

## Dungeness, C1 Demographics

### Nuclear Directorate, Land Use Planning Team HSE

**Do you believe it is reasonable to conclude, at a strategic level, that any likely power station development within the site boundary complies with demographic assessment criteria?**

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case*

Taking into account the semi urban criteria. there are no areas of the nominated site in which the location of nuclear facilities would be excluded on demographic assessment.

**Potentially**  *please describe why you have If 'potentially' some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take into account reasonable consideration of the Semi-Urban siting criteria.**

**Please include a map, if appropriate, of any areas of the nominated site that you consider are not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of the impact it would have on demographics.**

**A2 Please include below any other information on demographics, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

If NII receive a site licence application for construction of a power station within the nominated site area, a site specific licensing assessment will be carried out which involves detailed assessment of the licence applicant's demonstration of the degree of compliance with the risk targets in NII's Safety Assessment Principles (SAPs).

This means that a further demographic assessment will be undertaken. It should be noted that although a site may have demographic features which fall below the 'Exclusionary' criteria as used in the Government's SSA, this does not mean that the demographic features will be acceptable to NII following its detailed site specific assessment during the licensing process.

## Dungeness, C2 Proximity to Military Activities

### Ministry of Defence (agreed by the Nuclear Installations Inspectorate)

**Do you believe it is reasonable to conclude, at a strategic level, that any likely power station development within the site boundary can be protected against the risk of external hazards created by neighbouring military activities, throughout its lifetime?**

- No**  *If this cannot be concluded, please explain why you consider this to be the case*
- Yes**  *If this can be concluded, please explain why you believe this to be the case*

The site identified is approximately 800 metres east of the Lydd Training Area which is contained within a Ministry of Defence (MOD) Danger. Within this Danger Area training exercises and firing are conducted. All firing activities are contained within the Danger Area and as such there is not direct hazard to a new nuclear facility at this location. There are no military explosive or nuclear facilities within 1000 metres of the site identified.

- Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take into account reasonable consideration of the nominated sites being located within, or in the proximity to:**

- certain Military Low Flying Tactical Training Areas and Air Weapon Ranges;
- the air space surrounding a MoD aerodrome or an aerodrome used for defence activities contained within a designated Military Air Traffic Zone (MATZ);
- the air space surrounding a MoD aerodrome or an aerodrome used for defence activities contained within a designated Air Traffic Zone (ATZ);
- the areas used for live firing or other military training activities. These include (but are not limited to) the following areas: Aldershot and Minley Training Area, Hankley and Elstead Commons training Area, Leek and Upper Hulme training Area, otterburn training Area and Salisbury Plain training Area;
- the explosive safeguarding zones surrounding MoD explosive storage facilities.

**Please include a map, if appropriate, of any areas of the nominated site that you consider are not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of the impact it would have on military activities.**

**A2 Do you believe it is reasonable to conclude, at a strategic level, that any likely power station development within the nominated site boundary will not adversely affect the capabilities of the armed forces to carry out essential training and operations, throughout its lifetime?**

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case.*

The site identified does not occupy any Ministry of Defence (MOD) statutory safeguarding zones protecting aerodromes, explosive storage sites, technical sites or ranges and it is 800 metres from the nearest MOD Danger Area.

The Air Exclusion Area that encompasses the existing Dungeness nuclear power station (EG R063) overlaps with the MOD Danger Area that contains the Lydd Training Area (EG D044). The site identified for a new nuclear power station is west of the existing facility and as such a new Air Exclusion Zone (or expansion of EG R063) would extend further across EG D044. Whilst D044 is not used by aircraft for firing activities there is a designated helicopter landing site within the range. Accordingly an appropriate exemption to the any extended air exclusion area would be appropriate to ensure this facility is not compromised.

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take into account reasonable consideration of the proximity of the nominated site to the military areas identified in A1.**

**A3 Please include below any other information on risks arising from proximity to Military Activities, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

Military low flying training is conducted throughout the UK. It is anticipated that any new Air Exclusion Zone established to protect this facility would afford sufficient separation of such aircraft movements from any tall structures that may be built at the site. However, the MOD would wish to be consulted on the siting and design of a power station at this location to verify whether air navigation warning lights are considered necessary.

## Dungeness, D1 Flooding

### Environment Agency

**Do you agree with the nominator's assessment of the nominated site with regard to high flood risk (as set out in D1 of the nomination form)?**

**No**  *If 'no', describe below why you do not agree with the nominator's assessment and which parts of the site are affected*

**Yes**  *If 'yes' please move to answer A2*

We consider that the assumptions in the nomination are not sufficiently testing e.g. a surge with an annual probability of 1 in 50, this probability is significantly less than required by PPS25 (1 in 1000), or the safety case for a nuclear power station (1 in 10,000). This should include an appropriate allowance for climate change.

**A2 Do you believe it is reasonable to conclude, at a strategic level, that any likely power station development within the site boundary can be protected against flood-risk throughout its operational lifetime, including the potential effects of climate change, storm surge and tsunami, providing the countermeasures proposed by the developer are instigated;**

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case*

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take into account reasonable consideration of;**

The wider impact of the flood protection countermeasures on surrounding areas;

any dependencies connected with flood protection that are potentially outside the control of the developer of a power station within the site;

the potential for flooding to impede access and egress from any likely power station development within the site; and

if the nominated site is likely to pass the sequential test.

**Please include a map, if appropriate, of any areas of the nominated site that you consider are not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of the risks from flooding.**

Based on our current understanding of the flood risk in this area we believe that it is reasonable to conclude, at the strategic level, that the site can potentially be protected from flooding. However we feel there will be significant difficulties in doing so.

We are particularly concerned about climate change and the sustainability of maintaining the current standard of protection in the long term. Much more work will be needed on coastal management for this site as recognised in the nomination report.

Protection from marine flooding will rely on an existing seaward shingle embankment; this will need ongoing annual maintenance, which the Shoreline Management Plan 2 covering the site indicates may become increasingly problematic using present shingle recycling methods of maintenance, and the risks of increasing complexity of sourcing material for beach recharge.

Flooding would impede access and egress, however, this could be mitigated for in the design of such routes to ensure the access remains open.

Application of the sequential test favours development of sites at lowest flood risk. Application of the sequential test within each sites favours the location of as much as possible of the development in the lowest flood risk areas, especially the permanent parts of the power station and supporting infrastructure.

**A3 Please include below any other information on flood risk, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

The assessment should take account of relevant flood risk information such as the South Foreland to Beachy Head Shoreline Management Plan 2, Environment Agency Flood Zones, and the draft Folkestone to Cliff End Flood Risk Management Strategy (Halcrow, 2009)

UKCP 09 climate change predictions – available from Defra in June 2009.

**Further Advice received from the Environment Agency on Flooding at Dungeness during the Strategic Siting Assessment:**

<b>Dungeness</b>	Flooding would impede access and egress, however, this could be mitigated for in the design of such routes to ensure the access remains open.
<b>Dungeness</b>	Any defences constructed to protect the power station are likely to affect the natural morphology of the Dungeness Peninsula over time, preventing natural processes to prevail. The impacts are likely to be quite different depending upon whether "soft" or "hard" defences are proposed. For soft defences, there are likely to be long term sustainability issues regarding the availability of shingle. Any hard defences at this location could have detrimental effects on the adjacent frontages, which could indirectly impact on flooding elsewhere.

## Dungeness D2 Coastal Erosion and other Landscape Change Scenarios

### Environment Agency

**Do you agree with the nominator's assessment of the impact of the development of the nominated site with regard to coastal erosion or other landscape change scenarios (as set out in D2 of the nomination form)?**

**No**  *If 'no', explain why you do not agree with the nominators assessment*

**Yes**  *If 'yes' please move to answer A2*

Yes, based on the Environment Agency's current understanding of the coastal erosion risk to this site.

**A2 Do you believe it is reasonable to conclude, at a strategic level, that any likely power station development within the nominated site boundary can avoid or mitigate the effects of coastal erosion or other landscape change scenarios throughout it's lifetime, including the potential effects of climate change;**

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded please explain why you believe this to be the case*

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take into account reasonable consideration of;**

the wider impacts of any coastal protection countermeasures on surrounding areas;

the interaction with the local and regional plans for coastal protection and watercourse management; and

any reliance on third part schemes for protection assumed by the Nominator

**Please include a map, if appropriate, of any areas of the nominated site that you consider are not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of the impact of coastal erosion or other landscape change.**

Based on our current understanding of coastal erosion in this area, it is clear that any future development of this site must take account of the risks posed by the eroding frontage and the more recent complexity of sourcing material for beach recharge.

We are particularly concerned about climate change and the sustainability of maintaining the current standard of flood protection in the long term. Much more work will be needed on coastal management for this site as recognised in the nomination report. It is however reasonable to conclude, at a strategic level, that the site could potentially be protected/mitigated from the effects of coastal erosion although to do so would present a significant challenge.

The currently proposed policy for the site, as identified by the South Foreland to Beachy Head Shoreline Management Plan 2 (under development and subject to approval) is “hold the line” for all epochs (largely as a consequence of the existing nuclear installations at Dungeness). By continuing to hold the line and thus protecting the site, the coastline is prevented from changing and adapting naturally, and therefore the ongoing works will be subject to Habitats Regulations and ongoing dialogue concerning the designations in force at the site (SPA/SAC/SSSI).

We believe the stated description of the geology of the general area in section 3.2 of the EDF nomination report is not applicable at the site. We understand the geology to comprise approximately 15m of gravel/shingle on top of several metres of sand for all on the Ness peninsula which is a temporary feature on a timescale of approximately 1000 years.

EDF states in section 3.2 of the nomination report that the shingle bank is designed to provide protection to a flood event of 1 in 10,000 years; this should not be taken to infer that the bank provides the equivalent level of protection for coastal erosion.

We believe that climate change will bring increased wave heights and wave energy impacting on the shingle defence, and would expect the proposal to have considered this in more detail.

By protecting the site from flood and coastal erosion risk now and in the future the coastline and estuary is prevented from changing and adapting naturally. Consideration should be given to mitigation of the resulting ‘coastal squeeze’, under the Habitats Regulations, in the form of compensatory habitat.

**A3 Please include below any other information on coastal erosion or other landscape change scenarios, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

Draft Folkestone to Cliff End Flood Risk Management Strategy (Halcrow, 2009).

Shoreline Management Plans – SMP2s are in development to replace existing SMP1s, programme for completion attached. Links to each SMP2, and details of lead authority, are available through the Environment Agency website.

Environment Agency erosion risk maps – currently in development and becoming available from autumn 2009.

PPG20 and development of new planning policy for the coast, due for consultation by CLG in summer 2009

## Dungeness D3 Proximity to Hazardous Facilities

### Health and Safety Executive

**A1 Do you believe it is reasonable to conclude, at a strategic level, that any likely power station development within the nominated site boundary (as set out in A1 and A2 of the nomination form) can be protected against risk arising from proximity to hazardous facilities throughout its lifetime, providing the countermeasures proposed by the developer are instigated;**

**No**  *If this cannot be concluded please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case*

Based on HSE records the nominated site is not in the vicinity of any COMAH establishments. However, during the detailed planning stages and site specific assessment the licensee will need to take account of the hazards and associated risks from all notified major hazard pipelines, based on information obtained from the relevant pipeline operators about their routes and properties of fluids being conveyed.

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take into account reasonable consideration of;**

proximity to any large installation, which falls under the Control of Major Accidents and Hazards (COMAH) Regulations 1999; proximity to any "lower tier" COMAH installations

**Please include a map, if appropriate, of any areas of the nominated site that that you consider are not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of their proximity to hazardous facilities.**

Not applicable

**A2 If the nominator has provided information, with regard to proximity of the nominated site to hazardous facilities, do you agree with their**

**assessment of the risk to the development of a nuclear power station on the nominated site?**

**No**  *If 'no', explain why you do not agree with the nominator's assessment*

**Yes**  *If 'yes' please move to answer A3*

NA

**A3** **Please include below any other information on proximity of the site to hazardous installations, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

NA

## Dungeness, D4 Proximity to Civil Aircraft Movements

### Civil Aviation Authority (and Dept. for Transport)

**Do you believe that it is reasonable to conclude that any likely power station development within the nominated site boundary (as set out in A1 and A2 of the nomination form) can be protected against risks from civil aircraft movement?**

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case*

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing this question, you should take account of reasonable consideration of:**

Public Safety Zones (PSZ') around commercial aerodromes with large volumes of air traffic

Aerodrome safeguarding Plans, lodged with the relevant local authority

Air Traffic Control Areas

**Please include a map, if appropriate, indicating which parts of the nominated site is not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of the risks from civil aircraft movement.**

Protective Airspace. In accordance with Statutory Instrument 2007 No 1929 (The Air Navigation (Restriction of Flying) (Nuclear Installations) Regulation 2007) nuclear power stations in the UK are afforded an element of protection from aviation activity through the establishment a Restricted Areas (RA) encompassing each individual site. Aviation activity within any RA is limited to that specifically permitted by the SI. Typically, such Restricted Areas have a 2nm radius and extend vertically to 2000ft above the surface.

The existing Dungeness nuclear installation has an associated Restricted Area. Through the Department of Transport's amendment of the

aforementioned Statutory Instrument, a similar Restricted Area around the proposed facility (or an amendment to the existing Restricted Area) would provide a similar level of protection from civil aircraft movements.

Notwithstanding the above, the Dungeness SSA Nomination Report highlights that the London Ashford (Lydd) Airport operator / licensee has plans to expand the use of the aerodrome. The juxtaposition of the airport and nuclear power station, with regard to the future development of each, is clearly an area that will need to be examined within the planning process.

Public Safety Zone (PSZ). Responsibility for PSZ and the provision of related comment rests with the Department for Transport.

**A2 Do you believe that it is reasonable to conclude that neighbouring aerodromes and air traffic control areas can mitigate any effects arising from the air exclusion zone around the nominated nuclear power site?**

**No**  *If 'no', please explain why you consider this to be the case*

**Yes**  *If 'yes', please explain why you consider this to be the case*

**Potentially**  *If 'potentially', please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**Please include a map, if appropriate, indicating why the site is not suitable or potentially could not be suitable.**

Aerodromes. The existing Dungeness-associated Restricted Area has the potential to impact upon operations associated with London Ashford (Lydd) Airport. Such impact is mitigated by the related SI allowing flights that have taken off or intend to land at London Ashford (Lydd) to cross the Restricted Area providing they remain at least 1.5nm from the Restricted Area datum.

It follows that any new (or amended) Restricted Area established in association with the subject proposed nuclear installation would have a potential to impact upon operations associated with London Ashford (Lydd) Airport. Any amendment of the SI, which introduced a new Restricted Area (or adaptation of the existing one), would need to similarly mitigate the impact upon London Ashford (Lydd) Airport.

The current SI also allows for helicopter activity associated with the nuclear installation. As with the London Ashford (Lydd) Airport issue, any amended SI will need to consider such activity.

Moreover, all parties should be aware that aerodrome safeguarding responsibility rests with the relevant aerodrome operator / licensee. Accordingly, in respect of any potential aerodrome safeguarding issue, there is a need at some stage to ensure that the appropriate planning authority checks any safeguarding maps lodged with the authority to identify any aerodrome specific safeguarding issues. That said London Ashford (Lydd) Airport aside, I do not believe that there are likely to be any civil aerodrome safeguarding issue.

Given the potential impact upon London Ashford (Lydd) Airport associated operation, the proximity of the nominated site in respect of the London Ashford (Lydd) Airport Aerodrome Traffic Zone (ATZ) and the previous comment relating to aerodrome safeguarding it is essential that the planning process formally establishes the London Ashford (Lydd) Airport position related to the proposed development.

Other Aircraft Arrival / Departure Points. There are no other known (ie marked on CAA-approved charts or promulgated in the UK Aeronautical Information Publication) civilian landing sites in such proximity to the proposed nuclear installation such that a new or amended Restricted Area would have a material impact on associated operations. However, it is possible that planning authorities might be aware of local sites which, whilst not promulgated for aviation purposes, have planning approval for aviation related activities. The planning process related to the proposed nuclear installation will need to take account of the impact upon any such site and associated activity.

Aircraft in Transit. The current establishment of the existing Dungeness Restricted Area is such that the impact of a new or amended Restricted Area (as described above) upon civil aircraft in transit through local airspace is likely to be negligible. Note: the aforementioned comment concerning London Ashford (Lydd) Airport-related aircraft activity relates to aircraft that are arriving or departing as opposed to aircraft in transit.

**A3 If the nominator has provided information regarding the proximity to civil aircraft movements criterion, do you agree with the nominator's assessment of the site?**

**No**  *If 'no', please explain why you do not agree with the nominator's assessment*

**Yes**  *If 'yes' please move to answer A4*

The nominator has provided very little documentation within the Dungeness SSA Nomination Report related to Proximity to Civil Aircraft Movements beyond intimating that a new or amended Restricted Area will address all issues. As indicated at A1, A2 and A5, we believe there are potential issues that require further consideration by the developer.

The statement within the Nomination Report at Section 3.4, “The nominated site is not located in or adjacent to a Public Safety Zone, a Safeguarded Area or a major civil aerodrome”, is, in respect of the civil aerodrome aspect, somewhat misleading. The term ‘major’ being somewhat subjective, the relative close proximity of the proposed development and London Ashford (Lydd) Airport, coupled with the Nomination Report comment related to the aspirations concerning airport expansion mean that it would be short-sighted to dismiss the Airport as being ‘minor’. The suggestion that the development site does not lie within the aerodrome’s safeguarded area is one that needs the validation of the Airport licensee / operator.

- A4** If the nominator has provided information in support of A3, do you agree with their assessment of the effect of the potential air exclusion zone around the nominated power station on the neighbouring aerodromes and air traffic control areas?

**No**  If 'no', please explain why you do not agree with the nominator's assessment

**Yes**  If 'yes' please move to answer A5

See comment at A3.

**A5 Please include below any other information on air risk, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

Aviation Warning Lighting. The documentation provided to date gives no indication of the maximum height of any associated structure(s); there is a mandated requirement for structures of a height of 150m or more to be equipped with aviation warning lighting in accordance with Article 133 of the UK Air Navigation Order. Structures of height of less than 150m might also need aviation obstruction lighting if, by virtue of their location and nature, they are considered a significant navigational hazard. Given the anticipated potential for helicopter operations associated with the proposed power station, even if the maximum height of any associated structure was less than 150m, aviation warning lighting of some scale would be recommended.

Gas Venting and/or Flaring. Any venting or flaring of gas either routinely or as an emergency procedure such that might cause a danger to overlying aircraft would need to be appropriately promulgated throughout the aviation community.

Aviation Promulgation. There is a civil aviation requirement in the UK for all structures over 300 feet high to be charted on aviation maps. Should this development progress and the 300 feet height be breached, to achieve this charting requirement, developers will need to provide details of the development to the Defence Geographic Centre.

## Dungeness, D5 Proximity to other Military Activities

### Ministry of Defence (agreed by the Nuclear Installations Inspectorate)

**Do you agree with the nominator's assessment of the nominated site with regard to proximity to other military activities (as set out in D5 of the nomination form)?**

**No**  *If 'no', please explain below why you do not agree with the nominator's assessment*

**Yes**  *If 'yes' please move to answer A2*

Not supplied

**A2 Do you believe it is reasonable to conclude, at a strategic level, that the proximity of the nominated site to other military activities should not rule out the site for consideration for a new nuclear power station?**

**No**  *If 'no', please explain why you do not agree with the nominator's assessment*

**Yes** *If 'yes', please explain why you consider this to be the case*

The nominated site does not occupy any safeguarding zones surrounding MOD technical sites. The site identified is approximately 800 metres east of the Lydd Training Area which is contained within a Ministry of Defence (MOD) Danger Area. Within this Danger Area training exercises and firing are conducted. All firing activities are contained within the Danger Area and as such there is not direct hazard to a new nuclear facility at this location.

The site is not in proximity to any MOD nuclear facilities.

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

**In addressing these points, or otherwise, you should take into account:**

- What steps could be taken to minimise or mitigate any impact on the nearby MoD assets or activities
- Whether there are any hazards or risk to the safe operation of a power station within the site

**Please include a map, if appropriate, of any areas of the nominated site that you consider are not suitable or potentially could not be suitable for the development of a nuclear power station, by virtue of the risk that would be posed by military activities.**

**A3 Please include below any other information on proximity to other military activities which would be useful to DECC in their assessment of the proposed sites suitability.**

The Air Exclusion Area that encompasses the existing Dungeness nuclear power station (EG R063) overlaps with the MOD Danger Area that contains the Lydd Training Area (EG D044). The site identified for a new nuclear power station is west of the existing facility and as such a new Air Exclusion Zone (or expansion of EG R063) would extend further across EG D044. Whilst D044 is not used by aircraft for firing activities there is a designated helicopter landing site within the range. Accordingly an appropriate exemption to the any extended air exclusion area would be appropriate to ensure this facility is not compromised.

Military low flying training is conducted throughout the UK. It is anticipated that any new Air Exclusion Zone established to protect this facility would afford sufficient separation of such aircraft movements from any tall structures that may be built at the site. However, the MOD would wish to be consulted on the siting and design of a power station at this location to verify whether air navigation warning lights are considered necessary.

## Dungeness D9 Size of Site to Accommodate Operations

### Office for Civil Nuclear Security reviewed by the Nuclear Installations Inspectorate

#### A1 Size of site to accommodate operations (Discretionary criterion)

**Do you agree with the nominator's assessment that there is enough land within the boundary of the nominated site for the secure operation of at least one new nuclear power station (as set out in D9 of the nomination form)?**

**No**  *If 'no', explain why you do not agree with the nominator's assessment*

**Yes**  *If 'yes' please move to answer A2*

#### A2 Do you believe it is reasonable to conclude that there is enough land within the boundary of the nominated site for the secure operation of at least one new nuclear power station?

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case*

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

#### **In addressing this question, you should give reasonable consideration to:**

- whether the area nominated includes a provision for the safe and secure storage of all the spent fuel and intermediate level waste produced through operation, and from decommissioning, on the site of the station until it can be sent for disposal in a geological disposal facility; and
- whether there is adequate land available so that effective control over activities and access may be exercised on and around a new nuclear power station on the nominated site

OCNS estimates that a rectangular area of adequate width (approximately 30 hectares) within the nominated site is required to provide effective defence-in-depth for the reactor building (including the associated turbine hall), spent fuel and intermediate level waste stores and other plant important to the safe operation of the nuclear power station. Although this rectangular area could also accommodate some other plant/buildings, further land, above the 30 hectares, will most probably be required for at least some associated infrastructure assets.

These could include administration/recreational buildings, stores delivery/collection facilities, any required cooling towers and contractor compounds. It is a security requirement that non-essential vehicles (e.g. those owned by employees and contractors) are parked outside the power station(s) site perimeter fence, outside the boundary of the rectangular area of 30 hectares. As the nominated site comprises a total area of 91 hectares it is reasonable to conclude that there is enough land for the secure operation of at least one new nuclear power station.

**A3 Please include below any other information on the size of site to accommodate operations which would be useful to DECC in their assessment, at a strategic level, of the proposed sites suitability.**

The nominated land has a public track bisecting it. It is a security requirement that the licensee has exclusive rights of access to and control of a civil licensed nuclear site and that it is not therefore bisected by any public rights of way.

Sufficient space requires to be allowed to enable public access between the outer perimeter fence of the power station and the high tide watermark where the site adjoins the sea. This is to ensure that the security arrangements at the site perimeter do not prevent the safe egress of the public at high tide, as well as to accommodate any future statutory requirement for a publicly accessible coastal footpath.

There appears to be insufficient land to provide effective defence-in-depth for a reactor (including the associated turbine hall), spent fuel and intermediate level waste stores and other plant important to the safe operation of the nuclear power station in the following area:

- east of longitude grid reference 608 as the land area is of inadequate size. (Equally, it is self evident that the road running north is of inadequate width to accommodate a nuclear power station).

The basis for this view is the security principle that assets that require robust security should be centralised in one area in order that they may be protected in the most effective and efficient manner. However, the land mentioned above could still be used for locating supporting infrastructure that has no potential to directly cause a radiological hazard.

The location of the National Grid transformer building considerably limits the potential locations for a reactor at this nominated site unless the transformer facility is re-located. In any event, National Grid electricity transmission lines may need to be re-routed to prevent the security of the licensed nuclear site being compromised by high voltage overhead cabling and pylons.

## Dungeness, D10 Access to Suitable Sources of Cooling

### Environment Agency

#### A1 Access to suitable sources of cooling (Discretionary criterion)

**Do you agree with the nominator's assessment of the cooling technologies that are feasible for a new nuclear power station within the nominated site (as set out in D10 of the nomination form)?**

**No**  *If 'no', explain why you do not agree with the nominator's assessment*

**Yes**  *If 'yes' please move to answer A2*

#### A2 Do you believe it is reasonable to conclude that there are suitable sources of cooling for a new nuclear power station within the nominated site, providing the measures proposed by the nominator are instigated?

**No**  *If this cannot be concluded, please explain why you consider this to be the case*

**Yes**  *If this can be concluded, please explain why you believe this to be the case*

**Potentially**  *If 'potentially' please describe why you have some concerns and what information would be needed at a later stage to make this assessment or remove these concerns*

In addressing this question, you should give reasonable consideration to:

whether it is reasonable to conclude that there are suitable sources of cooling for a new nuclear power station within the nominated site. If water based cooling is to be employed, has the nominator indicated why it considers that there is sufficient water for this purpose or what other measures need to be put in place;

what impacts (including visual impact) there are likely to be arising from the need for cooling and why it is reasonable to conclude that these impacts are manageable or able to be mitigated;

whether, at a strategic level and subject to local considerations, it is reasonable to conclude that a new nuclear power station could be operated within normal environmental and regulatory requirements;

any issue that may affect cooling over the lifetime of the new nuclear power station (including changes in meteorology, climate, etc.)

There are important nursery grounds on this coast for mackerel, sprat, bass and sole. Sea trout are common in Rye Bay and along the coast. Twait shad are becoming common on this coast during the summer and autumn.

Detailed modelling of thermal effects (in combination with other potential sites) will be necessary to assess the impacts on fish migration routes and shallow inshore areas. Siting of intakes and outfalls should take this information into account and deeper water locations are likely to be preferred to minimise impacts on fish migration.

See also comments in response to A3 below.

**A3 Please include below any other information on access to suitable sources of cooling, at a strategic level, which would be useful to DECC in their assessment of the proposed sites suitability.**

The Environment Agency will seek to influence new build design to maximise heat recovery and minimise waste heat loss to the environment, in terms of both sustainable energy production and to minimise the environmental impact of cooling water systems.

The requirement to provide adequate fish screening for intakes is about to change to meet the needs of the Water Framework Directive and the new EU Eel Regulation. New Fish Passage and Screening Regulations will be introduced by Defra in England and Wales later this year which will require consideration of screening for all species of fish. The Environment Agency will work with the developer to use the latest Best Practice methodologies to minimise the environmental impacts of water abstraction and the thermal discharge of the cooling system.

Estuaries provide critical migration corridors for a range of fish species such as salmon and eel and act as strategic nursery grounds for a number of important marine fish species such as bass and sole. They provide some of the most productive aquatic ecosystems available. As a consequence, concentrations of fish particularly juveniles, tend to be higher in estuarine rather than coastal locations. Ambient temperatures are now rising in coastal and estuarine waters around the UK. Given this background, the Environment Agency believes that in inner estuarine sites, direct cooling may not be the most appropriate methodology over the longer term. Each case should be examined separately.

When the impacts on fish have been reduced as much as is reasonably possible, the Environment Agency will seek some recognition of the residual impact. This may include life time monitoring of the actual fish impingement to an agreed sampling protocol, with deposition in the public domain and habitat creation to offset the local loss of fish production through impingement and entrainment.

## External Specialist Adviser's Advice on Deployability

Site Details	
<b>Site Name</b> <input style="width: 90%;" type="text" value="DUNGENESS"/>	<b>Ref No.</b> <input style="width: 90%;" type="text"/>
<b>Nominator</b> <input style="width: 90%;" type="text" value="EDF"/>	<b>Version No.</b> <input style="width: 90%;" type="text"/>
<b>Date of receipt of Nomination</b> <input style="width: 90%;" type="text" value="31.3.09"/>	
Credibility of Deployment by 2025	
<b>Nomination supported by a letter of support from a CNPO</b>	<b>Yes</b> <input checked="" type="checkbox"/>
<b>Nomination underpinned by the nominator's own statement explaining why it is credible that a new nuclear power station can be developed at the site for deployment by 2025</b>	<b>No</b> <input type="checkbox"/>
<b>Name of CNPO:</b> <input style="width: 90%;" type="text" value="EDF/IBERDROLA"/>	
Assessment of deployability by 2025	
<b>Is it reasonable to conclude that the site is credible for deployment (i.e. commencement of electricity generation) by 2025?</b>	<b>Yes</b> <input checked="" type="checkbox"/>
<b>No</b> <input type="checkbox"/>	
<b>Please give reasons for this statement</b> CONFIDENCE OF STATEMENTS MADE BY CNPO (EDF) SUPPORTED BY IBERDROLA	
<b>Please note any particular issues or areas of concern with respect to the following factors:</b>	
<b>Constructability:</b>	
<b>Site Planning:</b> MAY BE AN ISSUE RELATED TO PROXIMITY TO ENVIRONMENTALLY SENSITIVE SITES	
<b>Commissioning:</b>	
<b>Transmission and distribution infrastructure:</b>	
<b>Licensing:</b>	

Other (please state):

**Comments on early deployability**

Please comment on whether it is likely that the site could be deployed earlier than 2025 and, if so, how much earlier and any factors that are likely to influence this

GOOD LEVEL OF CONFIDENCE THAT  
PLANTS COULD BE DEPLOYED UP TO 5  
YEARS EARLIER

ESA's name	Allen Durcan.	K P DOLAN
Signature	Allen G. Durcan.	K P Dolan
Date	2/4/09.	2.4.09