DEPARTMENT OF ENERGY & CLIMATE CHANGE

SHADOW FLICKER EFFECT

CONSULTATION QUESTIONNAIRE

All information provided in this questionnaire will be treated as strictly confidential and will not be passed to any third parties. Analysis based on the information provided will be referred to in generic trends, and no site-specific or company-specific details will be published.

The closing date for questionnaire submissions is:
FRIDAY 10th DECEMBER 2010

Please complete any sections of this questionnaire that are relevant to your area of expertise or experience.

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CONTACT DETAILS

Authority Name	

Name	
Position / Job Title	
Email Address	
Telephone Number	
Postal Address	

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PRE-PLANNING ADVICE

Q1: Does your department / authority offer pre-planning advice to developers of onshore wind energy developments?

Yes ○ No ○

Q2: If 'Yes', does the pre-planning advice include reference to shadow flicker effect?

Yes ○ No ○

Q3: If 'Yes', does the pre-planning advice offer guidance on how a developer should assess the shadow flicker effect?

Yes ○ No ○

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CURRENT GUIDANCE

Link to: 'Best Practice Guidance to Planning Policy Stat. 18 (PPS18)' shadow flicker text: ☐

'10 x Rotor Diameter' rule-of-thumb

Companion Guide to PPS18 states:
"At distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low."

Q4: Do you consider the '10 x Rotor Diameter' rule an appropriate assessment area for shadow flicker reports?

Yes ○ No ○

Q5: Would an alternative calculation method for the assessment area be preferable to the '10 x Rotor Diameter' rule?

Please select

Other	

Shadow Flicker Effect outside properties

Best Practice Guidance to PPS18 states:
"[Shadow Flicker Effect] only occurs inside buildings where the flicker appears through a narrow window opening."

Q6: Should shadow flicker assessments be limited to the interior of residential buildings?

Yes ○ No ○

Q7: If 'No', should the following receptors be included in shadow flicker assessments?

Please tick

- ☐ Road users
- ☐ Footpath users
- ☐ Bridleway users
- ☐ Non-residential properties (eg. offices, warehouses, etc)
- ☐ Other receptors - *please specify in 'Other'*

Other	

Q8: Please elaborate on your reason(s) for including additional receptors in shadow flicker assessments.

Please elaborate	

Quantitative Guidance

In recent years, regulations have emerged in other countries proposing a quantitative approach to assessing shadow flicker. This approach sets a limit on the duration that a receptor can be exposed to shadow flicker effects. Best Practice Guidance to PPS18 recommends a quantitative approach for assessing shdow flicker impact on offices and dwellings adjacent to wind energy developments.
Best Practice Guidance to PPS18 states:
"It is recommended that shadow flicker at neighbouring offices and dwellings within500m should not exceed 30 hours per year or 30 minutes per day."

Q9: What is your opinion on the value of adopting quantitative guidance on shadow flicker effect?

Please comment	

Q10: Please include any other comments relating to amendments / omissions / additions to current UK guidance below.

Please comment	

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BEST PRACTICE SHADOW FLICKER ASSESSMENTS

'Worst Case Scenario'

The 'Worst Case Scenario' assumes:

- **Continuous sunshine during daylight hours;**
- **Continually rotating turbine blades;**
- **No vegetation or other obstacles are screening the receptor;**
- **The wind turbine rotor plane is always perpendicular to the receptor and sun.**

Q11: Should shadow flicker assessments adhere to the 'Worst Case Scenario' detailed above?

Yes ○ No ○

Q12: If 'No', please specify how they should differ and your reason for proposing an alternative approach.

Please specify	

Q13: Should field data or site-specific environmental data (eg. meteorological data, screening effects, etc) be included in shadow flicker assessment models?

Yes ○ No ○

Q14: If 'Yes', please elaborate below:

Please elaborate	

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PROPOSED MITIGATION MEASURES

Q15: When considering a planning application, what mitigation strategies for predicted shadow flicker effects do you consider appropriate?

Please tick

- ☐ Careful site design to minimise / eliminate impact
- ☐ Turbine shut-down strategy
- ☐ Installation of blinds
- ☐ Landscaping / vegetation screening
- ☐ Other - *please specify in 'Other'*

Other	

Q16: Has your department / authority had any involvement in assigning a planning condition relating to shadow flicker to a consent for an onshore wind energy development?

Yes ○ No ○

Q17: If 'Yes', please provide as much detail as possible about the planning condition below.

Please comment	

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OPERATIONAL EXPERIENCE

PLEASE NOTE

As with all information provided in this questionnaire, data collected in the following section will be treated as strictly confidential. Analysis based on the information provided will be referred to in generic trends, and no site-specific or company-specific details will be published.

Q18: Have you received (or are you aware of) any complaints raised in relation to shadow flicker effect at any operational wind energy developments within your planning area?

Yes ○ No ○

Q19: If 'Yes', please provide: details of the project(s); details of the complaint(s); the circumstances triggering the complaint; and details of how the complaint was resolved (if applicable).

Please comment	

Q20: What mitigation strategies for shadow flicker effects have been implemented on operational wind energy developments within your planning area?

Please tick

- ☐ Careful site design to minimise / eliminate impact
- ☐ Turbine shut-down strategy
- ☐ Installation of blinds
- ☐ Landscaping / vegetation screening
- ☐ Other - *please specify in 'Other'*

Other	

Q21: How successful have these mitigation strategies been in practice? Please provide as much detail as possible in the text box below.

Please comment	

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THANK YOU

Thank you for completing this form. Your assistance is greatly appreciated.

If you have any additional comments, please include them in the text box below:

Please comment	

Q22: Would you be happy for a representative to contact you to discuss elements of this questionnaire further?

Yes ○ No ○

Q23: What is your preferred method of contact?

Telephone ☐

Email ☐

Post ☐

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