



STAFFORDSHIRE
POLICE

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Date: 18th August 2021

Application: SMD/2021/0496
Location: Land at Greenfields Farm, Thorney Edge Road, Bagnall
Proposal: Solar farm of approx.1.5MW with energy storage capacity of up to 57MW on 4.25 hectares of land

The proposal has been reviewed with particular reference to Police CPI's Secured by Design guidance and in accordance with the recognised principles of Crime Prevention Through Environmental Design.

The following comments should be considered in the light of the following:

- Under the heading Promoting Safe and Healthy Communities, Para 91(b) of the NPPF states "Planning policies and decisions should aim to achieve healthy, inclusive and safe places which are safe and accessible, so that crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion."
- Under the heading Achieving Well-Designed Places, Para 127(f) of the NPPF states "Planning policies and decisions should ensure that developments create places that are safe ... and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience."
- Under the heading Planning Should Address Crime Prevention, Design Para 10 of the NPPG states "Designing out crime and designing in community safety should be central to the planning and delivery of new development";
- Staffordshire Moorlands Local Plan - Design Consideration, Spatial Objective SO10 –"To deliver sustainable, inclusive, healthy and safe communities";
- The statutory obligation placed on local authorities to do all they reasonably can to prevent crime and disorder in accordance with Section 17 of the Crime and Disorder Act 1998;
- The 2006 CABE document entitled 'Design and Access Statements: How to Write, Read and Use Them', which states "Statements should demonstrate how development can create accessible and safe environments, including addressing crime and disorder and fear of crime."

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1. The submission of the above planning application is noted. Online review of the submission documentation has been frustrated by the repeated inability to open the '20210728 Greenfields Solar with Energy Storage Screening Report', which may well have shed useful light on the proposals, particularly in relation to security. In the absence of such potential enlightenment, the following comments are made.
 2. In keeping with solar pv farms elsewhere, this would be in an isolated location and seemingly not subject to any natural surveillance. If such sites are inadequately protected in terms of security provision, it makes them inherently vulnerable to theft of copper cabling, solar panels and other equipment by organised gangs of criminals. One downside of the existence of Google maps etc is that it allows offenders to identify potential sites to target even when they are screened or not visible from a road. Last year, a site within Staffordshire sustained losses approaching £300,000

following the overnight theft of copper transformer cables! Consequently, the provision of multi-layered security is required to protect this application site. Unless the Local Planning Authority is satisfied that this will be the case, the application should be refused.

3. The 2013 document 'Planning Guidance for the Development of Large Scale Ground Mounted Solar PV Systems' published by the BRE contains some useful advice regarding security and as such attention is directed to it. A suitably robust boundary treatment (it has not been possible to ascertain the nature of that proposed) will be an important consideration. The BRE guidance states, "Fencing which is not of a specialist security type is likely to offer at best only token resistance to intruders." Deer fencing or chain link type fencing would fall under this categorisation. The applicant should give serious consideration to installing LPS1175 or STS202 certified green weldmesh for instance instead, to offer greater intruder resistance. Professionally advice should be sought from recognised fencing manufacturers who produce such security-certified products. The fencing will need to demarcate, deter and delay offenders. However, it is recognised that without additional security layers, offenders would be able to act with relative impunity to overcome any fencing. Perimeter gating will need to be robust, deter climbing/crawling under and with adequately protected locking arrangements.
4. The 1:500 layout drawing does include a series of CCTV security camera poles to be mounted at intervals just inside the perimeter of the site. The remote monitoring of any CCTV cameras will be critical to deny offenders the ability to operate with impunity and enable an immediate alert of and response to potential security breaches. The fencing should act as a time delay while a response is initiated to any suspicious activity. Remotely monitored CCTV should be designed, installed and monitored in accordance with BS8418 - the Code of Practice for the installation and remote monitoring of detector activated CCTV systems. The CCTV cameras with infra-red capability should be linked to some form of detector-activated perimeter intrusion detection system to pre-empt potential security breaches at the fence line with no blind spots. Interference with the cameras themselves, the cabling or any PIDS equipment should generate an immediate alarm at the remote monitoring station. The transmission system for images should enable the remote monitoring of mains failure or tampering. A back-up power supply should also be provided. In terms of CCTV imagery, video analytics software exists which can distinguish between humans and animals (amongst other things) with the aim of eliminating false alarms and may be worth considering. The technology should enable good quality and useful images to be transmitted and stored.
5. For a monitored site to be effective, an audio challenge facility should be incorporated. When live and alarmed visual images are transmitted to a Remote Video Response Centre (RVRC), any alert would enable a CCTV operator to investigate and via an onsite audio challenge facility, warn potential intruders that they are being viewed on live CCTV and, if necessary, the relevant authorities (such as the police) will be called. The RVRC should have suitable NSI or SSAIB accreditation.
6. While CCTV cameras with infra-red capability would dispense with the need for separate conventional lighting, which would be unlikely to be suitable in such a location, it is worth bearing in mind that the site is an elevated one and its susceptibility to fog should be factored in. Consequently, cameras with thermal imaging capability, which use heat to produce images should be seriously considered if the location is prone to foggy conditions.
7. It would be prudent for the full range of security measures to be in place and operational before the solar panels, cabling, energy storage etc are installed to protect against incidents including theft of construction materials before the solar farm goes live.
8. Comprehensive mock-attack testing using different attack methods of the security systems should be undertaken to ensure that amongst other things no blind spots exist, with the potential various attack type scenarios considered to ensure the combined physical and technological measures are sufficiently robust and effective. The use of such as the Poacher Block (www.poacherblock.co.uk) might wish to be considered to deter unauthorised approach down the new access track, although the possibility that offenders might approach via alternative means (for example, by driving across fields) should not be discounted.

9. The use of security bolts or similar to secure photovoltaic panels and locked housing to secure inverters etc should be considered. Suitable CEN-rated security padlocks should be used where padlocks are utilised. If the individual solar panels and cabling etc can be marked overtly or be suitably forensically marked this would reduce the ease with which they could be re sold or re-used and thus help act as an additional deterrent (particularly where warning signage is used on site) as well as assisting in any future identification/investigation.
10. The above are by no means comprehensive measures, but give a flavour of the sorts of considerations that should be made. Specialist security companies exist who have a wealth of experience in helping to protect solar pv farms.

Crime Prevention advice is given freely without the intention of creating a contract, and all comments and recommendations are site specific. Staffordshire Police and the Home Office do not accept any legal responsibility for the advice given.

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