

**KEY INFORMATION**

Ward Douglas

**Proposal**

Erection of two 120.5m high wind turbine generators and alterations to internal roads

**Address**

Michelin Tyres Plc  
Baldovie Road  
Dundee

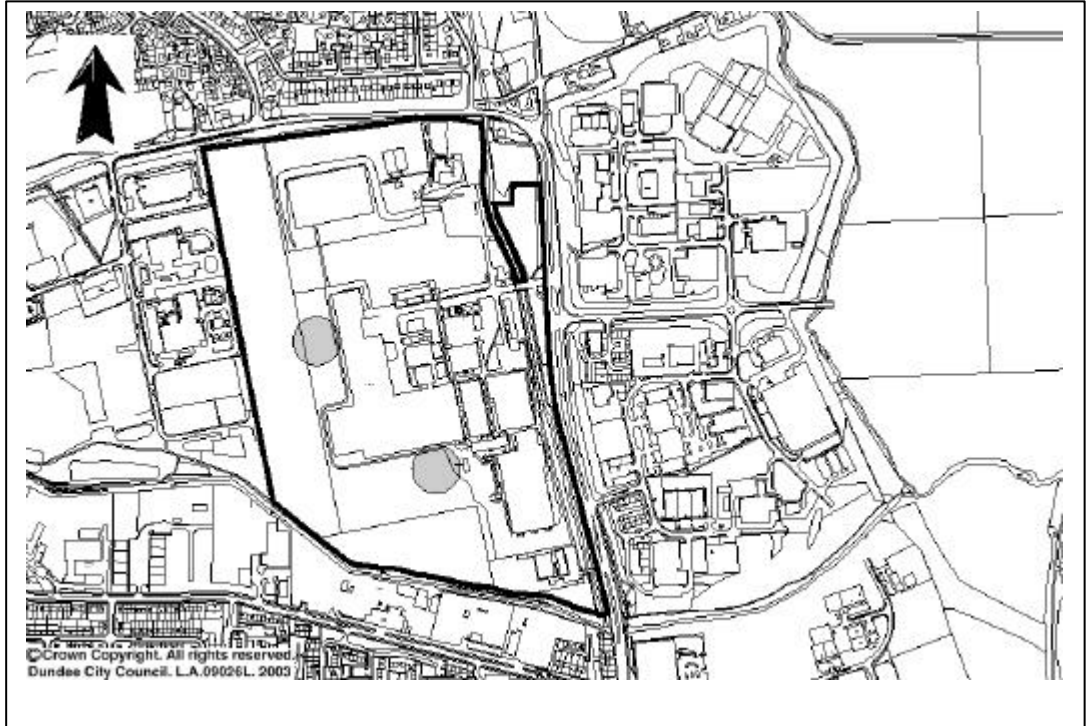
**Applicant**

Michelin Tyre Plc  
Baldovie Road  
Dundee  
DD4 8UQ

**Agent**

Registered 14 July 2005

Case Officer J Young



## Erection of 2 Wind Turbine Generators at Baldovie Road

The erection of two 120.5m high wind turbine generators and alterations to internal roads is **RECOMMENDED FOR APPROVAL SUBJECT TO CONDITIONS**. Report by Director of Planning and Transportation

**RECOMMENDATION**

The proposed application complies with the policies of the development plan and the objections do not carry sufficient weight to merit refusal of the application.

The application is recommended for **APPROVAL** subject to conditions.

**SUMMARY OF REPORT**

- Planning permission is sought for the erection of 2 wind turbines within the grounds of the Michelin manufacturing tyre plant. The electricity to be generated will be used to fuel the plant. The turbines will measure 85m to the hub and an additional 35.5m for radius of the blades. The nearest housing to the north is located approximately 375m from the most northerly turbine and the southern turbine is 322m to the nearest housing to the south.
- Policies on renewable energy and wind farm developments in the Dundee Local Plan Review 2005 are of particular relevance. The site is located next to a wildlife corridor and therefore Environmental Policies in the adopted Local Plan are also relevant.
- A total of 10 objections and 2 letters of support have been received to the application.
- The proposal complies with national and local policy and guidance which support the use of renewable forms of energy in order to meet Government targets for the reduction of pollution in the future. It is considered that the proposal also complies with the environmental policies of the Dundee Local Plan Review 2005.
- The unique nature of the proposal has raised issues of noise, the potential concentration of emissions from nearby stacks, shadow flicker and visual impact.

## DESCRIPTION OF PROPOSAL

Planning permission is sought for the erection of two wind turbines each generating 2MW of electricity at the Michelin tyre production factory at Baldovie Road, Dundee. Each turbine will have three blades and the height of each tower will be 85m to the hub from ground level. The base diameter of each tower is 4.3m tapering to 2m at the hub. The diameter of the rotor blades is 71m. The wind turbines will be located to the south and west of the existing factory buildings.

The wind turbines will not operate in calm periods when the wind speed is less than 4m/s or when it is higher than 25m/s. During these periods the plant will obtain power from the electricity grid as normal. The proposal is to fuel the plant only.

The proposal also includes some extension of internal roads around the site to withhold the weight of the equipment being used for construction

Upon request, the applicant submitted comprehensive supplementary statements in support of the application such as visual and noise impact, emissions dispersal and shadow flicker.

## SITE DESCRIPTION

The application site is located within the Baldovie Industrial Estate on the west side of Baldovie Road. The wind turbines are to be sited within scrubland around the factory buildings. The site is accessed from Baldovie Road with staff car parking to the north of the entrance and a small visitor parking area to the south. There is an existing 53.8m high boiler house stack within the Michelin site. The Baldovie Waste to Energy stack is located approximately 310m to the west of the site and it is approximately 70m high. Planning permission was granted in February 2003 for the installation of an odour abatement plant at DERL and this includes the erection of a 40m high stack. Housing is located to the north and south of the site and the nearest house is approximately 322m to the south of the nearest turbine. There is a 3m difference in levels across the Michelin site. The site is approximately 27m above sea level near the gatehouse and rises to 30m at the location of the most northerly turbine. Trees and other

planting surrounds the boundary of the site.

## POLICY BACKGROUND

Dundee and Angus Structure Plan 2001-2016

The following policies are of relevance:



### Environmental Resources Policy 10: Renewable Energy

Proposals for renewable energy development will be favourably considered where they deliver quantifiable environmental and economic benefits and any significant or cumulative adverse impacts on the natural and historic environment, landscape and local communities can be satisfactorily addressed.

Development proposals will be considered in the context of the wider environmental policies of the Structure Plan. Detailed criteria based policy, locational guidance and, where appropriate, areas of search for individual sources of renewable energy will be established by Local Plans. An Environmental Statement will be required for all large scale proposals or where development is likely to have significant effects on the environment.

### Environmental Resources Policy 1: Natural Heritage Designations

Development proposals that do not compromise the overall integrity and natural heritage value of locally important sites will generally be supported.

### Dundee Local Plan Review 2005

The following policies are of relevance:

Policy 77: Renewable Energy and Energy Efficiency

The principle of such developments is supported by the Council. Small scale wind energy developments will be favourably considered where they are consistent with other environmental policies of the Plan, they do not necessitate ancillary developments that may have an adverse environmental impact eg power lines, and where they have no significant adverse or cumulative effects on:

- neighbouring residential occupiers, other uses or road safety by reason of visual disturbance, noise emission, shadow flicker, reflected light or electro-magnetic influences;
- landscape, and;
- aircraft activity or known flight paths of migratory birds.

### Policy 26: General Economic Development Areas

General support for the establishment and retention of Class 4, 5 and 6 developments.

### Policy 70: Semi Natural Greenspaces of Local Nature Conservation Importance

- Proposals must not adversely affect nature conservation qualities of Sites of Importance for Nature Conservation (SINCs), Community Wildlife Sites (CWS) or Wildlife Corridors.

## Scottish Planning Policies, Planning Advice Notes and Circulars

The following are of relevance:

### **National Planning Policy Guideline (NPPG) 6: Renewable Energy**

This NPPG sets out the Government's policy on developing renewable energy sources against the background of established land-use planning and environmental considerations. The specific section on wind energy advises on environmental assessments, visual impact, noise, interference and ecology in relation to the siting of wind turbines. The NPPG advises that wind turbines should only be permitted where they:

- would not be significantly detrimental to areas valued for their landscape character;
- would not create noise problems for residential and other noise-sensitive properties;
- would not interfere with aircraft activity;
- would not interfere with the flight paths of migratory birds;
- would not significantly increase the risk of "shadow flicker" or "driver distraction".

### **Planning Advice Note (PAN) 45: Renewable Energy Technologies**

The purpose of this PAN is to support the policies in NPPG 6 by providing information and advice on the technologies for harnessing renewable energy for electricity generation. The section on wind power offers information and advice on the technologies and characteristics of on-shore wind generators. It is mainly concerned with larger groupings of wind turbines, referred to as wind farms. However, much of the PAN is equally applicable to smaller scale developments, in particular the issue of visual amenity.

## Non Statutory Statements of Council Policy

There are no non statutory Council policies relevant to the determination of this application.

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## LOCAL AGENDA 21

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Key theme 1 of the Council's Local Agenda 21 is relevant which states that resources should be used efficiently and waste minimised. Key theme 2 is also relevant which states that pollution is limited to levels at which natural systems can cope.

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## SITE HISTORY

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Planning permission was granted in January 2004 for the erection of 3 wind turbines, with a total height of 105m within the Michelin site. This development was never implemented.

A planning application for a 50m high anemometer mast on the same site as turbine 1 was recommended for approval on 29th September 2003 (ref: 03/00449/FUL). A second anemometer mast was granted permission on 30.09.2004.

Planning permission was granted on 18th February 2003 for the installation of an odour abatement plant, including a 40m high stack and associated infrastructure at the adjoining incinerator plant. This development has been constructed on site.

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## PUBLIC PARTICIPATION

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The application was advertised as a bad neighbour development (under Section 34) on 19th July 2005 due to the height of the proposed turbines.

Statutory neighbour notification was not required due to the distance of each turbine from the site boundary, which exceeds 90m. However a total of 10 objections have been received and 2 letters of support. The majority of objections were received from occupiers of housing to the north. The main points of objection are:

- 1 Noise impact;
- 2 Visual intrusion due to height and appearance;
- 3 Shadow flicker;
- 4 Dispersal of emissions and pollution from existing chimneys;
- 5 Overshadowing;
- 6 Safety issues;
- 7 Adverse impact on wildlife and environment;

- 8 Adverse effect on television reception.

Two letters of support have been received, including one from Shiona Baird, MSP and a joint letter of support from Friends of the Earth Tayside and Sustainability Enquiry Point.

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## CONSULTATIONS

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All statutory bodies were consulted on the proposal and a wider list of external consultees was compiled to ensure extensive consultation was undertaken and the views of those who responded are summarised below.

### **The Head of Environmental Health and Trading Standards**

Advises that appropriate conditions can be imposed to ensure that adequate noise control measures are applied to the operation of the turbines to protect neighbouring residents from unacceptable noise levels.

They are in agreement with the findings of the technical reports, prepared by consultants for the applicants, on the potential of ground level pollutants and conclude that there will be no adverse impact.

These issues are discussed further in the Observations below.

### **The Director of Leisure and Arts**

No comments were received but their comments to the previous application are relevant in these circumstances. The previous comments were as follows:

Due to the height of the proposed towers, new boundary planting cannot "screen" the structures completely. However, existing or new tall hedgerows, structure/shrub and woodland mix planting or large trees can have the effect of softening their impact by providing a foreground distraction to the structures. This leads to the visual effect of the towers receding further into the background.

It is recommended that any gaps in the existing boundary planting to the north and east around the Michelin site are enhanced to provide a near distant planting screen to the proposed turbines from immediately outside the site. Planting to the west and south boundaries of the site would have minimal effect on the screening of the turbines.

The Dighty Burn designation as a SNCI extends into the southern part of the Michelin site. It has previously been suggested to the applicant that any proposals to enhance the planting at their site boundary in relation to the Dighty Burn would be beneficial to the application.

#### **Scottish Environment Protection Agency (SEPA)**

SEPA have studied the reports commissioned by the applicants on dispersion modelling of emissions from the applicant and DERL. It is agreed that the consultants have responded to the issue very positively by providing a rigorous assessment of the potential for environmental harm. To date no definitive model exists for the prediction of impacts associated with turbine wake-effects on pre-existing stack emissions. However the modelling used has been satisfactory in assessing the potential impacts and has produced a conservative estimate of the likely impacts of the proposal. SEPA concludes that the impacts are unlikely to result in an excess of one or more of the national air quality standards and the impacts are likely to be negligible. SEPA recommends that a condition be imposed to provide for a period of monitoring of pollutant emission dispersals to ensure that appropriate standards are maintained.

#### **Scottish Natural Heritage**

No comments.

Due to the proposed height of the turbines, it was considered necessary to consult with Civil Aviation Authority, Safeguarding Defence Estates and National Air Traffic Services Ltd. Safeguarding Defence Estates submitted a letter on behalf of the MoD and they do not wish to object, but require a condition regarding the commencement of construction to ensure they have sufficient time to allow the radar maps to be updated. The Civil Aviation Authority has confirmed that lighting will need to be attached to the turbines. The Dundee Airport Manager confirms that this is necessary and recommends a condition to ensure lighting is installed.

#### **Ministry of Defence (MOD)**

The MOD have reviewed the amended planning application for 2 turbines at the Michelin site. They confirm that when the turbines are erected they will need to be annotated as Permanent

Echoes on the radar screen as they are situated in an already cluttered area. They provided a condition which they require to be attached, if Members are minded to approve the application.

#### **Angus Council**

No comments.

#### **Fife Council**

No comments.

#### **Friends of the Earth**

No comments.

#### **Royal Society for the Protection of Birds**

They state that they did not have any concerns regarding the impact of the original proposal on bird populations and have no additional comments to make at this stage.

#### **Mobile Operators Association**

No comments.

#### **Dighty Environmental Group**

No comments received.

#### **Energy Consents Unit, Scottish Executive**

No comment to make as they only process applications for wind farms with output capacity of 50MW and above.

#### **Architecture and Design Scotland**

No comments received.

Although the Independent Television Commission have not been consulted, it is assumed that their previous comments will not differ, given that the proposal reduces the overall turbines to two, albeit at an increased height.

Wind farms (or individual wind turbines) have the potential for causing interference to television reception, primarily where a viewer is in the "shadow" of the wind turbines and their aerial is pointing through the wind farm.

The highest risk area is considered to be between the turbines and Broughty Ferry. Homes which are very close to the development, where high levels of reflected signals could be received may experience reception problems. The turbines are close to homes and so problems may be expected. This response was addressed previously with an appropriate condition and it is considered necessary to attach a

similar condition in these circumstances.

## **OBSERVATIONS**

In accordance with the provisions of Section 25 of the Act the Committee is required to consider:

- a whether the proposals are consistent with the provisions of the development plan; and if not
- b whether an exception to the provisions of the development plan is justified by other material considerations.

### **The Development Plan**

The provisions of the development plan relevant to the determination of this application are specified in the Policy background section above.

#### **Introduction to Wind Energy**

Wind is the world's fastest growing energy source and the UK is fortunate in having around 40% of Europe's wind resource, potentially enough to power the country 3 or 4 times over.

The cost of electricity from wind is now competitive with conventional fuel sources making it the cheapest form of renewable energy.

Wind turbines produce no pollutants of any kind, making wind energy a clean, sustainable fuel source which will not run out and can be inherited by future generations.

The energy used in manufacturing and erecting a wind turbine is paid back in the first 3 to 6 months of operation. Wind turbines can be removed at the end of their lifetime (typically 30 years) with no adverse environmental effects.

#### **Background to Proposal**

Michelin is one of the largest employers in Dundee and is the largest tyre producing factory within the UK. Recent government policy encourages energy efficiency leading to a reduction in greenhouse emissions. Michelin propose to install 2 wind turbines that will be used to meet the site's base electricity requirements. The wind turbines will not operate in calm periods or high wind conditions and electricity will be provided from the local electricity distribution system at these times. The initial part of the project, which has already been completed, included the collation of

wind speed data to ensure the location and wind speeds are suitable for the turbines.

### Differences Between the Approved and Proposed Schemes

- The number of turbines has been reduced from three to two. However the capacity has only been reduced from 4.5MW to 4MW. The removal of the most northerly turbine has reduced potential impact on residential amenity in terms of noise emissions and shadow flicker effects. The reduction in turbine numbers is necessary in order to ensure adequate separation distances between turbines to prevent a loss of power from turbulence and wake effects. The approved scheme was therefore technically unviable, due to the loss of power which would have resulted from the turbines being too close together.
- The tower height has increased by 15.25m and the blade diameter has increased by 0.5m. The turbine hub height has had to be increased to maximise energy production to make the project viable.
- The technology employed is different as the Enercon turbines are unique in that they are variable speed direct drive machines. This system ensures that rotational speeds are much slower than other turbines and are dependent upon wind speeds. Without a gear box, there are no mechanical noises which are associated with the traditional type of turbines.
- Enercon turbines have been specifically designed by Lord Foster to offer an aesthetically pleasing design, which is often heralded as an iconic image of our progress to achieving more sustainable forms of development.
- The turbines are now located further away from housing.

### Turbine Operators

The turbines will be owned and operated by Ecotricity (Next Generation Ltd), who have extensive experience in building and maintaining wind turbines across the UK. Ecotricity founded the UK renewable

electricity market in 1996 and since then has been involved in pioneering wind energy projects across the UK, including building London's first wind turbines to provide power for the Ford Motor Company factory in Dagenham. Ecotricity is a registered electricity supplier, providing green electricity to homes and businesses, such as the Bodyshop and Co-operative Bank.

### Research

Prior to the determination of the previous application, representatives from the Council undertook various site visits to East Kilbride, Hull, Sutra Hill and Swaffham to gather background information on the development of wind turbines, as a basis for addressing issues raised in this planning application. Swaffham provided the best example, closest to the proposals for Dundee. Several conferences were also attended on the topic of wind energy.

### The Development Plan

The provisions of the development plan relevant to the determination of this application are specified in the Policy background section above.

### Dundee and Angus Structure Plan 2002

In terms of the Structure Plan, Policy 10 encourages renewable forms of energy and the application meets these requirements. It is considered that the proposed wind turbines will not compromise the environmental designation of the area as specified in Policies 1 and 2. Michelin's site is adjacent to the Dighty Category A Wildlife Site in the adopted Local Plan and Urban Nature Conservation Subject Local Plan. Due to the very small site area required for the base of the turbine and its location on the border of the designated area it is unlikely it will have an adverse impact on the nature conservation interests of the site. It will be necessary to impose a condition for additional landscaping around various boundaries and especially to the south. Therefore the application proposals are consistent with the Structure Plan strategy and seek to implement the principles which it advocates.

### Dundee Local Plan Review 2005

The site is located within Baldovie Industrial Estate and a general economic development area (Policy 26

applies), where the Council will encourage the establishment and retention of business and industrial use. The proposal will not jeopardise the use of the site for industrial use as the turbines will only use a small site area. The applicants offer that the energy savings will improve their competitiveness in the marketplace and assist the company to maintain its leading role in the local economy.

Policy 77 supports the principle of such developments and opportunities for forms of renewable energy are encouraged. Small scale wind energy developments will be favourably considered where they are consistent with other Environmental policies of the Plan. The proposal complies with this policy as it does not have a detrimental effect on landscape, neighbouring residential occupiers and does not interfere with aircraft activity. The applicant provided supporting information and the residential amenity issues will be discussed further under the section on objections.

The proposal is consistent with the relevant environmental policies and it is considered that the designation of the adjacent area to the south will not be adversely affected. Policy 70 indicates the Dighty as a Site of Importance for Nature Conservation (SINC) and a Community Wildlife Site (CWS). The proposed turbine locations fall outwith the Wildlife Corridor. The proposals are unlikely to result in any adverse impact on the SINC, CWS or Wildlife Corridor.

It is concluded from the foregoing that the proposal complies with the provisions of the development plan.

### Other Material Considerations

The other material considerations to be taken into account are as follows:

The proposals are consistent with the Scottish Executive's commitment to increase the proportion of energy generated from renewable sources in Scotland to 18% by 2010. They also generally conform with NPPG6 and PAN45.

### Objections

#### Noise

The issue of noise was discussed at great length during pre-application stage and during the processing of the planning application. A detailed noise impact assessment was provided by

consultants and submitted as part of the planning application. One of the key issues is that of the sound power output of the turbines at specific wind speeds. The assessment of the noise from the turbines was predicted both individually and cumulatively, and considered the impact on housing at a particular distance. The Head of Environmental Health and Trading Standards agrees with the predicted noise levels. The greatest potential impact appears to be on the housing to the south as any noise levels to the north would be masked by the background noise from existing industrial activities in that area.

In considering the application, reference was made to ETSU-R-97: The Assessment and Rating of Noise from Wind Farms by the Energy Technology Unit (ETSU), which is considered as providing best practice. This report states that "separation distances of 350 to 400metres cannot be relied upon to give adequate protection to neighbours of wind farms". The nearest house to their proposal is located at a distance of 322m from the nearest wind turbine. Planning Policy Guideline 22 in England and Wales shows that there is unlikely to be a significant noise problem at distances of 350 to 400 metres. It also acknowledges that lesser separation distances are acceptable depending on the turbines used and the specific conditions at the site.

The applicant has now chosen a more advanced type of turbine, which is gearless and therefore any potential noise levels are greatly reduced.

It is concluded that the application can be supported with appropriate conditions to protect residential amenity and ensure monitoring is carried out to maintain acceptable noise levels.

#### Visual Impact

The turbines are tall structures, located in open land. They will therefore be highly visible and it is impractical to consider concealing them. The applicant has sought to ensure through good siting and design that landscape and visual impacts are limited and appropriate to the location. A series of photomontages were submitted as part of the planning application.

The visual impact of the 2 wind turbines has to be considered in

relation to the existing industrial context of the site area. The proximity of housing particularly to the north, east and south of the site must also be considered in relation to the proposed turbines. The Director of Leisure and Arts had previously advised that additional landscaping should be incorporated around the boundary of the site, in accordance with a scheme to be agreed with the Council. This advice is consistent with the current proposal. It should be noted that the appearance of the turbines in the surrounding landscape is a subjective one.

#### Shadow Flicker

The applicant submitted a supplementary analysis of potential shadow flicker. The level of effect of shadow flicker is reduced by a number of factors such as cloud cover, wind speed, wind direction, presence of intervening buildings, trees and other obstacles.

The applicant carried out a study of potential shadow flicker and has assumed a worst-case scenario. It assumes that:

- Windows always directly face the turbine(s);
- Wind direction is always parallel to the turbine-sun-receptor alignment. In short, this means that a turbine will always directly face the receptor and therefore cast the widest shadow;
- The sun is always shining with sufficient intensity to cast clear shadows from dawn to dusk at all times of the year;
- There is no screening of light or shadow from hedges, trees, houses and other visual obstacles that in actuality may intervene between sensitive receptors and proposed turbine positions.

Their results conclude that the probability of shadow flicker is minimal when the sunshine hours and wind speeds are taken into consideration. The applicant suggests that any potential problem of shadow flicker can be overcome by the provision of blinds to any houses affected or the turbines can be programmed to be shut down when any shadow flicker occurs. It is recommended that a condition is applied to stop the relevant turbine operating entirely for a short period of

time if, and when, the problem occurs. It is understood from site visits carried out as research into this application that wind turbines can be programmed to deal with this issue.

#### Dispersal of Emissions and Smells from Existing Chimneys

Considerable discussion on this issue has taken place with SEPA and the Council's Environmental Health and Trading Standards Department. Consultants were employed to carry out modelling of the dispersion levels and this was added with further expert input and the production of a report.

The study states that the predicted process emissions from both DERL and Michelin together with the predicted pollutant background level concentrations are expected to be below the relevant national air quality standards.

It is concluded that there will be no significant adverse impact on the dispersal of pollutants from DERL and Michelin, either individually or cumulatively as a result of the turbine operations.

#### Adverse Impact on TV Reception

As Enercon turbines are direct drive machines, the slow rotational speed of the blades means that there is less likelihood of interference with TV signals than from traditional gearbox driven turbines, which have a higher rotational blade speed. The applicant is agreeable to the previous condition 11 being attached, which requires the submission of a study investigating the impact of the proposal on TV reception and proposed mitigation measures. The applicant further confirms that if there is a detrimental loss or alteration in TV reception signals, Ecotricity (Next Generation Ltd) will investigate the interference and rectify in the following sequential manner:

- 1 Ecotricity will provide a contact number lodged with the Council to enable members of the public in the area to contact Ecotricity in the event of poor TV transmission.
- 2 In the event of any interference Ecotricity will record the details and numbers of affected TV users and will implement the following remedial works:
  - a Send a licensed engineer to attend the property and

investigate the reason for interference.

- b The licensed engineer will undertake remedial works to reinstate the quality of TV reception to that which occurs when the turbines are not operational. Such measures could include realigning the aerial another nearby transmitter and/or upgrading the receiving aerial, installing a digital set-top box or installing satellite TV.
- c All costs in respect of restoring TV reception will be paid for by Ecotricity. Where satellite TV is installed, Ecotricity will pay the installation costs and 1 years' subscription of the basic package.

### Overshadowing

The structures will be over 120m high and the nearest house is approximately 322m away and so it is considered that there will not be overshadowing.

### Health and Safety

The wind turbines will be located within Michelin's perimeter fencing and access to the site is through security gates. The turbines will be over 120m high and there will be no external ladder, which inquisitive members of the public could climb. Wind energy is one of the safest energy technologies. It is understood that no member of the public has ever been injured by wind energy or wind turbines anywhere in the world, despite the fact that there are around 35000 operational wind turbines. The wind turbines will be constructed to civil engineering and British Standards that meet existing Health and Safety requirements. They are designed to survive considerable wind speeds, including gusts in excess of 50m per second.

### Impact on Wildlife

Both RSPB and SNH were consulted about the application. RSPB is satisfied that there will be no adverse impact on birds.

### Ground conditions

The applicant has not provided details of the ground conditions. As the proposal is located within an industrial area, it is considered necessary to impose a condition to require ground conditions to be investigated, particularly in relation to potential ground contamination.

### Construction Phase Impacts

The applicant will be required to consult with Dundee City Council, Trunk Roads Authority and the Police Authority before and during construction regarding the safe movement of the turbine parts to the site and other related issues. The applicant has provided predicted levels of daily traffic movements and construction hours.

It is concluded from the foregoing that insufficient weight can be accorded to any of the material considerations such as to justify the refusal of planning permission contrary to the provisions of the development plan. Appropriate conditions will be attached, if Members are minded to approve the application, to ensure that the turbines will operate with minimal disturbance to the environment and surrounding residents in the locality. It is therefore recommended that planning permission be granted with conditions.

### Design

It is considered that the proposed turbines are graceful and majestic structures with a modern and clean image. They will be located within an industrial area and will be viewed against the background of chimney stacks up to a height of 60m. The applicant has indicated that the turbines will be painted in a matt colour to prevent any glimmer from the moving blades.

### CONCLUSION

It is concluded that the proposal complies with national and local policies and Government guidance, which promote the use of renewable forms of energy. Although the proposal raised considerable public opposition, it is considered that supplementary analyses and reports submitted by the applicant sufficiently address the issues raised and conclude that the proposed wind turbines will have no adverse effect on adjacent residents or the surrounding environment. Therefore the application is recommended for approval subject to conditions.

### RECOMMENDATION

It is recommended that planning permission be GRANTED subject to the following condition(s):-

- 1 The development hereby permitted shall be commenced within five years from the date of this permission
- 2 At a wind speed not exceeding 12m/s, as measured or corrected to 10 metres above ground level at the location of the turbines, the wind turbine noise shall not exceed the under noted levels at the following locations as detailed in Part 4 of the Environmental Noise Impact Assessment (Section 3 of the Technical Appendix, Report HM: 1617/R1):

#### Location 1: Drumgeith Road West (21 Coldstream Road)

- a During night time hours (2300 to 0700) 41dB La90, 10 min. or the night time La90, 10 min. background noise level plus 5dB(A), whichever is the greater.
- b During quiet waking hours (1800 to 2300, Monday to Friday plus 1300 to 2300, Saturday and 0700 to 2300, Sunday) 47dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise level plus 5dB(A), whichever is the greater.

#### Location 2: Drumgeith Road East (95 Hawick Drive)

- a During night time hours (2300 to 0700) 40dB La90, 10 min. or the night time La90, 10 min. background noise level plus 5dB(A), whichever is the greater.
- b During quiet waking hours (1800 to 2300, Monday to Friday plus 1300 to 2300, Saturday and 0700 to 2300, Sunday) 43dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise level plus 5dB(A), whichever is the greater.

#### Location 3: Balunie Drive West (47 Balmoral Gardens)

- a During night time hours (2300 to 0700) 38dB La90, 10min. or the night time La90, 10 min. background noise level plus 5dB(A), whichever is the greater.
- b During quiet waking hours (1800 to 2300, Monday to Friday plus 1300 to 2300, Saturday and 0700 to 2300, Sunday) 38dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise



level plus 5dB(A), whichever is the greater.

**Location 4: Balunie Drive East (507 Balunie Drive)**

- a During night time hours (2300 to 0700) 39dB La90, 10 min. or the night time La90, 10 min. background noise level plus 5dB(A), whichever is the greater.
  - b During quiet waking hours (1800 to 2300, Monday to Friday plus 1300 to 2300, Saturday and 0700 to 2300, Sunday) 40dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise level plus 5dB(A), whichever is the greater.
- 3 If, in the opinion of the Council, noise emitted from one or both of the turbines contains:
- a any distinguishable, discrete, continuous notes (whine, hiss, screech, hum or similar noise);
  - b distinct impulses (bangs, clicks, clutters, thumps or similar noise);
- a characteristic noise sufficiently irregular to attract attention;
- as identified at the measurement locations detailed in condition 2 above, then a reduction of 5dB shall be applied to the permitted levels stipulated in condition 2.
- 4 The applicant shall submit a monitoring plan for the turbines, including noise levels and ground level pollutants, to the Council for approval before any development is commenced and if approved the development shall be carried out only in full accordance with such approved details
- 5 If at any time the turbines are not operational for a continuous period of 6 months, they shall be deemed to have ceased to be required and, unless otherwise agreed in writing with the Planning Authority, all wind turbines and ancillary equipment shall be dismantled and removed from the site within the following 2 months and the ground fully reinstated to the satisfaction of the Planning Authority
- 6 no development shall take place until there has been submitted to and approved by the planning authority a scheme of

- landscaping, which shall include new planting, indications of all existing trees and hedgerows on this land, and details of any to be retained, together with measures for their protection in the course of development
- 7 ground survey details shall be submitted to the Council for approval before any development is commenced and if approved the development shall be carried out only in full accordance with such approved details
  - 8 details of any external lighting required during construction and/or during the operation of the wind turbines shall be submitted to the Council for approval before any development is commenced and if approved the development shall be carried out only in full accordance with such approved details
  - 9 The wind turbines hereby permitted shall be shut down on each and every occasion when shadow flicker, as described in the Shadow Flicker Report (Section 4 of Technical Appendix) submitted by the applicant in July 2005, is produced at the predicted affected properties. The blades of the turbine(s) shall remain stationary until such time as conditions are such that shadow flicker will not occur at the predicted affected properties
  - 10 full details of supplementary information to clarify and confirm the previously submitted findings of the emissions report (section 7 of technical appendix) shall be submitted to the Council for approval before any development is commenced and if approved the development shall be carried out only in full accordance with such approved details
  - 11 The applicant shall address any adverse impact on television reception caused by the proposed turbines to surrounding residential properties in accordance with details as outlined in section 9 of the technical appendix and in consultation with Dundee City Council

- 12 details of the commencement date of the construction of the turbines shall be submitted to the Council and the Ministry of Defence before any development is commenced
- 13 details of aviation obstruction lighting and how it will be maintained shall be submitted to the Council for approval before any development is commenced and if approved the development shall be carried out only in full accordance with such approved details

### Reasons

- 1 To comply with Section 58 of the Town and Country Planning (Scotland) Act 1997
- 2 In order to protect surrounding residents from unacceptable levels of noise from the wind turbines
- 3 In order to protect surrounding residents from unacceptable levels of noise from the wind turbines
- 4 To protect the amenities of the occupants/owners of nearby adjacent properties in the locality
- 5 To ensure that the redundant equipment does not contribute to roadside clutter and that the site is reinstated to a satisfactory standard
- 6 To ensure a satisfactory standard of appearance of the development in the interests of the visual amenities of the area
- 7 To ensure a satisfactory standard of appearance of the development
- 8 To ensure that the proposed development has a satisfactory external appearance in the interest of the visual amenities of the area
- 9 To protect the amenity enjoyed by occupants of surrounding residential properties from potential shadow flicker caused by rotating blades of the wind turbines
- 10 To ensure that any potential impact on the dispersion of emissions from nearby industrial stacks does not adversely affect the amenity of residents of surrounding residential properties



- 11 To ensure that TV reception in the surrounding area is not adversely affected in the interests of residential amenity
- 12 To ensure that the Ministry of Defence have sufficient time to amend the radar map overlay and brief the Leuchars Air Traffic Controllers accordingly
- 13 To ensure that the proposed development does not interfere with the aircraft movement