Submission No. 4

Northern Ireland Environment Agency
www.ni-environment.gov.uk

Klondyke Building
Cromac Avenue
Gasworks Business Park
Belfast
BT7 2JA

Ms Anna Bolger
Administrative Officer
Environmental Protection Agency
PO Box 3000
Johnston Castle Estate
Co Wexford

Direct Dial: 028 9056 9554

Our Ref: PPC 62

Your Ref: P0378-02

9 September 2011

Dear Ms Bolger

MONINEA BOG AREA OF SPECIAL SCIENTIFIC INTEREST (ASSI)/SPECIAL PROTECTION AREA (SPA) - IPPC Licence Application for Quinn Cement

I refer to the copy application that was sent to Northern Ireland Environment Agency, Natural Heritage, as part of the consultation process.

NIEA Natural Heritage recommends that EPA create an assessment of impacts on Moninea Bog SAC in line with that given by the EU Commission for European protected sites in reference to Article 6(3) of the European Habitats Directive. This assessment would consider potential impacts to Moninea Bog ASSI/SAC from both the proposed modifications to the plant and its subsequent operation using Solid Recovered Fuel. Copies of the Conservation Objectives for Moninea Bog ASSI/SAC are enclosed.

For further info on this and the other stages follow on to this link to a PDF of : "Assessment of plans and projects significantly affecting Natura 2000 sites - Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC
http://ec.europa.eu/environment/nature/natura2000/management/docs/art6/natura_2000_assess_en.pdf

In regard to the actual licensing issue NIEA Natural Heritage would comment more specifically that:

1. Aerial emissions from the cement plant are controlled through various methods (abatement, filter systems or effective burnout) and are unlikely to have a significant impact on any selection features of Moninea Bog ASSI/SAC due to the distance between the two sites. In addition, the plant

is already licensed and has been in operation since 1999 with no direct or apparent impact on the ASSI/SAC. The modifications include the installation of a new selective non catalytic reduction system for the control of nitrogen oxide emissions and alteration to existing abatement systems which should further reduce any potential emission impacts on the designated site.

2. It is unlikely that there would be an adverse impact based on the information presented. The addition of SNCR is likely to slightly increase ammonia emissions from the chimney while reducing NOx emissions, but the impact at Moninea Bog is not expected to be significant. The impact of ammonia on Moninea Bog has not been explicitly addressed in the dispersion assessment. NIEA Natural Heritage suggests that EPA looks at this during determination.

You may also wish to discuss this case with colleagues in National Parks and Wildlife Service who are familiar with designated site issues.

If you require any further information please contact Paul McAnulty on the above number.

Yours sincerely

Bob Davidson
Conservation Designations & Protection

CONSERVATION OBJECTIVES

MONINEA BOG SAC

1. POLICY STATEMENT

The favourable condition table provided in Annex 1 is intended to supplement the conservation objectives only in relation to management of established and ongoing activities and future reporting requirements on monitoring condition of the site and its features. It does not by itself provide a comprehensive basis on which to assess plans and projects, but it does provide a basis to inform the scope and nature of any appropriate assessment that may be needed. It should be noted that appropriate assessments are a separate activity to condition monitoring, requiring consideration of issues specific to individual plans or projects.

2.1 GENERAL INFORMATION

COUNTY: FERMANAGH

G.R. IH 299215 AREA: 45.0 ha

2.2 SUMMARY SITE DESCRIPTION

Moninea Bog represents a comparatively large area of uncut raised bog in Co. Fermanagh. It lies to the west of Upper Lough Erne directly south-west of Teemore and represents one of the few remaining examples from the complex of small raised bogs which once occupied hollows between the drumlins of South Ulster. The bog lies at an elevation of about 50m O.D. and is completely surrounded by a series of low drumlin hills which in turn are surrounded by a series of rivers. The peat deposits are deep and permanently waterlogged and the main feature of interest is a large intact dome supporting a good surface microtopography. In addition, a number of notable plant species have been recorded including *Sphagnum fuscum*, *S. imbricatum* and *S. pulchrum*.

2.3 BOUNDARY RATIONALE

The boundary has been drawn to include all areas of intact lowland raised bog and associated semi-natural habitats, including cutover bog and pockets of Birch scrub. The intact surface of the bog forms a compact hydrological unit, with quite an extensive area of scrub and woodland to the north of the dome and a narrow strip of cutover bog to the south of the dome. A finger of scrub and cutover bog also extends to the east of the main area of intact raised bog. The boundary of the SAC encompasses areas of degraded bog, which are

capable of regeneration to active raised bog given positive management. Small areas of *Molinia caerulea* acid grassland and pockets of scrub woodland fall into this category.

The boundary around the entire site is clearly defined as the edge of the semi-natural habitat associated with the cutover bog and is one distinct hydrological unit, is completely surrounded by improved agricultural land. A minor road forms the boundary along the southern edge of the bog and there is no fencing along the road verge. The remaining boundaries, with the exception of a few areas around the site are clearly defined as ditches and old tracks, which are securely fenced and mark the edges of adjacent fields. Many of these fields have been reclaimed from the cutover bog in recent years. These boundaries are stock proof.

In several places, there are no physical boundaries around the periphery of the site and stock can move freely from the improved fields onto the intact surface of the bog. These boundaries must be fenced as soon as possible to prevent further grazing and poaching of the intact bog surface.

3.1. SAC SELECTION FEATURES

Feature type (i.e. habitat or species)	**Feature**	**Global Status**	**Size/ extent/ population**
Habitat	**Active raised bog**	**B**	**35.5 ha**
Habitat	Degraded raised bog still capable of regeneration	D	6.5 ha
Habitat	Depressions on peat substrates	D	0.1 ha

Table 1. List of SAC selection features. Those with status A-C will be referred to in ANNEX I.

4. MANAGEMENT CONSIDERATIONS

Owner/Occupiers - Moninea Bog, including the turbary rights, is privately owned with over 30 individuals owning various sections of the bog and an additional 50 turbary plots identified.

The complex ownership pattern within the bog makes a unified approach to site management more difficult.

The main adjoining land-use outside the ASSI is improved and semi-improved agricultural land. Where the bog runs along the road to the south of the site, it is vulnerable to localised fly tipping and dumping.

MAIN IMPACTS ON THE SITE

Notifiable Operations. Carrying out any of the Notifiable Operations listed in the schedule could affect the site. The list below is not exhaustive, but deals with the most likely factors that are either affecting Moninea or could affect it in the future. Although Active raised bog, is the qualifying SAC feature, factors affecting ASSI features are also considered.

Peat Cutting. There has been extensive hand cutting of peat for many years around the periphery of Moninea Bog. This has encroached significantly into the intact surface of the raised bog. Although many of old hand cuttings now support actively regenerating bog vegetation, there has been significant scrub development in many of the drier cutover areas. In recent years some mechanised peat cutting has also taken place within the old cuttings and in some cases has encroached onto the remaining intact surface of the bog. Peat cutting at the time of designation was problematical, but has been addressed by a series of management agreements with landowners. All peat cutting now appears to have been stopped, although hand cutting for domestic use has been consented in perpetuity for a number of turbary owners.
ACTION :- Ensure there is no peat cutting within the SAC. If consented hand cutting does take place, ensure it takes place in specified areas and is monitored.

Burning. Burning of the vegetation has taken place occasionally, with some areas of past burning identified. Excessive burning will tend to reduce the cover of *Sphagnum* mosses and ericaceous species, increasing the proportion of *Molinia caerulea* and *Trichophorum cespitosum*. In addition, structural diversity will be reduced. There is evidence of recent burning within the SAC, i.e. a large burn around 1995 and a number of smaller burns associated with peat cutting in more recent years. Parts of the cutover may even have been burnt as late as 2000.
ACTION :- Through liaison and management agreements ensure there is no burning within the SAC.

Drainage. Within the main intact dome there are a few very old drains bisecting the otherwise intact dome as well as a number of drains associated with the cuttings. These drains barely show up on the aerial photograph and are difficult to find on the ground and do not appear to be carrying water off the intact dome of the bog. There has also been extensive drainage within the old cutover areas. Any drains that are currently carrying water away from the peat mass should be identified and blocked.
ACTION :- Initiate a hydrological assessment of the site to identify active drains carrying water away from the peat mass. Through liaison and management agreements with landowners arrange to block the identified active drains .

Fly-tipping. There has been some localised fly tipping along the edge of the road to the south of the site. Although this is not damaging to the main interest features, it is unsightly and may encourage others to continue the practice. The removal of dumped material may alleviate the problem.
ACTION :- Remove all evidence of previous fly-tipping. If fly-tipping persists, erect fencing to prevent further localised dumping, only as a last resort as it takes away from the aesthetics of the area. Liase with local landowners in the area in an effort to prevent fly tipping.

Grazing. Lowland raised bogs are not suitable for grazing, as the surface is fragile and easily damaged by poaching. There is extensive evidence of current grazing within the SAC – ie during the summer months.
ACTION :- Fences around the periphery of the bog should be maintained to prevent grazing occurring on the site. Where there are no fences around the edges of improved agricultural land, fences should be erected as a matter of utmost urgency.

Scrub Encroachment. There are some pockets of trees and scrub associated with cutover bog around the periphery of the intact surface at Moninea Bog. Any further scrub encroachment into the actively regenerating cutover areas, or onto the intact surface is undesirable.
ACTION:- Monitor further scrub encroachment and take remedial action if required. Remove any invasive exotic species, such as Rhododendron as a matter of urgency.

Changes to surrounding land-use. Activities occurring outside Moninea Bog (e.g. agricultural intensification, drainage works, and development) may be detrimental to the site through remote affects – e.g. lowering the water table.
Action:- Reduce the risk of surrounding agricultural intensification by encouraging the adjacent owner/occupiers to enter into agri-environment schemes. Use appropriate assessments, through the planning process, to minimise any development risks adjacent to the SAC.

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5. FEATURE OBJECTIVES

The Conservation Objectives for this site are:

To maintain each feature in favourable condition.

For the selection feature - active raised bog, there are a number of component objectives, which are outlined in the table below. For this feature there is a series of attributes and measures which form the basis of *Condition Assessment*. The results of this will determine whether the active raised bog is in favourable condition, or not. The feature attributes and measures are found in the attached annex.

5.1 SAC SELECTION FEATURE OBJECTIVES

Feature	Global Status	Component Objective
Active raised bog	**B**	Maintain the extent of intact lowland raised bog and actively regenerating raised bog vegetation.
		Maintain and enhance the quality of the lowland raised bog community types including the presence of notable species.
		Seek to expand the extent of actively regenerating raised bog vegetation into degraded (non-active) areas of cutover bog.
		Maintain the diversity and quality of other habitats associated with the active raised bog, e.g. acid grassland, fen and swamp, especially where these exhibit natural transition to the raised bog.
		Maintain the hydrology of the raised bog peat mass.
		Seek nature conservation management over suitable areas immediately outside the SAC where there may be potential for lowland raised bog rehabilitation.

6. MONITORING

Monitoring of our Special Areas of Conservation takes place at a number of levels, using a variety of methods. Methods for both Site Integrity Monitoring and Condition Assessment can be found in the Monitoring Handbook (in preparation).

Maintain the integrity of the site. Undertake Site Integrity Monitoring (SIM) once a year to ensure compliance with the ASSI/ SAC Schedule. The most likely processes of change will either be picked up by SIM (e.g. dumping, burning, turf cutting, grazing etc.), or will be comparatively slow (e.g. gradual degradation of the bog and associated habitats through desiccation). More detailed monitoring of the feature should therefore be carried out by Site Condition Assessment, but this will be on a less frequent basis (every 6 years initially to pick up long term or more subtle changes). A base line survey of the site will be required to establish the full extent of the communities present together with the current condition of the feature, against which all further condition assessments will be compared.

In addition, detailed quality monitoring or verification monitoring may be carried out from time to time to check whether condition assessment is adequate to detect any long-term changes that could affect the site. This type of quality monitoring may involve hydrological recording and will be carried out less frequently, probably on a ten-year cycle. Methodology for this is being developed.

6.1 MONITORING SUMMARY

1. <u>Monitor the integrity of the site (Site Integrity Monitoring or SIM)</u>
Complete boundary survey to ensure that the fencing is still intact. Ensure that there has been no peat cutting, dumping or burning carried out within the SAC boundary. This SIM should be carried out once a year.

2. <u>Monitor the condition of the site (Condition Assessment)</u>
Monitor the key attributes for the active raised bog. This will detect if the active raised bog is in favourable condition or not. See Annex I

ANNEX 1

SAC Feature – Active raised bog (Status B)

Attribute	Targets/Limits	Method of Assessment	Comments
Extent			
*Area of intact surface (ha)	Maintain the extent of intact bog surface at 35.5 ha	Visual estimate in 2x2 plots and across the intact raised bog using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Any loss of the current intact area is unacceptable. The active raised bog communities include M18 *Erica tetralix-Sphagnum papillosum* raised and blanket mire community and M2, the *Sphagnum cuspidatum/recurvum* bog pool community dominated by *S. cuspidatum*.
*Area of actively regenerating cutover bog (ha)	Maintain the current extent of actively regenerating cutover bog. This area should be extended where possible.	Visual estimate in 2x2 plots and across the intact raised bog using a combination of aerial photographs, SIM and Condition Assessment structured walk.	There should be no loss in extent of actively regenerating bog to scrub encroachment or further peat cutting.
* Area of mosaic communities and associated habitats	Maintain associated mosaic communities and habitats (bog woodland, fen, etc)	Visual estimate across the ASSI using a combination of aerial photographs, SIM and Condition Assessment structured walk.	Repeat monitoring using condition assessment, SIM, and aerial photographs should indicate whether mosaics and associated habitats have changed or been lost.
Structure			
Dwarf-shrub height	Average ericoid height should be 15 - 35 cm.	Visual estimate in 2x2 m plots.	
*Bare Peat (%)	Peat cutting or drainage should not damage the intact surface of the active raised bog. Bare peat should occupy < 5% of the total	Visual estimate in 2x2m plots	

	area of the active raised bog.		
*Pool/hummock system extent and diversity	The extent and diversity of the raised bog pool system must be at least maintained. Permanent pools containing any of the species listed below within a 10x10 m radius of the plot should be recorded. *S. cuspidatum* , *S. denticulatum S. magellanicum, Drosera, anglica, D. intermedia,* Menyanthes trifoliata.	Visual estimate within a 10x 10m radius of plots and across the feature using a combination of aerial photographs and Condition Assessment structured walk.	Pool systems do not always occur on lowland raised bog systems. However, where they do occur, they are a very important micro-topographical feature of bog surface and their extent and condition should be maintained.
Vegetation Composition – Positive Indicators			
**Sphagnum* Cover/Abundance (% cover and frequency) Active Peat Formation (DAFOR)	Ombrotrophic *Sphagnum* moss species should have a minimum cover of 33% over at least 66% of the intact lowland raised bog surface. Thick, hummock forming species of sphagnum should be at least occasional.	Visual estimate in 2x2m plots. Visual estimate in 2x2m plots.	A constant *Sphagnum* moss cover is indicative of active peat formation and is dependent on the maintenance of a high water table. *Sphagnum* moss is therefore used to measure the hydrological integrity of the intact bog surface.
*Ericaceous Cover (%) and frequency of *Erica tetralix* (DAFOR).	Ericoid cover should be maintained between 40% and 60% of the intact bog surface. *Erica tetralix* should be at least present over a minimum 66% of the intact lowland raised bog surface.	Visual estimate in 2x2m plots	A mono-dominant sward of *Calluna vulgaris* may suggest that the surface of the intact bog is drying out – i.e. the water table is too far below the surface of the bog.
*Graminoid Cover (%)	Graminoid cover should be maintained between 10 and 40 %.	Visual estimate in 2x2m plots	
Vegetation Composition – Indicators of negative Change			
*Frequency and % cover of scrub/tree encroachment on any active peat surface (DAFOR and % cover)	Scrub/tree encroachment should be no more than Rare on the intact raised bog surface or in the actively regenerating cutover areas. Mean cover should be less than 2%.	Visual estimate within a 10x10 m radius of plots and across the active peat surface using aerial photographs and Condition Assessment structured walk.	If scrub/tree species are more than rare on any active peat surface, scrub control should be carried out.

**Rhynchospora alba* Abundance (% cover)	*Rhynchospora alba* cover should be less than 10%.	Visual estimate in 2x2m plots	*Rhynchospora alba* only occurs as a natural component of the bog vegetation around pool systems. A high frequency of this species over the intact surface of the bog may be a consequence of excessive burning.
**Myrica gale* Abundance (% cover)	*Myrica gale* cover should be less than 10%.	Visual estimate in 2x2m plots	
* Management -Burning (% cover)	Signs of recent burning should occupy less than 5% of the intact raised bog surface and the actively regenerating cutover areas.	Visual estimate in 2x2 m plots and across the active bog surface using a combination of aerial photographs and Condition Assessment structured walk.	
* Management - Grazing (% cover)	Signs of grazing (poaching/dung) should be no more than rare on the intact raised bog surface and the actively regenerating cutover areas.	Visual estimate in 2x2 m plots.	The frequency of droppings, the extent of poaching, uprooting of dwarf shrubs, invasion by *Juncus squarrosus* etc. and the presence of grazing induced *Calluna vulgaris* growth forms indicate moderate and heavy grazing.
Indicators of Local Distinctiveness			
* Presence of rare or scarce species specific to the site. *Sphagnum austinni* *Sphagnum fuscum* *Sphagnum pulchrum*	Locally distinctive species recorded for the site should be at least present along the length of the Condition Assessment structured walk.	Name the species at least present along the length of the Condition Assessment structured walk.	If these species are not recorded on any one visit, it does not automatically make the site unfavourable.

(* = primary attribute. One failure among primary attributes = unfavourable condition)

DEPARTMENT OF THE ENVIRONMENT FOR NORTHERN IRELAND

DECLARATION OF AREA OF SPECIAL SCIENTIFIC INTEREST AT MONINEA BOG, CO FERMANAGH. ARTICLE 24 OF THE NATURE CONSERVATION AND AMENITY LANDS (NORTHERN IRELAND) ORDER 1985.

The Department of the Environment for Northern Ireland (the Department), having consulted the Council for Nature Conservation and the Countryside and being satisfied that the area delineated by the solid black line on the attached map (the area) is of special scientific interest by reason of the flora, fauna and physiographical features and accordingly needs to be specially protected, hereby declares the area to be an area of special scientific interest to be known as the "Moninea Bog area of special scientific interest".

The area is of special scientific interest because it is one of the best remaining examples of a raised bog within the drumlin belt of South Ulster. There were formerly many, mostly small, bogs occupying hollows between the drumlins, but the majority have been either wholly destroyed or severely modified by turf-cutting, drainage or agricultural reclamation. Moninea is one of the least modified bogs, not only within the drumlin belt, but within the whole of Northern Ireland.

The area is especially important for its high cover of Sphagnum moss species, including many large hummocks of S. imbricatum and S. fuscum. The nationally rare S. pulchrum is locally abundant, while the scarce Sundews, Drosera anglica and D. intermedia, are frequent.

SCHEDULE

The following operations and activities appear to the Department to be likely to damage the flora, fauna and/or physiographical features of the area:

1. Grazing.

2. The disturbance or modification of the vegetation, land surface, sub-surface, water levels or water courses whether by peat cutting, engineering works, drainage works, the application spreading or storage of any material whatsoever on or to the vegetation or land surface, or by any other means.

3. Burning.

4. The introduction or release into the area of any wild, feral or domestic animal, plant or seed. "Animal" includes any mammal, reptile, amphibian, bird, fish or invertebrate.

5. The destruction, displacement, removal or cutting of any plant, seed or plant remains.

6. Use of vehicles or craft likely to damage the vegetation.

7. Recreational, educational or research activities.

Sealed with the Official Seal of
The Department of the Environment for
Northern Ireland on 12 April 1990.

J C L PHILLIPS
ASSISTANT SECRETARY

Phyllis Robinson
Civil Servant
Book of Statement,
Belfast.

Footnote

Please note that many of the operations and activities listed above are capable of being carried out either on a large scale or in a very small way. While it is impossible to define exactly what is "large" and what is "small", the Department would intend to approach each case in a common sense and practical way. It is very unlikely that small scale operations would give rise for concern and if this was the case the Department would give consent, particularly if there is a long history of the operation being undertaken in that precise location.

Y89035/CWB

MONINEA BOG

Views About Management
The Environment (Northern Ireland) Order 2002 Article 28(2)

A statement of Environment and Heritage Service's views about the management of Moninea Bog Area of Special Scientific Interest ("the ASSI")

This statement represents the views of Environment and Heritage Service about the management of the ASSI for nature conservation. This statement sets out, in principle, our views on how the area's special conservation interest can be conserved and enhanced. Environment and Heritage Service has a duty to notify the owners and occupiers of the ASSI of its views about the management of the land.

Not all of the management principles will be equally appropriate to all parts of the ASSI and there may be other management activities, additional to our current views, which can be beneficial to the conservation and enhancement of the features of interest. It is also very important to recognise that management may need to change with time.

The management views set out below do not constitute consent for any operation or activity. The written consent of Environment and Heritage Service is still required before carrying out any operation or activity likely to damage the features of special interest (see the Schedule on pages 1 and 2 of the attached Document B for a list of these operations and activities). Environment and Heritage Service welcomes consultation with owners, occupiers and users of the ASSI to ensure that the management of this area maintains and enhances the features of interest, and to ensure that all necessary prior consents are obtained.

MANAGEMENT PRINCIPLES

Lowland raised bog is a unique habitat for wildlife. Environment and Heritage Service would encourage the maintenance and enhancement of the bog, through the conservation of its associated native plants and animals.

Bogs depend on rainwater and maintaining a high water table is vital to the "health" of the bog. In addition, the peat soils and many of the species that grow there are very sensitive to physical disturbance.

Specific objectives include:

Ensure that disturbance to the site and its wildlife is minimised.

Where appropriate, encourage the blocking of drains to prevent the bog from drying out.

Lowland raised bogs cannot sustain grazing. Environment and Heritage Service would encourage stock to be excluded from this sensitive habitat.

Where appropriate, prevent the loss of light-demanding peatland species through the control of scrub and trees.

Discourage non-native species, especially those that tend to spread at the expense of native wildlife.

Maintain the diversity and quality of habitats associated with the bog, such as woodland, scrub and grassland through sensitive management. These adjoining habitats are often very important for wildlife.

C. McParland

Conor McParland
Authorised Officer

Dated the 21 of MARCH 2007