West Burton Solar Project

Review of Likely Significant Effects at 60 Years:

Environmental Statement Review

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West Burton

SOLAR PROJECT

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Review of Likely Significant Effects at 60 Years Environmental Statement Review – Revision A

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1 Review

1.1 Purpose of Document

1.1.1 Paragraph 1.1.4 of **ES Chapter 1 (Introduction) [APP-039]** states that the "*operational life of the Scheme is anticipated to be 40 years. Once the Scheme ceases to operate, the development will be decommissioned. A 40-year period for the operational phase of the development will be assessed in the EIA and reported in this ES which accompanies the DCO application. However, as is typical for energy generation NSIPs, the DCO Application will not seek a temporary or time limited consent.*"

1.1.2 It is noted that paragraph 2.4.9 of **ES Chapter 2 (EIA Process and Methodology) [APP-040]** states that "*the operational period for the Scheme is anticipated to be approximately 40 years, and this time period has been assessed in this ES*". Paragraph 2.4.11(b) states that "*Decommissioning 2066. This would be the year when decommissioning of the Scheme would commence and has been based on a typical 40-year operational lifetime for solar projects. It has therefore been assumed for the purposes of the EIA that the Scheme will be decommissioned in approximately 2066 (albeit the DCO will not specify a specific decommissioning date).*"

1.1.3 Similarly, paragraph 4.2.3 of **ES Chapter 4 (Scheme Description) [APP-042]** states that the "*operational life of the Scheme is anticipated to be 40 years. Once the Scheme ceases to operate, it will be decommissioned. A 40-year period for the operational phase of the Scheme has been assessed in the EIA and reported in this ES.*" Paragraph 4.3.6(b) states that the "*operational life of the Scheme is anticipated to be 40 years and decommissioning is therefore estimated to be no earlier than 2066*". Paragraph 4.8.1 states that "*Decommissioning is expected to take between 12 and 24 months and will be undertaken in phases, and for the purposes of the assessment is expected to occur after approximately 40 years of operation of the Scheme*".

1.1.4 In order to address concerns raised in the Relevant Representations and at Open Floor Hearing 1 about the Scheme potentially being in situ in perpetuity, a new sub-paragraph (1) has been added to Requirement 21 of the draft DCO **[REP7-002]** to require decommissioning to take place no later than 60 years following the final commissioning date. A 60-year period has been chosen to provide flexibility for the Scheme to continue operating where the solar PV panels continue to generate electricity after the average lifespan of 40 years has passed.

1.1.5 This document sets out how the EIA, as reported in the submitted ES, has assessed the operational period of the Scheme; and the implications, if any, of the operational period being up to 60 years. Measures set out in the Operational Environmental Management Plan (OEMP) and any relevant decommissioning issues are considered as part of this review.

1.1.6 In order to prepare this document, the Applicant has undertaken a review of the assessment in the ES and confirmed for each ES topic whether there are any changes to the assessment or conclusions on operational likely significant effects if the operational period is up to 60 years.

Table 1.1: ES Review

ES Chapter	Paragraph Ref.	Wording in the ES	Summary of approach to reviewing assessment to account for up to 60 year operational period	Commentary on implications on assessment or conclusions on likely significant effects for up 60 year operational period	Any changes to the assessment?
Chapter 7: Climate Change **[REP1-012]**	multiple	An assessment has been developed based on the IEMA 'Environmental Impact Assessment Guide to: Climate Change Resilience and Adaption' document (Ref 7.21), which assesses the Scheme's resilience to potential impacts caused by climate change. Climate risk factors are - increased frequency of severe weather events; increased summer and winter temperatures; increased summer temperatures; increased winter precipitation. UK Climate Projections 2018 (UKCP18) are used to establish future baseline climate conditions (Ref 7.27) in the Climate Change Resilience (CCR) Review in the Chapter. UKCP18 probabilistic projections have been provided for 20-year periods from 2020 - 2079 and obtained for climate variables such as Mean annual air temperature; Mean annual precipitation; Mean annual cloud cover.	No additional calculations of GHG emissions have been completed as a result of the change in estimated operational lifespan from 40 to 60 years. The calculations in the Climate Change ES chapter **[REP1-012]** show that there will be a reduction in Greenhouse Gas Emissions from the additional renewable energy generation as a result of the Scheme. It is considered that the existing calculations within the ES are sufficient to demonstrate that a 60 year operational lifespan for the Scheme would only have a positive effect on Greenhouse Gas emissions and any additional emissions generated by extended operational use (e.g. from replacement parts/site traffic) would be offset by the negated emissions from renewable energy generation.	It is noted that the CCR baseline predictions from UKCP18, will expire 2079. Assessor was not concerned about these factors. The main aspects in the baseline that are likely to change post 2079 are the flood risk baseline or additional emissions arising from additional replacement materials as a result of maintenance activities during operation. However, the effects are not likely to be significant particularly when considered against the benefits of the overall low carbon energy generation associated with the operation of the Scheme (which would only be lost at the point of decommissioning).	It is noted that CCR baseline predictions from UKCP18, will expire in 2079. The main aspects in the baseline predictions that are likely to change post 2079 is the flood risk baseline or additional emissions arising from additional replacement materials as a result of maintenance activities during operation. However, the effects are not likely to be significant particularly when considered against the benefits of the overall low carbon energy generation associated with the operation of the Scheme (which would only be lost at the point of decommissioning).
	7.8.47	GHG emissions will be generated as a result of operational activities such as the transportation of operational workers to and from the Sites, water consumption, and replacement of on-site materials. GHG emission calculations have been made, based on replacement levels over a 40 year operational lifetime.	As above.	It is not considered necessary to undertake further calculations for a different operational lifetime of the scheme e.g. 50, 60 years as the effects are not likely to be significant particularly when considered against the benefits of the overall low carbon energy generation associated with the operation of the development (which would only be lost at the point of decommissioning).	No change
	7.8.49 7.8.50	As shown from the GHG emissions associated with worker transportation, it is likely the GHG emissions associated with the additional operational activities will be small compared to emissions from energy consumption. The operational GHG emissions calculated reflect a worst-case as the calculations for worker transportation and maintenance will	As above.	The continued operation of the Scheme up to 60 years would not give rise to likely significant effects in respect of this issue.	No change

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		have been carried out using current emissions factors to estimate emissions over the operational lifetime of the Scheme. However, carbon and emissions associated with energy and fuel use throughout the supply chain are anticipated to be lower in the future as a result of grid decarbonisation and machinery and vehicle electrification in line with the UK's net zero carbon emissions target for 2050.			
	7.8.51 7.8.52	Through consultation with a battery supplier, it is understood that the lifespan for the proposed battery units are expected to require replacing as part of the Scheme. While technology may have improved and some of the assumptions used which underpin the embodied carbon values, as a conservative approach, it has been assumed that the embodied carbon at replacement will be the same as during the construction phase, equivalent to 15,984tCO2e. It has been assumed that 0.04% of panels will require replacement each year based on supplier input. This has been calculated based on the embodied carbon of the products as set out in the construction phase and applied to the estimated 40 year development lifespan. This results in a total estimated 18,309tCO2e over the project lifespan.	As above.	The CC chapter considers replacement of the BESS at least once in operational lifetime of the Scheme. Therefore a second / further replacement post 40 years (if required) is not considered in the ES. In the event that a second full replacement of the BESS is required, it is unlikely to give rise to likely significant GHG emissions for the reasons set out above. In respect of the panels, there is an error in the drafting of Chapter 7 – 0.04% should read 0.4% (per year). This has been corrected for Deadline 1. Over a 40 year period this would amount to 16% replacement of the panels. For 60 years it would be 24%. A 0.4% replacement rate per year for a longer period would not be significant and can be adequately manged through the OEMP.	No change
	7.8.57	There is anticipated to be 450m3 of sewage waste from the Scheme per annum. Using the wastewater value methodology as per the construction phase this gives a total of 4.90tCO2e over a 40 year lifespan.	It has been assumed that the per annum rate would continue to apply up to 60 years.	The continued generation of this wastewater would not be significant in EIA terms if the Scheme were to operate for up to 60 years.	No change
	7.8.58	There will be some required energy use for operation of the Sites from for the surveillance and monitoring system and for the office and O&M room. While it is anticipated that greenhouse gas emissions from energy will reduce over the lifespan of the Scheme, in part due to the nature of the Scheme itself which will result in energy generation creating fewer greenhouse gases, as a worst case assumption the baseline year greenhouse gas	As above.	The continued operation of the Scheme up to 60 years would not give rise to likely significant effects in respect of this issue.	No change

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		emissions have been assumed over the estimated 40 year project lifespan.			
	7.8.59 Table 7.24	The summary table provides estimated GHG emissions over the whole operational period. As shown, the production of replacement batteries at the midpoint of the project's lifespan is the greatest contribution to GHG emissions during operation.	As above.	The single BESS replacement scenario has been assessed at midpoint of the 40 years. In the event that a second full replacement of the BESS is required, it is unlikely to give rise to likely significant GHG emissions for the reasons set out above.	No change
	7.8.76	It is anticipated that the construction and decommissioning stages of the Scheme will result in a minor adverse impact on the climate which is not significant in EIA terms. Conversely, the overall operational stage will likely have a major significant beneficial effect.	As above.	Provided the Scheme is properly maintained and managed through OEMP this conclusion wouldn't change if the scheme were to operate up to 60 years, and the significant beneficial effect would be extended; but conversely, would end at 60 years.	No change
	7.7.5 7.8.86 7.8.87	Further climate change resilience measures embedded within the Scheme, particularly in relation to flood risk…Electrical infrastructure associated with the panels can be adequately waterproofed to withstand the effect of flooding. Where possible sensitive electrical equipment has been located in parts of the Site that are within Flood Zone 1. Where this hasn't been possible the sensitive electrical equipment will be raised 600mm above the 0.1% AEP flood level or where this is not possible as high as practicable. Embedded mitigation measures to increase the resilience of the Scheme to Climatic changes are outlined in previous sections. This includes raising panels above the ground and stowing solar panels on a horizontal plane in the event of any significant flooding. The CCR review has considered the measures which are integrated into the design (see Section 7.9). These are considered an adequate response to the projected climate change impacts to which the Scheme would be exposed.	As above.	The main aspect is likely to be any changes to the flood risk baseline. See further comments below under Flood Risk and Hydrology section.	No change
	7.11.11	The cumulative effect of the solar developments will be major beneficial in terms of Climate Change Resilience given that the combined effect of the renewable energy will serve to counter the effects of Climate Change.	As above.	Provided all schemes are properly maintained and managed through OEMP's this conclusion wouldn't change if the Scheme were to operate up to 60 years.	No change

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Chapter 8 Landscape **[APP-046]**	8.4.18	Assessment Years. The EIA considers the environmental impacts of the Scheme at all three stages described above. The operational life of the Scheme is anticipated to be 40 years and decommissioning is therefore estimated to be no earlier than 2066. This time period is assessed in the EIA (and within this LVIA chapter and supporting appendices).	The LVIA considered the impacts of the scheme during the construction period (winter), operation at year 1 (winter) and operation at year 15 (summer) and at decommissioning stage (winter). This process systematically and transparently assesses the likely significant effects of the Scheme taking into account both embedded mitigation and additional mitigation at each of the four stages. Embedded (Primary) mitigation is taken into account during the construction, operation (Year 1 and Year 15) and decommissioning stages of the Scheme. These 'embedded mitigation' measures are secured via the DCO (for example, by specifying that each Work number can only be located on the area shown on the Works Plans **[REP5-035]** or as part of the Concept Design Parameters and Principles **[REP5-094]**. Additional (Secondary) Mitigation is taken into account during the operation (Year 1) and operation (Year 15) stages of the Scheme. Measures are considered in relation to the landscape and visual effects of the Scheme as a means of addressing the significant adverse effects identified in the assessment. They have been integrated as part of the evolution of the design. The measures are iterative and essentially will include changed management of existing vegetation (primarily hedgerows) and new planting enhancement at the source of the Scheme and within the Order Limits. These mitigation measures are considered to be established for Year 15 of the Scheme.	Permanent effects arise at year 15. They are assessed and would not change if the Scheme were to operate for up to 60 years. Assessing the impacts of the Scheme at Year 15 is considered to be appropriate in the context of the landscape character and visual amenity, since it is judged to be the most effective in terms of the effectiveness of maturation of planting and the 'time depth' of the receiving landscape. It is this maturity of planting which is carried forward into the assessment of effects at decommissioning. The LVIA sets out that the Scheme would be decommissioned no earlier than 2066, and therefore a 60 year operational limit would mean that decommission could commence in 2086 would not have any implications on the findings or conclusions of the LVIA for any stage of the Scheme. At decommissioning, it is considered that the retention of any landscaping / planting / additional hedgerows are beneficial but not guaranteed. The removal of the solar farms and any retention of these features are considered a positive landscape and visual benefit. Extending the operational lifetime of the Scheme would delay these beneficial effects, but if only to year 60, this is not considered material.	No change

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			Assessing the impacts of the Scheme at Year 15 is considered to be appropriate in the context of the landscape character and visual amenity, since it is judged to be the most effective in terms of the effectiveness of maturation of planting and the 'time depth' of the receiving landscape. These measures are set out in the Landscape and Ecological Management Plan (LEMP) which will be secured through a requirement in the DCO. An Outline LEMP **[REP6-025]** is included as part of this DCO application and is designed so as to include flexibility for details to be refined prior to approval by the relevant planning authorities before construction of the Scheme commences. The Outline Landscape and Ecological Management Plan **[REP6-025]** sets out the principles for how the land will be managed throughout the operational phase, following the completion of construction. A Detailed LEMP will be produced and submitted to the relevant planning authority for approval following the granting of the DCO and prior to the start of construction and is secured by a Requirement in the draft DCO. The Detailed LEMP will control / manage how this is dealt with throughout the operational lifetime of the Scheme regardless of whether it is 40 years or beyond. It is unlikely that any of the LEMP management measures would be any different between years 40 – 60 years of operation. The detailed Decommissioning Plan will control / manage how this is dealt with post	Whilst it is acknowledged that both the proposed vegetation and existing vegetation across the site would continue to establish and be maintained by the management measures set out within the Detailed LEMP, as it is the Year 15 maturity of the vegetation that forms the baseline for the assessment, extending the time limit of the scheme from 40 to 60 years (essentially providing an additional 20 years of growth) would not have any implications on the findings or conclusions of the LVIA for the decommissioning stage of the scheme.	

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			operation, regardless of the operational lifetime of the Scheme.		
Chapter 9 Ecology **[APP-047]**	9.4.7	When assessing the impact of the Scheme and impacts on baseline conditions, predictions will be made which focus solely on the Zone of Influence for each IEF in the context of the lifetime of the Scheme (estimated to be 40 years for the purposes of this EIA).	Measures implemented through the LEMP and OEMP would continue to apply up to year 60. No additional likely significant effects.	The assessment of the future baseline at decommissioning was originally taken to be no earlier than 2066. At this point, it can be reasonably assumed that, following the implementation of the LEMP and OEMP, the various retained, created and enhanced habitats within the Scheme will have reached a stable point of maturity. As the LEMP and OEMP management and monitoring prescriptions would continue to maintain this stability up to 60 years, it can be reasonably assumed that the future baseline at 60 years will not give rise to new constraints or impacts above those predicted for 40 years.	No change
Chapter 10 Hydrology and Flood Risk **[APP-048]**		Increased Flood Risk due to Climate Change.	From reviewing the assessment and as per paragraph 006 Reference 002 Reference ID: 7-002-20220825 of the NPPF, an 'appropriate allowance for climate change' must be applied when assessing the 'design flood' event. The 'Flood risk assessments: climate change allowances' Guidance states that for food risk assessments the Peak River Flow map should be used. The EA defines three climate change epochs (2020s, 2050s, and 2080's) and states: • 'For development with a lifetime up to 2060, use the central allowance for the 2050s epoch (2022 to 2060).' • 'For development with a lifetime between 2061 and 2100, use the	The Hydrology, Flood Risk And Drainage Assessments do not present any implications for water resources. The Flood Risk Assessment, while not time-limited, assumes an operational lifetime of 40 years for the purpose of the Environmental Impact Assessment. The peak river flow allowances for the Witham Management Catchment for the Higher 2050s is 15%. However, the assessment considered a 20% uplift in flows, as this was the uplift allowed for within the available Environment Agency (EA) datasets. Given that a conservative approach has been adopted for most of the epoch in which the Scheme will operate and considering potential changes in climate change allowances in the future, the Applicant considers that	For development with a lifetime between 2061 and 2100, use the central allowance for the 2070s [sic 2080] epoch (2061 to 2125).' If the Scheme is still operational into the 2080s epoch, a 32% allowance in flows for the Witham Management Catchment (West Burton 1 and West Burton 2) and a 39% allowance in flows for the Lower Trent and Erewash Management Catchment (West Burton 3) must be considered. In this scenario, hydraulic modelling must be undertaken to consider a 32% (West Burton 1 and West Burton 2) and 39% (West Burton 3) uplift in river flows, in consultation with the Environment Agency. It is highly likely that updated modelling will show an increase in flood extents and depths.

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			central allowance for the 2070s [sic 2080] epoch (2061 to 2125).' The peak river flow allowances for the Witham Management Catchment for the Higher 2050s is 15%. However, the current assessment considered a 20% uplift in flows, as this was the uplift allowed for within the available Environment Agency (EA) datasets. Given that a conservative approach has been adopted for most of the epoch in which the Scheme will operate and considering potential changes in climate change allowances in the future, the Applicant considers the Scheme has been designed appropriately. If the Scheme is still operational into the 2080s epoch, a 32% allowance in flows for the Witham Management Catchment (West Burton 1 and West Burton 2) and 39% for the Lower Trent and Erewash Management Catchment (West Burton 3) must be considered. The EA's existing hydraulic models do not consider these climate change uplifts and therefore the data does not currently exist.	the Scheme has been designed appropriately. The EA defines three climate change epochs (2020s, 2050s, and 2080's) and states: • 'For development with a lifetime up to 2060, use the central allowance for the 2050s epoch (2022 to 2060).' • 'For development with a lifetime between 2061 and 2100, use the central allowance for the 2070s [sic 2080] epoch (2061 to 2125).' If the Scheme is still operational into the 2080s epoch, a 32% allowance in flows for the Witham Management Catchment must be considered. In this scenario, hydraulic modelling must be undertaken to consider a 32% uplift in river flows, in consultation with the Environment Agency. It is highly likely that updated modelling will show an increase in flood extents and depths. As such, the parts of the Scheme constructed in areas already shown to be at risk or areas currently adjacent to areas at risk may need to be altered to ensure that flood storage and conveyance is maintained for all main rivers. For example, this could involve removing the first row of panels on a Photovoltaic (PV) table or removing the racking system and associated infrastructure from the modelled extent. The requirement to do this modelling and any consequential alterations at the relevant time will be included in the OEMP.	As such, any part of the Scheme constructed in areas already shown to be at risk or areas currently adjacent to areas at risk may need to be altered to ensure that flood storage and conveyance is maintained for all main rivers. The requirement to do this modelling and any consequential alterations at the relevant time will be included in the OEMP.

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Chapter 11 Ground Conditions **[APP-049]**	11.7.4	Prior to mitigation, the potential impact for construction, operation (including maintenance) and decommissioning are of a moderate/minor or minor significance. As such, they are not considered significant, however, they can be reduced via embedded mitigation measures, detailed in Section 11.7 of this Chapter.	The Assessment methodology found in (WB6.2.2) has been reviewed and applied with a 60-year operational period in mind and no updates are required regarding significant effects, and as such no further mitigation is required..	Effects, overall are not considered to be significant. The Scheme design has included measures to avoid and minimise the risk of pollution to the ground and water during its operation The OEMP management measures will be applied for the full 60 years and therefore no change is envisaged.	No change
Chapter 12: Minerals **[APP-050]**	12.7.17	The operational life of the Scheme is anticipated to be 40 years and due to it being decommissioned at the end of its operational life, any minerals would not be permanently sterilised and would be available to exploit if required at a future date (including in the event that the removal of the cable / cable ducts does not take place as part of decommissioning). Thus, there is not considered to be any conflict with the relevant mineral safeguarding policies.	The Assessment methodology found in (WB6.2.2) has been reviewed and applied with a 60-year operational period in mind and no updates are required regarding significant effects, and as such no further mitigation is required.	No change is envisaged as minerals will not be permanently sterilised as the Scheme will be decommissioned.	No change
Chapter 13: Heritage **[APP-051]**	Chapter 23 Summary of Significant Effects **[REP3-010]**	The following significant (operational) effects have been identified: • Long term reversible large adverse effect on Scheduled Monuments: The medieval bishop's palace and deer park, Stow Park (1019229). Large Adverse, Significant • Non-Designated Archaeological Remains: AR01, AR08, AR11, AR17, AR18, AR19, AR20, AR29, AR30, AR50. Neutral to Moderate Beneficial, potentially Significant • Non-Designated Archaeological Remains: AR22, AR24, AR34, AR44, AR46, AR47, AR48, AR49, AR51, AR52, AR54, AR55. Neutral to Large Beneficial, potentially Significant • Long term reversible moderate adverse effect on Non-Designated Historic Landscape: HLI21266 – Parliamentary Planned Enclosure , HLI20787 – Modern Fields, HLI20791 – Ancient Enclosure, HLI20791 – Ancient Enclosure and HLI20860 – Parliamentary Planned Enclosure. Moderate Adverse, Significant	Review of documentation and assessments to establish if any identified affects were time dependant (i.e. the magnitude of change to any historic assets as a result of the Scheme would vary for a 60 operational period compared to the 40-year lifetime that was assessed).	Archaeological impacts will be dealt with through a WSI prior to / as part of the construction phase – no foreseen issues relating to change in duration of Scheme. The term 'reversible', which is used throughout the CH ES Chapter and Heritage Statement (Appendix 13.5) **[APP-118]**, is used to describe the nature of development and its negligible impact to landscape features that contribute to the historic landscape. Overall view is that the effects assessment would not be any different if the lifetime of the Scheme were for up to 60 years (as the effects would still be reversible).	No change
Chapter 14: Transport **[APP-052]**	14.7.67	In light of this, effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads during the operational phase of the Development are considered to be negligible or not significant. The effects will be long-term, as the design life of the Scheme is anticipated to be 40 years.	As set out in "ES Chapter 14 paragraph 14.13.3 "Solar farm developments do not generate significant traffic flows once operational. Typically, there will be only a handful of trips per month by	Effects during a 40 year operational period are negligible, and would remain so beyond that if the scheme were to operate for up to 60 years.	No change

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			Transit Van (or similar) for maintenance purposes (less than one vehicle trip per day on average). Therefore, all operational effects are negligible in significance. A 60 year operation period does not change these conclusions as the number of monthly trips will remain the same.		
	14.7.68 14.7.69	The Scheme is anticipated to have a design life of approximately 40 years. At the end of the Scheme's operational life, it will be decommissioned. The number of vehicles associated with the decommissioning phase are not anticipated to exceed the number set out for the construction phase, as set out in Table 14.15. An Outline Decommissioning Plan will be submitted to the local planning authority for approval prior to decommissioning. This will be secured by a requirement of the DCO. In light of this, effects on accidents and safety, severance, driver delay, pedestrian delay and amenity and hazardous loads are considered to be the same as shown in Table 14.23, as a reasonable worst-case assessment. The effects will also be short term and temporary.		Operating beyond the 40 years would not alter these conclusions. The vehicle movements associated with decommissioning would simply be moved to a later date. A time limited consent (60 years in this case) would give certainty to authorities and local communities as to when the impacts would arise.	N/A
Chapter 15: Noise **[APP-053]**		No residual significant effects identified.	The assessment was reviewed to consider whether a 60 year operational period would change the conclusions of no residual significant effects.	No change identified.	No change
Chapter 16: Glint and Glare **[APP-054]**		No residual significant effects identified.	The assessment was reviewed to consider whether a 60 year operational period would change the conclusions of no residual significant effects.	No change identified.	No change
Chapter 17: Air Quality **[APP-055]**		No residual significant effects identified.	The assessment was reviewed to consider whether a 60 year operational period would change the conclusions of no residual significant effects.	Proper operation and maintenance of the energy storage systems is crucial for ensuring that these systems operate at optimal levels. Performing regular maintenance to ensure that the system is protected against damage, power outages and the fire incident risk reduced. The continued operation of the Battery Safety Management plan would ensure that there is a low risk of adverse	No change

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				effects at the closest sensitive receptor location in the case of a fire. Operating for up to 60 years would not alter these conclusions.	
Chapter 18: Socio-Economic, Tourism and Recreation **[APP-056]**	18.5.4	The Scheme has an estimated operational life of approximately 40 years, and for the purposes of the EIA the Scheme is anticipated to be decommissioned in 2066, at which point, the national population of the UK is projected to reach 75.4 million, approximately 12.6% (Ref.35, Ref.36) higher than the 2021 Census population estimate.	A review of UK population projections has shown that the population is anticipated to continue growing until the last projection year 2120.	Population likely to increase in perpetuity, however, not likely in itself to lead to significant effects.	No change
	18.7.71	For the purposes of assessment, it has been assumed that the Scheme will commence operation at the end of Q4 2026. The operational life of the Scheme is anticipated to be 40 years and decommissioning is therefore estimated to be no earlier than 2066.	The assessment was reviewed to consider whether a 60 year operational period would change the conclusions.	No change identified	No change
	18.7.101	The Scheme is assessed in this ES as having a 40-year operational lifetime, during which the Scheme is likely to have a degree of impact on tourism and recreation in the immediate locality and Local Impact Area. During the Scheme's operational lifetime, impacts on tourism and recreation are almost exclusively as a result of change in landscape context and the potential subsequent reduction in desirability of the Local Impact Area to visitors.	A qualitative review of the assessed tourism and recreation receptors has been undertaken in respect of the receptor's sensitivity and the magnitude of any impacts, to ascertain if the significance of effect would be altered by the Scheme being in operation for 60 years.	Impacts during operation on tourism and recreation relate to tourism attractions, PRoW's, recreational facilities, landscape attractions and heritage attractions. ES concludes no significant effects during operation. It is considered that the relevant factor here is that the benefits of decommissioning and removal of those (non-significant) effects / impacts would not be experienced until some later date (albeit none of those benefits are considered significant in any event). Impacts on PRoW will be managed via the Public Rights of Way Management Plan which will apply for the 60 year period.	No change
	18.8.15	The operational lifetime of the Scheme is estimated to be 40 years from the completion of the construction phase. For the purpose of assessment, it has been assumed that the Scheme will commence operation from Q4 2026 and have a 40- year operational life, with decommissioning estimated to be no earlier than 2066. Key mitigation and enhancement measures for the Scheme's operation and maintenance across all EIA topics are set	The assessment was reviewed to consider whether a 60 year operational period would change the conclusions .	No change identified Mitigation in respect of this topic is set out in OLEMP **[DEC/WB7.3_F or DEC/WB7.3_G]**, OEMP **[DEC/WB7.14_E]** and Outline Skills and Supply Chain Plan **[REP6-027]** which will continue to apply for a 60 year period.	No change

ES Chapter	Paragraph Ref.	Wording in the ES	Summary of approach to reviewing assessment to account for up to 60 year operational period	Commentary on implications on assessment or conclusions on likely significant effects for up 60 year operational period	Any changes to the assessment?
		out in the Outline Operational Environment Management Plan **[DEC/WB7.14_E]**.			
	18.10.58	Applying these assumptions shows that the indicative peak of decommissioning activity will occur in the year 2068 based on the alignment of decommissioning activity from the Scheme, West Burton, and Tillbridge Solar. This assumes that each of these projects will not have an operational lifetime of more than 40 years. As such, this is used to estimate the peak cumulative environmental effects on socio-economic receptors in the Local and Regional Impact Areas. Assessment of these effects is made against the existing baseline conditions, as per the assessment of the Scheme in isolation in Section 18.7.	A review of indicative project timetables as set out in Table 18.27 has been used to consider assumptions about the level of potential cumulative decommissioning activity in the Local Impact Area.	The assessment assumes decommissioning of these 3 projects at the same time as a worst case scenario. This is still the worst case scenario as each of the projects are proposing to be in operation for up to 60 years. The implications of decommissioning schemes at different times are that effects (both positive and negative will be of a reduced magnitude (employment / economic prosperity & supply chain, accommodation need) because they will be experienced at different times.	No change
Chapter 19: Agriculture, Soils **[APP-057]**	19.3.10	The operational life of the Scheme is anticipated to be 40 years, following which it will be decommissioned. Decommissioning will remove the solar panels and their mounting frames, pulling up the steel legs from the ground. Below ground cabling within the sites is anticipated to be decommissioned in situ to minimise environmental impacts unless they are unable to be removed without major disturbances, where they will be cut to 1m below the surface to enable future ploughing. After removal of the energy storage the concrete bases will be removed. Lastly the hardcore for the tracks and hard standing will be removed for reuse, and the geotextile removed. For the grid connection cable route corridor, the 132kV and 400kV cables may be left in situ, depending on the least environmentally damaging approach at the time. If these are removed this would be achieved by pulling the cables out of the ducts, limiting the locations where the surface would need to be disturbed.	Agricultural Land Classification (ALC) grading is not time limited and an assessed grade should not change over time without a significant intervention such as use of land for opencast mineral works. Soil Resource – For the duration of the solar farm operation, the land is under low input pasture management. Increasing this duration up to 60 years gives a greater period of time for the soil organic matter to recover and approach the higher equilibrium of grassland compared to the lower equilibrium of arable land. Therefore the benefit is added to without any new or heightened risk to the soil resource. Farming Circumstances – in a change from 40 to 60 years each farm business will benefit from the extended duration of the new diversified enterprise. The extended period will not introduce any	The continued use of the land for the Scheme up to 60 years will not change the conclusions of the ES given that the absence of arable crops does not reduce or change the agricultural land value, and that the land use is reversible. It would merely extend the period of soil recovery and period during which arable farming does not take place. The Outline Soil Management Plan sets out the principles of decommissioning, to ensure that those areas disturbed by the works are returned in the same agricultural quality to the existing quality. For the Agricultural land resource there is no further effect of a 60 year operational period over a 40 year period. Soil resources benefit from the longer duration fallow giving greater time for the soil organic matter to stabilise towards the higher equilibrium. This	No change

ES Chapter	Paragraph Ref.	Wording in the ES	Summary of approach to reviewing assessment to account for up to 60 year operational period	Commentary on implications on assessment or conclusions on likely significant effects for up 60 year operational period	Any changes to the assessment?
			new factor which is detrimental to the farm businesses.	reinforces the existing moderate beneficial effect but does not change it. For Farming Circumstances, each occupant benefits from the longer duration of the new diversified enterprise. This reinforces the existing moderate beneficial effect but does not change it.	
Chapter 20: Waste **[APP-058]**	Chapter 23 Summary of Significant Effects **[REP3-010]**	Chapter 23 (summary of significant effects) sets out the key significant effect re. Waste, namely a moderate/large adverse significant effect of waste disposal from the cumulative decommissioning stage of the assessed NSIPs (due to a lack of waste disposal capacity in the assessment area at 2066).	Reviewing the significant cumulative effect determined the year at which this came into effect is 2039, and as such, the difference in a 40 versus 60 year operational lifetime falls after this milestone.	Extending the operational period to 60 years would not change this conclusion. The measures set out in the OEMP would continue to apply up to 60 years (see table 3.13 of the Outline OEMP **[DEC/WB7.14_E]**).	No change
Chapter 21: Other Environmental Matters **[APP-059]**	21.1.1 21.1.2	This chapter considers other environmental topics that do not require individual ES chapters. This chapter addresses: • Electromagnetic fields; • Telecommunications, utilities, and television; • Light pollution; • Human health – a summary of the relevant assessments in respect of each topic area is provided; • Major accidents and disasters – this document sets out where these impacts are assessed in the topic chapters and any relevant mitigation measures are secured. Electromagnetic fields; Telecommunications, utilities and television; and light pollution were confirmed to be scoped out of the ES by PINS in the scoping opinion, subject to a number of matters which are addressed below.	A review of the assessment receptors for human health and major accidents and disasters was undertaken in parallel with the reviews undertaken in the rest of the ES.	This chapter concludes that there are no significant residual effects predicted during construction, operation and decommissioning of the Scheme. Extending the operational period to 60 years would not change any conclusions set out in this chapter.	No change