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Arnfield WTW Floating EIA Screening Request Final



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Dear Sir,

THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2011

PART 2-5: REQUEST FOR A SCREENING OPINION IN RESPECT OF THE PROPOSED INSTALLATION OF A SOLAR PHOTOVOLTAIC ARRAY

RESERVOIR AT ARNFIELD WATER TREATMENT WORKS, HOLLINGWORTH, SK14 7NE

I write to seek a formal Environmental Impact Assessment screening opinion in respect of a proposed installation of a 250kW floating solar array development to provide renewable electricity to the existing, operational Arnfield Water Treatment Works on behalf of United Utilities.

The site (as shown in the site location plan) has been identified by United Utilities as having good potential for the development of a floating solar array given the low level nature of the development proposed and the absence of any potential significant impacts.

I wish to obtain a formal screening opinion from High Peak Borough Council to confirm the opinion that an Environmental Impact Assessment is not required in this instance.

Site Location and Surroundings

The site is located on the open reservoir at Arnfield water treatment works, immediately north of Manchester Road, within the Green Belt. The Arnfield Wastewater Treatment Works is located directly to the west of the site. To the north and east is generally open farmland, with trees and woodland to the north, east and west of the site. The main complex of water treatment works buildings are situated south of the reservoir, immediately south of Manchester Road.

The reservoir includes retaining walls and earth bunds along its boundaries which are approximately 8m higher than the surrounding roads. High voltage electricity lines run in a southeast to northwest direction supported on overhead line pylons approximately 550m to the east of the reservoir. Similar overhead electricity lines are located approximately 1.6km west of the reservoir. The Bottoms Reservoir, Valehouse Reservoir, and Rhodeswood Reservoir are located east of the Arnfield Reservoir. Further south of the site the landscape is characterised by the urban areas of Hollingworth and Hadfield, with Glossop approximately 3km southeast of the site.

The Peak District National Park boundary is defined by Arnfield Lane approximately 400m northeast of the reservoir. The topography within the National Park beyond Arnfield Lane rises steeply from 210m AOD to

more than 500m AOD, with views towards the site from the National Park limited by this topography and also influenced by the overhead electricity lines which are between the site and the majority of the National Park. The site itself is located at approximately 180m AOD with surrounding areas rising to 370m to the northwest. The undulating topography continues to the south of the site up to 270m AOD at Castlehill approximately 2km from the site. The reservoir is located within a locally designated Special Landscape Area.

The site is not subject to any national or international ecology designations, the closest being the Dark Peak SSSI/SAC/SPA approximately 700m to the northeast. These designations cover land valuable for its heath moors and blanket bog, and the habitats that these provide for various species, including golden plover. The reservoir is not subject to any locally designated ecological designations, although it is recognised that there is a wildlife site to the west as identified in the Derbyshire Wildlife Sites Register.

The closest cultural heritage asset to the site is the Grade II tower approximately 60m south of the reservoir. The banks of the reservoir and mature tree planting around this listed building would obviate any intervisibility between the array and the building such that there would be no harm. There are further listed buildings within the wider area, but again the banks of the reservoir and intervening vegetation and urban features would limit intervisibility and as such no significant harm is anticipated.

The location and extent of the site is shown on the accompanying *Site Location Plan* as required by regulation 5.-(2) (a).

Requirement for an EIA

Under Part II, Section 5 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the Regulations) a person who is minded to carry out development may request the relevant planning authority to adopt a screening opinion as to whether that development is EIA development.

The Regulations require that a screening opinion request be accompanied by a plan sufficient to identify the land; a brief description of the development and its possible effects on the environment; and such other information or representations as the person making the request may wish to provide or make. This letter and the enclosed plan (Arnfield WTW Location Plan 11-2-2016) comprise such a submission.

In determining whether or not the proposed development requires EIA, the local planning authority is required to follow Part II, Section 4 of the Regulations and the relevant schedules. Guidance on 'Screening Schedule 2 projects' and the EIA process is provided in the National Planning Practice Guidance (PPG) at ID: 4-017-20140306 and a flowchart of the EIA Screening process can be found in the PPG (ID: 4-030-20140306).

As you will be aware, section 5 (5) of the Regulations states that the local planning authority shall adopt a screening opinion within three weeks of the date of receipt of a request, and we look forward to receiving a response within this timescale.

Consideration of the development against the Regulations is set out in the sections below.

Description of the Development

The proposed development comprises an array of solar panels mounted on floats on the open reservoir to generate up to 250kW electricity from a renewable source. The overall reservoir within which the development would be located extends to 14.3 ha. However, the extent of the solar array would be between 1ha and 1.5ha, a relatively small proportion of the reservoirs surface area. The exact location and layout of the solar array has not currently been determined, but will take account of existing infrastructure and activities within and surrounding the reservoir.

The solar panels would be mounted on rafts measuring approximately 24m by 16m. Each raft would support eleven rows of 24 panels. The solar panels would be angled at approximately 12 degrees, with an average distance of approximately eight metres between each row of rafts, and height above water level of approximately 1m. The array would be connected to the shore via an underwater cable rated for this use. The rafts would be connected together with pins which allow the rafts to ride over the waves independently, but are anchored to the base of the reservoir

Inverter stations would be required to convert the DC electricity generated by the panels to AC electricity suitable for use at the water treatment works. Typically, one inverter station is required per 1.5MW of installed capacity, and as such only a single inverter station would be required. It is anticipated that this structure would be approximately 4.5m in length by 2.4m wide by up to 2.6 metres high. The inverter station would be located onshore and connected to the floating solar panels via marine cabling.

An electrical switchgear cabin, where the output from the solar array would be controlled, would be located on shore. The substation would measure approximately 4.5m in length, 2.4m in width and up to 2.6m in height. The materials and colour used in this building is likely to be GRP panels typically dark green in colour.

The inverter stations and switchgear cabin would be secured by 2.4m high fencing and CCTV cameras mounted on 4m high mono-poles.

Potential impacts of the development

The regulations require that any request for a screening opinion should be accompanied by a brief outline of the potential impacts of the development. For the proposed solar array development the potential impacts are considered to be:

- **Landscape and visual:**

The maximum height of the solar panel arrays is anticipated to be only 1m above the existing water level. The maximum height of the other elements of the scheme for example the CCTV poles, would be approximately 4m. Existing areas of mature vegetation and existing boundary treatment would provide screening of the low level solar panels from nearby views. From the higher ground further from the site the solar panels and supporting floats would be viewed within the context of the water itself, and would be largely indistinguishable. Furthermore, the overall surface area of the reservoir the solar panels would be sited upon is relatively limited. The landscape and visual effects of the solar array are therefore likely to be limited.

The onshore structures would be situated close to the banks of the reservoir which would screen them from most views. The location of these elements of the scheme would be selected to ensure that existing trees and hedges provided further screening.

- **Ecology:**

There are no ecological designations covering the site or immediately adjoining the site. The array would have no adverse impact upon aquatic life given that it would allow light to permeate into the reservoir and not cover the entire water surface. Whilst the proximity of the SAC/SPA/SSSI is noted, the reservoir would not provide suitable habitat for any qualifying species of those designations, which are typically ground based. As such the proposed development is not considered to have any significant impact upon the qualifying nature of the designations. Similarly, the proposed development is not considered to have any significant adverse impact upon the wildlife site to the west.

- Cultural Heritage and Archaeology:

A solar array development could potentially impact indirectly on the setting of cultural heritage assets, such as scheduled ancient monuments and listed buildings, and could potentially result in impacts upon undiscovered archaeological remains.

The nearest cultural heritage asset to the site is located within a tree belt which separates it from the sites and provide a relatively intimate setting for the buildings. Given this, and the screening effect of the reservoir banks, there would be no direct or indirect impacts on this asset. Similarly, the reservoir banks and intervening natural and built heritage would screen the development from further cultural heritage assets.

- Noise and Vibration:

There is the potential for noise impacts during the construction of the solar array development. However, given that these would be limited to the construction period alone these are not considered likely to be significant. Operational noise is likely only to occur from the inverter and switchgear structures, although this is not anticipated to be significant on the basis that the inverters would produce a low level of noise and would be located within acoustically insulated structures meaning that any generated noise would not exceed 35db at the site boundaries. In addition the position of the inverters within the site can be sensitively sited to maximise separation distances to the nearest residential properties. It is also noteworthy that solar panels only operate during daylight hours, and will not therefore generate any noise during twilight hours. No potential noise impacts are therefore anticipated, although as an additional precaution the inverter would be positioned to maximise the separation distance from residential properties.

- Cumulative Impacts

The proposed development could have cumulative impacts if there are any other proposed or consented solar array schemes in the area and any other developments which could lead to cumulative impacts, particularly with relation to landscape and visual impacts. We are not aware of any nearby proposals which might reasonably be considered to create potential cumulative effects. The closest is the Godley Reservoir floating solar array approximately 5km southwest of the site. The site is located within a context that is influenced by man-made structures characteristic of the urban fringe location.

Consideration against Environmental Impact Assessment (EIA) Regulations

The EIA regulations detail development in two Schedules. These are:

- Schedule 1 – identifies development types *requiring* EIA;
- Schedule 2 – identifies development types where, if the relevant threshold criteria are exceeded, a formal assessment must be undertaken against Schedule 3 in order to determine whether an EIA is required.

The proposed solar array does not fall within any of the categories within Schedule 1.

Schedule 2 of the regulations details development types where an EIA could be required, subject to certain thresholds being exceeded and subsequent screening against Schedule 3 of the regulations. Solar array development does not fall within any specific category within Schedule 2, although the most appropriate category is considered to be 3 (a) which states:

- Energy industry

3 – (a) Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1);

Development proposals described under Schedule 2 require an EIA if they are considered to have a significant impact upon the environment by virtue of factors such as nature, size and location. The relevant threshold as to whether or not the site needs to be screened for EIA is 0.5ha, where the site is not in a 'sensitive area' as defined in the regulations.

PPG (Paragraph: 018 Reference ID: 4-018-20140306) highlights that:

'Only a very small proportion of Schedule 2 development will require an assessment. While it is not possible to formulate criteria or thresholds which will provide a universal test of whether or not an assessment is required, it is possible to offer a broad indication of the type or scale of development which is likely to require an assessment. It is also possible to provide an indication of the sort of development for which an assessment is likely to be unnecessary...However, it should not be presumed that developments above the indicative thresholds should always be subject to assessment, or those falling below the thresholds could never give rise to significant effects, especially where the development is in an environmentally sensitive location. Each development will need to be considered on its merits.'

Schedule 3 of the EIA regulations contains the criteria against which Schedule 2 development should be screened. In such circumstances, Part II, section 4 (6) of the Regulations requires the local planning authority to take into account "...such of the selection criteria set out in Schedule 3 as are relevant to the development...". This assessment is set out below.

(1) Characteristics of the development

- a) the size of the development;

The proposed development would cover in total, an area of approximately between 1 – 1.5 ha comprising solar panels on stands with an overall structure height of between 0.6m at their lowest point and 1m maximum height. Given the relatively low height of the proposal and existing screening, it is considered that the development would be well contained within the local landscape.

- b) the cumulation with other development;

No other similar development has been identified close to the site which would result in significant potential impact that would require an EIA to be carried out.

- c) the use of natural resources;

The proposed development is a renewable energy scheme which will assist the UK in achieving its legally mandated targets.

- d) the production of waste;

The development in itself would not generate waste when operational. Minimal waste would be generated during construction, but this is not considered to be significant. Recycling of some components upon decommissioning is possible.

- e) pollution and nuisances;

With the exception of the small on-site electrical housing units, the proposed development does not require the use of significant concrete foundations or any other potential pollutants during its operation. Nuisance could potentially occur through noise impacts on nearby residents. However, this can be mitigated through careful siting of the transformer unit and is not therefore considered likely to be a significant issue.

- f) the risk of accidents, having regard in particular to substances or technologies used.

In terms of the EIA regulations the potential risk of accidents which could impact upon the environment is considered to be extremely low.

2) Location of development

- a) the existing land use;

The existing land use is as a reservoir which would be unaffected by the development either during operation or through decommissioning at the end of the arrays operational life.

- b) the relative abundance, quality and regenerative capacity of natural resources in the areas;

The proposed development would employ the use of sunlight and daylight for the generation of electricity, an energy source which is abundant. The development would have no impact upon the current land use.

- c) the absorption capacity of the natural environment;

The surrounding area is suitable for this development given the limited height of the solar panels proposed. It is considered that the environment has the capacity to suitably absorb this development into the landscape fabric, particularly given the lack of other similar projects in the area impacting upon its capacity for further development and the existing landscaping around the site.

3) Characteristics of the potential impacts

- a) the extent of the impact (geographical area and size of the affected populations);

The extent of the potential impacts would generally be limited to the site and the immediate surroundings given the relatively low level nature of the development. Views of the development would not be significant on the locality or wider area.

- b) the transfrontier nature of the impact;

No transfrontier impacts are anticipated.

- c) magnitude and complexity of the impact;

The proposed development is unlikely to be visible or have any significant effects on the nearest residential properties or cultural heritage features. There are no national ecological designations on the site or immediately adjoining it.

- d) the probability of the impact

All of the potential impacts are quantifiable. None of the potential impacts are considered to be significant enough to require an EIA.

e) the duration, frequency and reversibility of the impact.

The proposed solar array development would be operational for 25 years, with any impacts fully reversible upon the cessation of operation.

Conclusion

Consideration of the proposed development against the Environmental Impact Regulations 2011 and the PPG has determined that the proposal is unlikely to result in significant effects on the environment. Consequently, it is our opinion that an environmental impact assessment is not required.

I trust that the above information is sufficient to enable you to issue a screening opinion within the statutory three week period allowed for this task.

If you require any further clarification, please do not hesitate to contact me.

Yours sincerely

Andrew Mann
Associate