information notice and e-mails requesting further information were placed on our public register as were the responses when received.

3 The Legal Framework

The permit will be granted, under Regulation **13** of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- an *installation* as described by the IED;
- subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that this decision is consistent with its general purpose of pursuing the sustainable management of natural resources (SMNR) in relation to Wales and applying the principles of SMNR. In particular, NRW acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in granting the Permit a high level of protection will be delivered for the environment and human health through the operation of the

Facility in accordance with the permit conditions. NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources.

Environment Wales Act 2016 – Biodiversity and resilience of ecosystems duty

Section 6 of the Environment Wales Act 2016 requires that we seek to maintain and enhance biodiversity in the exercise of our functions, and in so doing promote the resilience of ecosystems, in a manner that is consistent with the proper exercise of our functions. NRW is satisfied that in this case we have taken into account and had due regard to this duty in so far as it is consistent with the function of determining an application for an EPR permit.

4 The Installation

4.1 Description of the Facility and related issues

4.1.1 The permitted activities

The Installation is subject to the EPR because it carries out an activity listed in Schedule 1 Part 2 of the EPR:

- Section 6.9 Part A(1)(a)(i) Rearing poultry in an installation with more than 40,000 places.

An Installation may also comprise “directly associated activities”, which at this Installation includes:

- Feed storage
- Dirty water tanks
- Liquid Petroleum Gas (LPG) tanks and fuel tanks
- LPG Boilers
- Air scrubbing units

Together, these listed and directly associated activities comprise the Installation.

4.1.2 The Site

Banc Gwyn Farm Poultry Unit is situated approximately 4.65 km south east of the village St Harmon, Powys. Predominant land use is grassland and grazing. There are no residences within 400 metres from the broiler houses. It is approximately centred on National Grid Reference 300277, 272217.

The operator has provided a plan which we consider is satisfactory, showing the extent of the site. In addition, the operator has provided a site layout/drainage plan which includes discharge points. A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary.

4.1.3 What the Installation does

The installation is set to house 80,000 broiler birds across two broiler houses at Banc Gwyn Farm Poultry Unit. The houses will be ventilated by high velocity roof mounted extraction fans. Heating will be provided by hot water blown air radiators produced by LPG boilers. Both broiler houses will be fitted with air scrubbing systems to reduce emissions.

4.2 The site and its protection

4.2.1 Proposed site design: potentially polluting substances and prevention measures

The new facility consists of two broiler houses housing a maximum of 80,000 broiler birds in total. Ventilation is provided to the two houses by high velocity roof extraction fans with side wall inlets and gable end scrubbing units to reduce emissions. The working area where vehicles operate is laid to concrete hardstanding area and spillages will be directed using diverters into holding tanks to prevent contamination between water systems. Feed is delivered in covered lorries and stored on site in vermin proof steel galvanised bins and are inspected regularly. Before the birds arrive, the house floors are covered to a sufficient depth of bulk shavings. At depletion any remaining litter will be removed from the broiler houses and removed from site in covered trailers. Any litter exported from site will be sold to third parties and records of tonnage, dates and destinations are held on site. A full house clean out, disinfecting and drying takes place prior to the cycle beginning again. All wash waters are contained within sealed underground dirty water tanks. Fatalities will be removed from

the houses and stored in sealed containers awaiting collection from a licenced renderer. The fuel oil tanks for the generator and back up boiler are bunded. The bund meets the requirements of the Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) Regulations 2010 (SSAFO Regulations) and meet the requirements outlined in SGN EPR6.09 'How to comply with your environmental permit for intensive farming'. The tank will be regularly inspected. Chemicals stores are checked regularly for any faults. The wash water tank will be built to conform to specifications in SGN EPR6.09 'How to comply with your environmental permit for intensive farming'. Spent disinfectants will be added to the dirty water collection tank.

4.2.2 Closure and decommissioning

Permit condition 1.1.1 requires the Operator to have a written management system in place which identifies and minimises risks of pollution including those arising from closure.

At the definitive cessation of activities, the Operator has to satisfy us that the necessary measures have been taken so that the site ceases to pose a risk to soil or groundwater, taking into account both the baseline conditions and the site's current or approved future use. To do this, the Operator has to apply to us for surrender, which we will not grant unless and until we are satisfied that these requirements have been met.

The Applicant has completed a Site Condition Report when applying for the permit. Predominant land use is grassland and grazing. We consider that the description provided is satisfactory. The decision was taken in accordance with our guidance on site condition reports – guidance and templates (H5).

4.3 Operation of the Installation – general issues

4.3.1 Administrative issues

Mr Carl Thomas will be the Operator of the Installation. We are satisfied that the Applicants will have control over the operation of the Installation; and that the Applicants will be able to operate the Installation so as to comply with the conditions included in the Permit.

4.3.2 Administrative issues

NRW's COLINS Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found.

4.3.3 Management

The Applicant has stated in the Application that they will implement an Environmental Management System (EMS) that will meet the requirements for an EMS in our "*How to comply with your environmental permit guidance*". The Applicant submitted a summary of the EMS with their application.

All written management systems will be subject to regular review by the Operator.

We are satisfied that appropriate management systems and management structures will be in place for this Installation, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions. The decision was taken in accordance with RGN 5 on Operator Competence.

4.3.4 Accident management

In order to ensure that the management system proposed by the applicant sufficiently manages the residual risk of accidents, permit condition 1.1.1(a) requires the implementation of a written management system which addresses the pollution risks associated with, amongst other things, accidents.

The Operator has an Emergency Plan which will be subject to regular review. The plan includes contingencies for events such as fire, power failure, flood, disease and containment failure. We are satisfied with the Applicant's Emergency Plan.

4.3.5 Site security

The site does not have a secure boundary fence, all fuel stores, broiler houses and all storerooms are kept locked and secure, preventing any unauthorised access. Having considered the information submitted in the application, we are satisfied that appropriate infrastructure and procedures will be in place prior to start up to ensure that the site remains secure.

4.3.6 Off-site conditions

Based on the information submitted in the application, we do not consider that it is necessary to impose offsite conditions.

4.3.7 Operating techniques

Birds will be housed at point of lay and depopulated at the end of the birds' cycle, this will be done on an 'all-in all-out' basis. Birds are fed a minimum of three diets during their cycle, with gradually reducing levels of protein and phosphorous with age as the birds weight increases. Feed is delivered from a UKASTA accredited feed mill and blown into bulk feed bins situated adjacent to the houses. From the feed bins, the feed is piped into the houses and distributed to the birds via a pan feeding system. The houses are ventilated by high velocity roof mounted extraction fans. At the end of the cycle the site will be pressure washed, disinfected and dried out prior to the cycle beginning again. All wash waters will be contained in sealed wastewater tanks.

High performance nipple drinkers with drip-cups are used to minimise water wasted and to improve litter quality and moisture content. Staff will check equipment daily to fix to any faulty/leaking equipment.

Fallen stock will be recorded daily and securely stored in vermin proof containers awaiting regular collection by a licenced agent.

4.3.8 Energy efficiency

We are satisfied that the applicant will ensure that energy is used in the most efficient way possible. The broiler houses are insulated and have an adequate ventilation system to help regulate temperature an maintain a healthy environment inside the house.

4.3.9 Avoidance, recovery or disposal of wastes produced by the activities

This requirement addresses wastes produced at the facility.

At depletion any remaining litter will be removed from the broiler sheds, the site will then be pressure washed and disinfected, all wash waters will be contained in sealed underground tanks.

Inorganic waste generated by the farm will mainly consist of paper, plastic and glass. Plastic waste will normally be in two forms, wrapping from bales of wood shavings and bottles from used disinfectants and detergents. The amount of plastic waste will be minimised through good managerial techniques. By good management of the litter quality, fewer bales of wood shaving will be needed, thus lowering the amount of plastic wrapping discarded. Large empty plastic bottles from detergents will be 'recycled' and used for foot dip containers or smaller rubbish bins for the storerooms.

Poultry carcasses are, under normal circumstances, collected and stored in sealed containers awaiting regular collection under the fallen stock scheme by a licensed collection agent. As a contingency plan or if an outbreak of high mortality should arise, carcasses will be placed in sealed containers and removed, as detailed in the emergency plan.

In the event of high mortality caused by disease, the operator will follow the guidance of the allocated veterinarian dealing with the outbreak. The mortality would be disposed of at an approved landfill site under the advice of that veterinarian, after consideration of weather conditions and geographical haulage parameters.

We are satisfied that waste from the Installation that cannot be recovered will be disposed of offsite using a method that minimises any impact on the environment. Permit condition 1.4.1 will ensure that this position is maintained.

5 Minimising the Facility's environmental impact

Regulated activities such as Intensive Farming can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, discharges to ground or groundwater and generation of waste. All these factors are discussed in this and other sections of this document.

For an installation of this kind, the principal emissions are:

- Ammonia
- Dust
- Odour
- Noise

The following sections of this document explain how we have considered the critical issue of assessing the likely impact of emissions from the Installation on human health and the environment and what measures we are requiring ensuring a high level of protection.

5.1 Assessment of Impact on Air Quality

The applicant has carried out a risk assessment identifying potential risks to human health including dust and ammonia. Operating procedures have been put in place to minimise the risks, in line with BAT procedures. It is considered that if the site is operated in line with these procedures, there is no significant risk to human health as a result of activities at the site.

5.2 Assessment of odour impact

An Odour Management Plan (OMP) is a requirement of EPR 6.09 “*How to Comply with your Permit for Intensive Farming*”. The OMP describes the measures and controls in place to minimise odour and includes daily olfactory checks. The applicant has submitted an Odour Risk Assessment since there are no sensitive receptor locations within 400m of the Installation.

The applicant has described the following measures which will be in place to minimise odour emissions during house depopulation/de-littering:

- Litter will be placed carefully into trailers positioned close to house doors;
- Trailers containing spent litter will be sheeted before transporting off site;
- Clean out will be carried out as soon as possible following destocking;
- No litter is to be stored on site;
- Litter will be used on operator controlled land in compliance with a manure management plan.

We have compared the measures proposed for the site to the BAT standards in EPR 6.09 and are satisfied that the techniques represent appropriate measures for the installation. The OMP has been incorporated into the operating techniques section of the permit.

Management of the onsite manure store will comply with the BAT standards in 6.09 to reduce odour emissions. Effluent channels and collection tanks will be maintained to avoid blockages and contaminated run-off. As a contingency measure, manure be covered tightly with secured polythene sheeting to minimise emissions at times when the intensity may cause a statutory nuisance.

Permit condition 3.3.1 requires that emissions from the activities are free from odour at levels likely to cause pollution outside the site. We are satisfied that this condition will be sufficiently protective in conjunction with the measures described by the applicant for minimising odour production at the installation.

5.3 Assessment of impact to surface and ground water

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent pollution of ground and surface water. Clean, uncontaminated rainwater from roofs and yard areas will drain to soakaways. Any lightly contaminated yard wash will be directed to a sealed underground tanks.

5.4 Emissions to sewer

There are no emissions to sewer. When birds are removed from the broiler houses, the site will be pressure washed, disinfected and dried out prior to the next cycle. All wash waters will be contained in sealed underground tanks.

5.5 Fugitive emissions

The applicant has assessed the risk of fugitive emissions from the site. Potential sources of fugitive emissions include dust emissions to air and pests. To avoid any infestation of pest's temporary heaps will be regularly checked for maggots and flies. If flies become an issue, heaps will be treated with pesticide and covered with a polythene sheet.

Permit condition 3.6.1 requires that activities shall not give rise to the presence of pests which are likely to cause hazard or annoyance outside the boundary of the site. We are satisfied that this condition will be sufficiently protective in conjunction with the measures described by the applicant for minimising odour production at the installation.

To minimise dust emissions feed is stored in purpose built covered feed silos located next to the layer sheds. No milling or mixing of feed takes place at the farm, all feed is delivered to the farm by lorry from a UKASTA accredited feed mill. Feed is piped from the silos to the sheds minimising dust emissions. Dust is controlled through the management of litter and air quality.

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

5.6 Noise Assessment

A risk assessment of the potential impact of noise from the site on nearby sensitive receptors has been carried out by the applicant. Potential sources of noise include vehicles travelling to and from site, ventilation fans, feed transferring from lorries to bins, bird catching and clean out operations.

There are sensitive receptors within 400 metres of the installation. The applicant has submitted a Noise Management Plan (NMP) for the installation as required by EPR 6.09 *“How to Comply with your Permit for Intensive Farming”*. The NMP describes the measures and controls in place to minimise noise and includes twice daily inspections of the site.

The noise management plan states that roof mounted ventilation fans will be subject to regular, end of cycle maintenance by qualified electricians and that noisy roof mounted ventilation fans will be isolated and an electrician notified. Good maintenance and cleaning procedures will ensure additional noise from out of balance or worn roof mounted ventilation fans is unlikely to occur. Effective inspection and maintenance

forms a key part of compliance with permit condition 1.1.1 on environmental management systems and condition 1.1.2 on associated record keeping.

We are satisfied that vibration is unlikely to be an issue at the installation. The nature of the intensive farming operation means that there are no significant sources of vibration on site. Therefore, vibration does not need to be included in the noise management plan.

We have compared the measures proposed for the site to the BAT standards in EPR 6.09 and are satisfied that the techniques represent appropriate measures for the installation. The NMP has been incorporated into the operating techniques section of the permit.

Permit condition 3.4.1 requires that emissions from the activities are free from noise at levels likely to cause pollution outside the site, as perceived by an officer of NRW. We are satisfied that this condition will be sufficiently protective in conjunction with the measures described by the applicant for minimising odour production at the installation.

5.7 Impact on Habitats sites, SSSIs, non-statutory conservation sites etc

The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.

A full assessment of the application and its potential to affect the sites has been carried out as part of the permitting process. We consider that the application will not affect the features of the sites.

The following sites have been considered:

SAC, SPA and Ramsar sites (within 5km):

- River Wye / Afon Gwy (Wales) SAC
- Elenydd – Mallaen SPA

SSSI (within 5km):

- Cae Coed-gleision
- Caeau Wern
- Cors Cae'r Neuadd
- Marcheini Uplands, Gilfach Farm & Gamallt
- Upper Nantserth Pasture
- Black Brook Pastures

HRA consultation:

An OGN 200 Form 1 and Appendix 4 has been completed and forwarded onto our internal Natural Resource Management (NRM) team for consultation and notification. Full details of the assessment carried out of the potential effect of ammonia emissions from the proposed site on any Natura 2000 and SSSI sites (designated under s28(1) of the Wildlife and Countryside Act 1981) mentioned above are detailed in the forms. The HRA conclusion notes that “As ammonia results are <1% there is no reason to object. Operators are required to submit evidence to show scrubbers have been installed to meet requirements a minimum of 10 days before operation”. It was also noted that there were no known European Protected Species or designated sites would be adversely impacted by this installation.

6 Setting ELVs and other Permit conditions

6.1 Translating BAT into Permit conditions

Article 14(3) of the Industrial Emissions Directive (IED) states that BAT conclusions shall be the reference for setting the permit conditions to installations covered by the Directive. As a result of the Commission Implementing Decision (EU) 2017/302 of 15 February 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for the intensive rearing of poultry or pigs, the format of our Permit for the intensive farming sector has been updated. Appendix 1 of the Permit sets out generic conditions which apply to all sites. Appendix 2 sets out site specific conditions based on the activities being carried out.

6.2 Monitoring

Monitoring should be carried out for the parameters listed in Appendix 1, Schedule 3 of the permit using the methods and to the frequencies specified in Table S3.1 for laying hens. These monitoring requirements have been introduced in order to demonstrate compliance with the best available techniques (BAT) conclusions for the intensive rearing of poultry or pigs, as set out in the Commission Implementing Decision (EU) 2017/302 of 15 February 2017.

No monitoring is required from the point source emissions on site.

6.2 Reporting

We have specified reporting requirements in Appendix 2, Schedule 4 of the Permit to ensure compliance with permit conditions and to monitor the efficiency of farming activities at the site in line with BAT. We made this decision in accordance with EPR 6.09 *“How to Comply with your Permit for Intensive Farming”*.

ANNEX 1: Consultation Responses

A) Advertising and Consultation on the Application

The Application has been advertised and consulted upon in accordance with Natural Resources Wales Public Participation Statement. The way in which this has been carried out along with the results of our consultation and how we have taken consultation responses into account in reaching our draft decision is summarised in this Annex. Copies of all consultation responses have been placed on Natural Resources Wales public register.

1) Consultation Responses from Statutory and Non-Statutory Bodies

Response Received from Public Health Wales	
Brief summary of issues raised:	Summary of action taken / how this has been covered
1. A site ammonia and odour management scheme should be implemented and maintained.	1. The applicant has created odour management plans to minimise ammonia and odour at nearby sensitive receptors.
2. Best Available Techniques (BAT) and management controls should be applied.	2. Operating techniques and permit conditions cover concerns.
3. Impacts of noise at sensitive receptors.	3. See section 5.6
4. All on-site storage of liquids is accompanied by bunding in compliance with industry practice and guidance.	4. See section 4.2.1
5. The applicant should seek external accreditation for the Environmental Management System (EMS) e.g. ISO14001 standard.	5. The Environmental Management System is addressed within this decision document, in particular at section 4.3.3.

2) Consultation Responses from Members of the Public and Community Organisations

Response Received from	
Brief summary of issues raised:	Summary of action taken / how this has been covered

None	N/A
------	-----

a) Representations from Local MP, Assembly Member (AM), Councillors and Parish / Town / Community Councils

Response Received from	
Brief summary of issues raised:	Summary of action taken / how this has been covered
None	N/A

b) Representations from Community and Other Organisations

Response Received from	
Brief summary of issues raised:	Summary of action taken / how this has been covered
None	N/A

c) Representations from Individual Members of the Public

Response Received from	
Brief summary of issues raised:	Summary of action taken / how this has been covered
None	N/A