

**KEY INFORMATION**

**Ward** Douglas

**Proposal**

Erection of 3 wind turbines and associated alterations to internal road

**Address**

Michelin Tyre Co Ltd  
Baldovie Road  
Dundee  
DD4 8UQ

**Applicant**

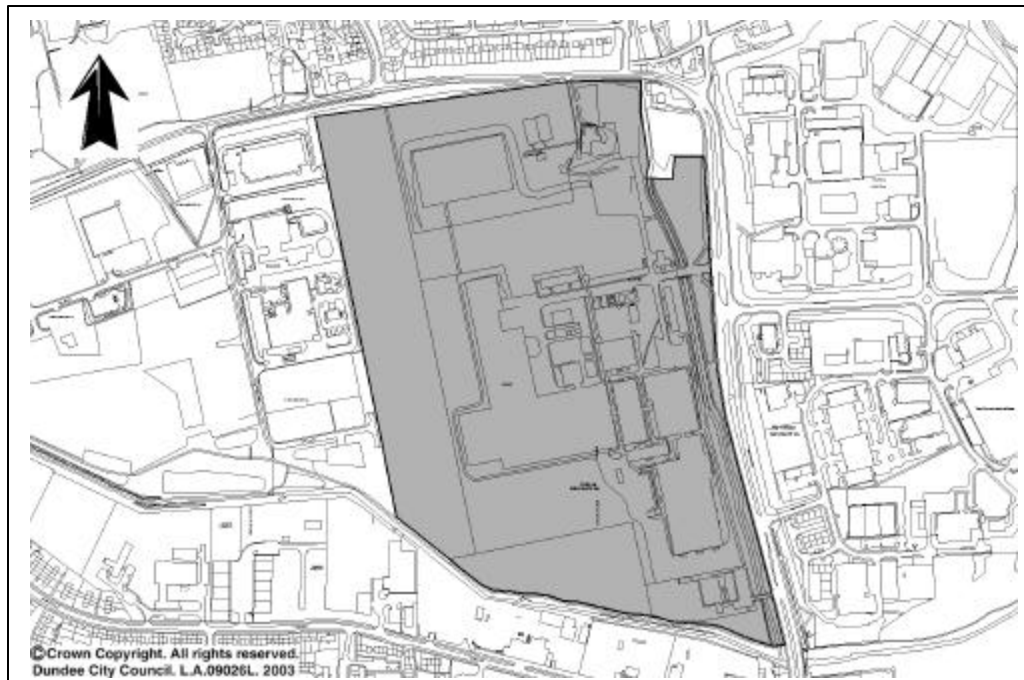
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Dundee  
DD4 8UQ

**Agent**

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**Registered** 30 May 2003

**Case Officer** J Finlay



# Proposal for Wind Turbines at Michelin Factory

The erection of 3 wind turbines is **RECOMMENDED FOR APPROVAL subject to conditions**. Report by Director of Planning and Transportation

**RECOMMENDATION**

It is considered that the proposal complies with all development plan policies and any potential objections have been satisfactorily addressed. There are no material considerations that would justify refusal of the application. Therefore the application is recommended for **APPROVAL subject to conditions**.

**SUMMARY OF REPORT**

- Planning permission is sought for the erection of 3 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 70m to the hub and an additional 35m for radius of the blades. The nearest housing is located approximately 260m from the most northerly turbine.
- Policies on renewable energy and wind farm developments in the Adopted Plan and Revised Plan are of particular relevance. The site is located next to a wildlife corridor and therefore Environmental Policies in the adopted Local Plan and Revised Plan are also relevant.
- A total of 415 objections, a petition with 606 objection signatures and 17 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 and Finalised Dundee Local Plan Review.
- 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 three wind turbines each generating 1.5MW of electricity at the Michelin tyre production factory at Baldovie Road, Dundee. Each turbine will have three blades and the height of the each tower will be 70m to the hub from ground level. The base diameter of each tower is 3.75m tapering to 2.6m at the hub. The diameter of the rotor blades is 70.5m. The wind turbines will be located to the north, 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 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 260 m from 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.

## Application No 03/00424/FUL

Environmental Resources Policy 2: The Wider Natural Heritage

Developers will be encouraged to incorporate positive environmental features that either enhance existing or create new habitat networks, such as native trees and woodlands; lochs, ponds, wetlands and watercourses; traditional field boundaries; unimproved grasslands; and coastal habitats.

### Dundee Local Plan 1998

The following policies are of relevance:

PU1: Renewable Energy - The Local Authority will support renewable energy developments insofar as they do not conflict with other Local Plan policies.

PU2: Wind Farms - The development of individual wind turbines or wind farms will be considered favourably where:

- a The proposal does not contravene the policies relating to the natural environment and the built environment contained elsewhere in the Plan, nor offend any other protective designation such as the setting of a listed building, and;
- b The proposal would not, by reason of noise emission, visual dominance, shadow flicker, reflected light, or electromagnetic influence, have a detrimental effect on neighbouring residential occupiers, on other existing uses which are sensitive in any of these respects, or on road safety as a result of driver distraction, and;
- c The proposal does not necessitate associated developments which will have an adverse environmental impact eg power lines, and;
- d The proposal does not have a significant adverse effect on landscape, and;
- e The proposal would not interfere with aircraft activity, or with known flight paths of migratory birds.

EU1: General Industrial Area - The Planning Authority will encourage the establishment and, where possible, the

retention of industrial and business uses.

EU6: Baldovie Industrial Estate - The Local Planning Authority will encourage the location of uses associated with recycling or sustainable activities within the Baldovie Industrial Estate.

ENV 1: General Environment - All development proposals must have full regard to opportunities for maintaining and improving the quality of the natural heritage and the built environment.

ENV 2: Environmental Impact Assessment - With the powers granted to this Authority under "The Environmental Assessment (Scotland) Regulations 1988". The Local Planning Authority will scrutinise all applications identified under Schedule 2 of the above Regulations to establish the necessity for an Environmental Impact Statement.

ENV 3: Urban Nature Conservation - In determining planning applications the Council will have regard to the policies contained in the Urban Nature Conservation Subject Local Plan.

ENV 5: Wildlife Corridors - Proposals must not adversely affect the viability or continuity of Wildlife Corridors.

ENV 11: Natural Environment - In considering all planning applications, due consideration shall be afforded to the interests of the natural heritage, including landscape and geology. In particular, account shall be taken of the views of SNH.

## Dundee Urban Nature Conservation Subject Local Plan 1995

The following policies are of relevance:

Policy WC01 (Wildlife Corridor Policy)

Any development proposed within these corridors must make suitable provision for nature conservation. Developments must not adversely affect the viability or continuity of Wildlife Corridors.

Policy SP1: Site Protection

There is a presumption against development that would have an

adverse impact on designated "Category A" Wildlife Sites.

## Finalised Dundee Local Plan Review

### Policy 77: Renewable Energy

The principle of such developments is supported by the Council. In addition, the Council will monitor technological advancements in the renewable energy sector and review their appropriateness for the City with regard to any associated environmental implications and where they have no significant adverse or cumulative effects on:

- a neighbouring residential occupiers, other uses or road safety by reason of visual disturbance, noise emission, shadow flicker, reflected light or electro-magnetic influences;
- b landscape, and;
- c 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.

## LOCAL AGENDA 21

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.

## SITE HISTORY

An associated 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)

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

## PUBLIC PARTICIPATION

The application was advertised as a bad neighbour development (under Section 34) 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 significant number of objections have been received, that is 415 objections and a petition with 606 signatures. The majority of objections were received from 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 smells from existing chimneys;
- 5 Overshadowing and overlooking;
- 6 Devaluation of property;
- 7 Lack of notification by applicant;
- 8 Health issues eg. stress;
- 9 Safety issues eg ice falling from turbines in winter months;
- 10 Adverse impact on wildlife;

Dundee Energy Recycling Limited (DERL) have submitted an objection regarding the potential dispersal of pollutants from their plant by the proposed wind turbines.

18 letters of support have been received, including one from Balmoral Tenants and Residents Association, one from a Trade Union representing 650 staff from Michelin and one from Sustainability Inquiry Point.

Although statutory neighbour notification was not required, the application carried out an extensive period of public consultation through newsletters, leaflets, meetings, presentations and other forms of media.

## CONSULTATIONS

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 each is 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 mechanical workings of the turbines to protect neighbouring residents from unacceptable noise levels.

They are in agreement with the findings of the Cordah Reports 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.

### Director of Leisure and Arts

Assessed the submitted visual impact analysis and provided the following comments:

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 is considered that the proposed location of turbine 3 would have minimal effect on the wildlife corridor, which is concentrated around the less open areas of existing vegetation alongside the Burn. 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 monitored.

### Scottish Natural Heritage

SNH assessed the submitted ecological study and consider that the site is sufficiently distant from any site designated for its natural heritage eg Monifieth Bay SSSI to be confident that the project will have minimal impact on such sites. Any significant impact on local wildlife is also unlikely. The turbines will be highly visible; however the skyline locally is already heavily "cluttered" with industrial chimneys, multi storey flats etc.

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 an objection on behalf of the MOD. The other two bodies confirmed that they have no objections to the proposal.

### Ministry of Defence (MOD)

The MOD submitted an objection at a very late stage. They object to the use of the site for wind turbines due to the close proximity of the site to the radar at RAF Leuchars. The rotating blades can potentially produce false returns which could compromise aircraft

safety and place the safety of flight in danger thus posing an unacceptable risk to aircraft occupants and people on the ground. The MOD and developers are attempting to reach a compromise solution with options such as programming the turbines to shut down at certain times when aircraft are using the airspace or re-programming the radar system at Leuchars, amongst others. The MOD have indicated that they may invoke other legislation to have the application called in by the Secretary of State for Defence, should Members be minded to approve the application.

### Angus Council

No comments.

### Fife Council

The proposals will not have a significant impact on Fife. The turbines will be visible from the south side of the Tay Coast but would not be significantly visually intrusive.

### Friends of the Earth

No comments.

### Royal Society for the Protection of Birds

No comments.

### Mobile Operators Association

Airwave O2 confirmed that the proposed development does not have any impact on their proposed installations as the nearest installation is 2.2km away. Other telecom operators have not responded to the Council in response to the formal consultation. However T-Mobile, 3G and Orange confirmed during pre-application consultation with the applicant that they have no objections to the proposal and confirmed that the wind turbines will have no impact on their signals.

### Independent Television Commission provided the following response:

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.

### Dighty Environmental Group

No observations to make.

## 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.

### 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 3 wind turbines they will be used to meet the site's base electricity requirements. The wind turbines will not operate in calm periods and electricity will be

provided from the local electricity distribution system at these times. The initial part of the project includes the collation of wind speed data to ensure the location and wind speeds are suitable for the turbines.

The company intends to install an anemometer mast to gather wind data.

Wind speed data must be gathered accurately for 12 months and particularly during the winter for two reasons. Firstly, verification of assumed meteorological data is required to confirm that wind speeds are sufficient to generate the required level of energy. Secondly, assurance is required that the turbines are not influenced by too much turbulence, due to the ground topography and proximity to the neighbouring factory buildings, as this could lead to maintenance problems and insurance issues.

### Wind Turbine Selection

The size of the wind turbine selected has been governed by Michelin's electrical profile, wind turbine performance, hub height implications and land available. It is considered that the land adjacent to the factory is sufficient to support 3 wind turbines. Michelin has a maximum electrical demand in the region of 4.5MW and an average electrical demand in excess of 4MW.

As a basis for the application the applicant has selected a fit for purpose model wind turbine for assessment.

At optimum performance when wind speeds reach 14m/s or greater, the 3 wind turbines will have a maximum electrical output of 4.5MW. The 1.5MW size turbines are considered to be a proven technology used on many sites worldwide with a number of manufacturers producing similar sized turbines. Some consideration was given to erecting larger turbines (either 2.4 or 2.8MW). These represent the latest advances in wind turbine technology and have little commercial usage to date. The various configurations of these turbines do not match the site requirements as effectively as the 1.5MW and higher tower heights of 80-100m would be required to attain their full efficiency. It was considered that the visual impact of higher towers would be over dominant in their surroundings.

The applicant is unable to be precise as to the detail of specification or manufacturer until they have obtained all relevant data from the anemometer mast. When the data has been obtained, detailed tendering discussions will be entered into with potential suppliers to determine the optimum commercial solution. If planning permission is granted, the wind turbine model used will be benchmark for tender documents and these will contain any planning conditions.

## Research

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 proposal in 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 1998

The site is located within Baldovie Industrial Estate and a general industrial area, 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 PU1 supports renewable energy developments and the proposal does not conflict with other policies in the Plan. PU2 is more specific to the development of individual wind turbines and wind farms. The proposal complies with this policy as it does not compromise environmental designations, does not have a detrimental effect on 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. In terms of Policy ENV2, the Council considered that an environmental impact assessment would not be required as the development does not raise significant environmental effects and it is not located in a sensitive area.

Policy ENV3 requires suitable provision being made for nature conservation. Appropriate landscaping on the site would resolve this issue.

The requirements for landscaping in terms of the Wildlife Corridor designation (Policy ENV5) have already been discussed.

### Urban Nature Conservation Subject Local Plan 1995

Policies WC01 and SP1 refer to the designation of the Wildlife Corridor and site protection. See above comments under Structure Plan Policy 1 and ENV4 and ENV5 of the Local Plan.

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 Finalised Dundee Local Plan Review

Policy 26 allocates the area as a general economic development area and the proposal will not compromise this allocation as discussed above.

Policy 70 indicates the Dighty as a Site of Importance for Nature Conservation (SINC) and a Community Wildlife Site (CWS). The proposed mast locations fall outwith the Wildlife Corridor in the Local Plan Review. The proposals are unlikely to result in any adverse impact on the SINC, CWS or Wildlife Corridor.

Policy 77 supports the principle of such developments and opportunities for forms of renewable energy are encouraged.

In conclusion the proposal is consistent with the policies in the Dundee Finalised Local Plan Review.

The proposal is largely consistent with the approved Dundee and Angus Structure Plan 2002 and the adopted Dundee Local Plan 1998 in that it promotes renewable energy development that will bring about cost savings to one of the city's major employers. It is unlikely to have any significant adverse or cumulative impacts on the local environment by virtue of the following:

- 1 the landform and landscape characteristics;
- 2 the number and layout of the turbines; and,
- 3 the absence of ancillary components such as power lines and substations.

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 260m 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.

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.

Blade thump was also raised as an objection. This occurs by noise generated by the blades passing the tower. This problem used to be common in older wind turbines with only two blades. Wind turbine manufacturers confirm that this is not an issue with these models of turbine now under manufacture.

#### **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 3 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 has advised that additional landscaping should be incorporated around the boundary of the site, in accordance with a scheme to be agreed with the Council. 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 their results conclude that the probability of shadow flicker is minimal ie 20 hours per annum for locations to the north of the site and 4 hours for locations to the south 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. The Council considers this to be inappropriate. As an alternative, if permission is granted, 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

expertise input and the production of a second 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.

#### **Overshadowing and Overlooking**

The structures will be over 100m high and the nearest house is approximately 260m away and so it is considered that there will not be overshadowing or overlooking.

#### **Devaluation of Property**

This is not a valid planning reason for objection.

#### **Lack of Notification by Applicant**

No neighbouring residents had to be notified by the applicant under neighbour notification procedures due to the distance of any of the structures from the site boundary. However Michelin undertook an extensive public consultation exercise with its employees, local residents, community groups, Scottish Enterprise Tayside and the general public through meetings, leaflet distribution, newsletters, newspaper articles and presentations at pre-application stage and also when the application had been submitted.

#### **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 100m 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 and they are satisfied that there will be no adverse impact on birds and wildlife.

### Driver Distraction

A study entitled "External to Vehicle Driver Distraction" from the Scottish Executive was referred to in relation to this issue. The concerns mainly lie with billboards, flashing lights and other signs along the roadside or opposite drivers at junctions. Wind turbines have been erected close to motorways and major roads such as Swaffham, the Ford motor plant at the London Borough of Barking and Dagenham and along the M25 just north of Watford. The wind turbines will be visible for a considerable distance along the Drumgeith Road, Kellas Road, Drumsturdy Road and Arbroath Road. They will not appear suddenly in the drivers view particularly at busy road junctions. It is not considered that the development will cause undue driver distraction.

### Ice Discharge

The blades of the wind turbines are designed to prevent ice from forming. Should ice form on the blades while running, the imbalance caused would be automatically detected and the wind turbine would be shut down.

### Educational Facility

Michelin has expressed a willingness to make facilities available on site, subject to health and safety considerations so that the local community, schools, colleges and visitors can have a clearer understanding of how the wind turbines operate and their contribution to providing sustainable, low-carbon energy for the factory.

### 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. 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 conditions

- 1 The development hereby permitted shall be commenced within five years from the date of this permission
- 2 Details of the wind turbines including the height, colour,

direction of rotation, power rating and sound power level 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

- 3 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 Figure 1 of Appendix C of the Supporting Environmental Information:

#### Location 1 (Balunie Drive East)

- 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 1800, Saturday and 0700 to 1800, Sunday) 44dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise level plus 5dB(A), whichever is the greater.

#### Location 2 (Balunie Drive West)

- 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 1800, Saturday and 0700 to 1800, 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 (Drumgeith Road West)

- a During night time hours (2300 to 0700) 49dB 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 1800, Saturday and 0700 to 1800, Sunday) 52dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise



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

#### Location 4 (Drumgeith Road East)

- a During night time hours (2300 to 0700) 44dB 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 1800, Saturday and 0700 to 1800, Sunday) 49dB La90, 10 min. or the quiet waking hours La90, 10 min. background noise level plus 5dB(A), whichever is the greater.
- 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, it 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 If, in the opinion of the Council, noise emitted from one or more turbine 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 monitoring locations detailed in condition 3 above, a reduction of 5dB shall be applied to the levels stipulated in condition 3 for the period of the occurrence.

- 7 No development shall take place until there has been submitted to and approved by the planning authority a scheme of landscaping, which shall include 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
- 8 Details of the 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
- 9 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
- 10 The wind turbines hereby permitted shall be shut down on each and every occasion when shadow flicker, as described in the Shadow Flicker Report (Appendix H) submitted by the applicant on 4 November 2003, 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.
- 11 Details of a study investigating the impact of the proposal on TV reception of surrounding residential properties, including measures to alleviate any adverse impact on TV reception, 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.

#### Reason

- 1 To comply with Section 58 of the Town and Country Planning (Scotland) Act 1997

- 2 To ensure a satisfactory standard of operation and appearance of the development in the interest of protecting the residential amenity enjoyed by surrounding neighbours
- 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 redundant equipment does not contribute to roadside clutter and that the site is reinstated to a satisfactory standard
- 6 In order to protect surrounding residents from unacceptable levels of noise from the wind turbines
- 7 To ensure a satisfactory standard of appearance of the development in the interests of the visual amenities of the area
- 8 To ensure a satisfactory standard of appearance of the development
- 9 To ensure that the proposed development has a satisfactory external appearance in the interests of the visual amenities of the area.
- 10 To protect the amenity enjoyed by occupants of surrounding residential properties from potential shadow flicker caused by the rotating blades of the wind turbines.
- 11 To ensure that TV reception in the surrounding area is not adversely affected in the interests of residential amenity.