

COMMONWEALTH OF KENTUCKY  
BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION  
AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF STMO BN, LLC	)	
(STARFIRE) FOR A CERTIFICATE OF	)	
CONSTRUCTION FOR AN APPROXIMATELY	)	
210 MEGAWATT MERCHANT SOLAR ELECTRIC	)	CASE NO.
GENERATING FACILITY IN KNOTT, BREATHITT,	)	2024-00255
AND PERRY COUNTIES, KENTUCKY	)	
PURSUANT TO KRS 278.700 AND 807 KAR	)	
5:110	)	

ORDER

On February 4, 2025, STMO BN, LLC (Starfire) filed an application with the Kentucky State Board on Electric Generation and Transmission Siting (Siting Board) seeking a Construction Certificate to construct an approximately 210-megawatt ground-mounted solar photovoltaic electric generating facility (Project) comprising approximately 1,980 acres of land in Breathitt, Perry, and Knott County, Kentucky.

There are no intervenors in this matter. Pursuant to a procedural schedule established on February 21, 2025, Starfire responded to two rounds of discovery. A site visit was held on April 21, 2025. Siting Board consultant, BBC Research & Consulting (BBC), filed its report on May 26, 2025 (BBC Report). Starfire submitted its response to the BBC Report on June 9, 2025. A formal hearing was held on June 18, 2025. Starfire filed its responses to post-hearing requests for information on July 11, 2025. The matter now stands submitted for a decision.

## LEGAL STANDARD

The filing requirements and standard of review for requests to construct a merchant generating facility are set forth in KRS 278.700–.718. KRS 278.704(1) requires that an application be filed with and approved by the Siting Board before the construction of a merchant electric generating facility can commence. KRS 278.706 requires that the application include evidence of public notice and compliance with local planning and zoning ordinances.

KRS 278.708(2) requires Starfire to prepare a site assessment report (SAR) that includes (1) a detailed description of the proposed site; (2) an evaluation of the compatibility of the facility with scenic surroundings; (3) potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the site; (4) evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; (5) the impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility; and (6) any mitigating measures to be suggested by Starfire to minimize or avoid adverse effects identified in the SAR.

KRS 278.710(1) delineates the criteria on which the Siting Board will grant or deny the certificate, which include (1) impact on scenic surroundings, property values, and surrounding roads; (2) anticipated noise levels during construction and operation of the facility; (3) economic impact on the region and state; (4) whether the proposed facility meets all local planning and zoning requirements existing on the date the application was

filed; (5) impact of the additional load on the reliability of jurisdictional utilities; (6) setback requirements; (7) efficacy of mitigation measures proposed by Starfire; and (8) whether the applicant has a good environmental compliance history.

### PROPOSED FACILITY

The Project will be located on 1,980 acres with the Project area contained on 1,385 acres within the fence line in Knott, Breathitt, and Perry counties, Kentucky.<sup>1</sup> The Project includes approximately 470,000 photovoltaic solar panels, associated ground-mounted racking, 55 inverters, and a main transformer that will connect to the Harbert Substation owned by Kentucky Power Company (Kentucky Power).<sup>2</sup>

### DISCUSSION AND FINDINGS

#### **I. KRS 278.708: SAR Filing Requirements and Mitigation Measures**

##### Mitigation Measures Proposed by Starfire and Siting Board Consultant

As required by KRS 278.708(4), Starfire proposed various mitigation measures consistent with the statutes regarding traffic, noise, roadway preservation, permitting, setbacks, public safety, scenic preservation, and decommissioning.<sup>3</sup>

In accordance with KRS 278.708(5), BBC recommended mitigation measures in the following areas: site development, compatibility with scenic surroundings, fugitive dust plans, and notice and communication with adjacent landowners.<sup>4</sup>

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<sup>1</sup> Application (filed Feb. 4, 2025) at 2.

<sup>2</sup> Application, Exhibit C; Application at 9.

<sup>3</sup> Application, Exhibit J, Site Assessment Report (SAR) at 8-10.

<sup>4</sup> BBC Report (filed May 26, 2025), Section B at 6-8.

Starfire generally agreed with the BBC Report but disagreed with certain recommendations of the BBC Report's proposed mitigation measures.<sup>5</sup> BBC recommended that Starfire limit noise-generating construction activity from the hours of 8 a.m. to 7 p.m., Monday through Sunday, and pile driving only between 9 a.m. and 5 p.m., Monday through Saturday.<sup>6</sup> Starfire responded that due to the area's existing topography and vegetation, significant distance to noise receptors, and the area's current mining activity and noise, it recommended limiting noise-generating activity, including pile driving, to the hours of 6 a.m. to 7 p.m., Monday through Saturday.<sup>7</sup> BBC Report also recommended that Starfire implement a robust traffic management plan, including ridesharing and allowing flexible working hours for construction workers outside of peak hours.<sup>8</sup> Starfire responded that it can encourage, but cannot require, workers to ride share and that the nature of construction work will in almost all situations prevent flexible work hours.<sup>9</sup> Otherwise, Starfire agreed with the BBC Report's recommendations with minor corrections.<sup>10</sup>

The Siting Board has reviewed the mitigation measures proposed by Starfire and BBC and finds that, in addition to those Starfire has initially proposed, the mitigation measures set forth in Appendix A to this Order and discussed throughout this Order are

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<sup>5</sup> Response to Consultant's Report (filed June 9, 2025).

<sup>6</sup> BBC Report, Section B at 7.

<sup>7</sup> Response to Consultant's Report at 2.

<sup>8</sup> BBC Report, Section C at 47.

<sup>9</sup> Response to Consultant's Report at 3.

<sup>10</sup> The BBC Report recommended that Starfire implement a complaint resolution program overseen by the Siting Board. Starfire agreed but stated that oversight would be carried out by the Energy and Environment Cabinet (EEC). Response to Consultant's Report at 2.

appropriate and reasonable because they achieve the statutory purpose of mitigating the adverse effects identified in the SAR and the BBC in accordance with KRS 278.708.

#### Detailed Site Description

KRS 278.708(3)(a)(1–6) requires that the detailed site description in the SAR include a description of (1) surrounding land uses for residential, commercial, agricultural, and recreational purposes; (2) the legal boundaries of the proposed site; (3) proposed access control to the site; (4) the location of facility buildings, transmission lines, and other structures; (5) location and use of access ways, internal roads, and railways; and (6) existing or proposed utilities to service the facility.

Starfire submitted the required SAR with its application.<sup>11</sup> The application contained a preliminary site plan.<sup>12</sup> The site plan included the Project boundary, existing roads, proposed access roads, solar array areas, the proposed fence line, inverter locations, existing pipelines, parcel boundaries, wildlife corridors, proposed gen-tie line, proposed substation location, proposed operating and maintenance (O&M) building location, and existing cemeteries.<sup>13</sup> It is anticipated that approximately 152 acres of forest habitat and 1,233 acres of other, non-forested vegetation will be removed during construction.<sup>14</sup> In order to mitigate the issue of displaced wildlife, Starfire proposed the development of wildlife corridors through the site, retention of as much existing forest

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<sup>11</sup> SAR.

<sup>12</sup> SAR, Attachment 1, Site Plan.

<sup>13</sup> SAR, Attachment 1, Site Plan.

<sup>14</sup> Starfire's Response to Siting Board Staff's First Request for Information (Staff's First Request) (filed Mar. 31, 2025) and (refiled Apr. 14, 2025), Item 11.

habitat as reasonably practicable, and reforestation of at least 25 acres of land.<sup>15</sup> Starfire has also proposed establishing at least 10 acres of pollinator habitat into the final site design.<sup>16</sup> Starfire does not anticipate demolishing any existing structures on the Project site.<sup>17</sup> No railways are located within the Project.<sup>18</sup> The Project will include approximately 59,774 linear feet (11 miles) of internal roads accessed by approximately 14 gates providing openings through the 142,425 linear feet (27 miles) of perimeter fence.<sup>19</sup> The legal boundaries of the proposed site are contained in the application.<sup>20</sup>

Individual panel array areas will be individually fenced and have a minimum of one access gate per array area.<sup>21</sup> A wildlife friendly fence with wooden posts and wire mesh will enclose the solar panels and associated infrastructure.<sup>22</sup> A fence meeting National Electrical Safety Code (NESC) requirements, typically a six-foot fence that includes three strings of barbed wire at the top, will enclose the Project's substation.<sup>23</sup> During construction, all gates will be locked overnight and during days when no construction activity is occurring.<sup>24</sup> During operation, all gates will be locked 24 hours per day and only opened when operations and maintenance personnel are entering or leaving an

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<sup>15</sup> Starfire's Response to Staff's First Request, Item 14.

<sup>16</sup> Starfire's Response to Staff's First Request, Item 14.

<sup>17</sup> Starfire's Response to Staff's First Request, Item 32.

<sup>18</sup> SAR at 3.

<sup>19</sup> Application at 3.

<sup>20</sup> SAR, Attachment 3.

<sup>21</sup> Starfire's Response to Staff's First Request, Item 66.

<sup>22</sup> SAR at 2.

<sup>23</sup> SAR at 2.

<sup>24</sup> Starfire's Response to Staff's First Request, Item 66.

array area.<sup>25</sup> The Project will comply with federal, state, and local regulations, as applicable, in determining safety signage locations around the facility.<sup>26</sup> Approximately 28,000 linear feet of collection cables are anticipated for the Project's collection system.<sup>27</sup> The Project will include an operations and maintenance building and associated parking that will remain during the operational phase of the Project.<sup>28</sup> Limited electric service may be required to provide for the operations and maintenance building and is anticipated to be provided by Kentucky Power.<sup>29</sup> Water resources will be obtained from onsite wells or trucked in from an offsite water purveyor.<sup>30</sup> Currently, the Project estimates approximately forty to sixty poles will be required for the transmission line along a total length of approximately five miles located within a right of way width of 200 feet.<sup>31</sup> The Project will file a separate application for its nonregulated electric transmission line.<sup>32</sup>

The proposed Project is an approximately 1,980 acre site located on a former mine site approximately six miles east of Wendell H. Ford Airport in portions of unincorporated Breathitt, Knott, and Perry counties, Kentucky.<sup>33</sup> Overall, agricultural land comprises 95 percent of adjoining acres while about 5 percent is solely residential.<sup>34</sup> Measured by the

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<sup>25</sup> Starfire's Response to Staff's First Request, Item 66.

<sup>26</sup> SAR at 2.

<sup>27</sup> Starfire's Response to Staff's First Request, Item 18.

<sup>28</sup> Application at 3.

<sup>29</sup> SAR at 3.

<sup>30</sup> SAR at 3.

<sup>31</sup> Starfire's Response to Staff's First Request, Item 34.

<sup>32</sup> Starfire's Response to Staff's First Request, Item 34.

<sup>33</sup> Application at 2.

<sup>34</sup> BBC Report, Section B at 2.

number of properties rather than their acreage, agricultural uses constitute 46 percent of adjoining parcels, while 54 percent of adjoining parcels are residential.<sup>35</sup> To promote wildlife movement and habitat connectivity within the region, the Project will incorporate a North/South-oriented wildlife corridor or corridors between panel groupings.<sup>36</sup> Portions of the project site are being actively mined by Blackhawk Mining Company's Pine Branch LLC division.<sup>37</sup> Although some areas within the Project site boundary are still actively permitted, no active coal excavation is currently taking place within the site boundary.<sup>38</sup> The site is currently in a multiple phase reclamation process under Liberty Management and Blackhawk Mining.<sup>39</sup> Any portion of the Project area that has not achieved full reclamation prior to commencement of construction of the Project is anticipated to be granted expedited bond release from the Kentucky Division of Mine Reclamation and Enforcement.<sup>40</sup> There are no residential neighborhoods, schools, hospitals, or nursing homes within 2,000 feet of the proposed structures or facilities of the Project.<sup>41</sup>

#### Compatibility with Scenic Surroundings

The Project site is a former surface coal mine with surrounding agricultural and residential terrain.<sup>42</sup> Starfire stated that the Project site is not visible from surrounding

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<sup>35</sup> BBC Report, Section B at 2.

<sup>36</sup> Application at 5.

<sup>37</sup> Starfire's Response to Sting Board Staff's Second Request for Information (Staff's Second Request) (filed May 12, 2025), Item 1.

<sup>38</sup> Starfire's Response to Staff's Second Request, Item 4.

<sup>39</sup> Starfire's Response to Staff's First Request, Item 43.

<sup>40</sup> Starfire's Response to Staff's Second Request, Item 3.

<sup>41</sup> SAR at 3.

<sup>42</sup> SAR at 1-2.



residential structures due to topography and existing vegetation; therefore, Starfire did not propose additional screening.<sup>43</sup> Starfire has stated that it designed the Project to avoid impacts on wildlife by allowing for animal migration through the site via wildlife corridors and wildlife friendly fencing.<sup>44</sup> BBC reviewed and evaluated the Project's SAR and stated that it concurred with Starfire's conclusion that the proposed facility would not be incompatible with its surroundings from a scenic standpoint due to the elevated topography of the site and existing vegetative screening.<sup>45</sup>

Having reviewed the record, the Siting Board finds that, while there will always be an impact on the scenery of neighboring properties, the impact of this Project will be minimal due to the elevated terrain of the site and the existing vegetative screening. The existing topography, along with other mitigation measures proposed by Starfire and BBC, will minimize the majority of the effect that the proposed facility will have on the scenic surroundings of the site. However, the Siting Board finds that additional mitigation measures should be required in addition to those proposed by Starfire. Those additional mitigation measures are set forth in Appendix A to this Order.

#### Impact on Property Values

Starfire submitted a property value report prepared by Kirkland Appraisals, LLC (Kirkland Report), a certified real estate appraiser.<sup>46</sup> The Kirkland Report found that there was no negative impact on property value for property adjoining a solar farm with proper

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<sup>43</sup> SAR at 9.

<sup>44</sup> SAR at 9.

<sup>45</sup> BBC Report, Section B at 3.

<sup>46</sup> SAR, Attachment 2, Property Value Impact Analysis.

setbacks and landscaping buffers.<sup>47</sup> The Kirkland Report analyzed 44 properties adjoining solar farms in and around Kentucky using a matched pair analysis.<sup>48</sup>

BBC reviewed the Kirkland Report and determined that, based on available studies of comparable projects and the specific topography of the instant Project site, the Project will not have an adverse impact on nearby residential property values.<sup>49</sup> However, BBC recommended leaving existing vegetation in place to the extent feasible to help minimize any visual or noise impacts on surrounding residential properties.<sup>50</sup>

Having reviewed the record, the Siting Board finds sufficient evidence to conclude that the proposed Starfire facility will not have any significant adverse impact on nearby property values so long as proper mitigation measures are implemented. The characteristics of a solar facility's operation are passive, and the facility will be temporary, with the land returned to its natural state after a few decades of operation. Further, the unique topography of the site will largely shield any viewshed impacts on surrounding residential properties.

#### Anticipated Noise Level

Starfire's Acoustic Assessment Report was completed by Tetra Tech, Inc. (Tetra Tech).<sup>51</sup> Tetra Tech used representative noise levels from the U.S. EPA's 1980 "Construction Noise Control Technology Initiatives" and 1971 "Community Noise."<sup>52</sup>

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<sup>47</sup> SAR, Attachment 2, Property Value Impact Analysis at 116.

<sup>48</sup> SAR, Attachment 2, Property Value Impact Analysis at 104-105.

<sup>49</sup> BBC Report, Section C at 35.

<sup>50</sup> BBC Report, Section C at 35.

<sup>51</sup> SAR, Attachment 4, Sound Study at 1.

<sup>52</sup> SAR, Attachment 4, Sound Study at 4.

Tetra Tech stated the estimated maximum noise levels during construction will occur during equipment installation (pile driving), and estimated that the closest receiver, 3,828 feet from the Project boundary line, would have noise levels during pile driving of 61 decibels A-weighted scale (dBA).<sup>53</sup> Construction related activity is expected to occur between 7 a.m. and 7 p.m., with noise-producing activities occurring from 9 a.m. to 5 p.m.<sup>54</sup>

Tetra Tech found operational noise will emanate from inverters and substation transformers.<sup>55</sup> Based on Tetra Tech's operational sound modeling, the highest sound level at 5,504 feet (NSA-1) was 25 dBA, and 47 dBA at Chestnut Gap Cemetery.<sup>56</sup> Tetra Tech stated that the Project's generated noise levels for daytime and nighttime operation are estimated to be below the USEPA's recommended protective noise level of 48.6 dBA for 24-hour operation.<sup>57</sup> Tetra Tech concluded that no one noise sensitive area will be exposed to the same sound levels over an extended period of time, as construction progresses through the site.<sup>58</sup> BBC evaluated the Acoustic Assessment Report conducted by Tetra Tech and concluded that the Project's construction phase will produce the highest noise levels, especially during pile-driving activity.<sup>59</sup> However, BBC

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<sup>53</sup> SAR, Attachment 4, Sound Study at 14-15.

<sup>54</sup> SAR, Attachment 4, Sound Study at 6.

<sup>55</sup> SAR, Attachment 4, Sound Study at 10.

<sup>56</sup> SAR, Attachment 4, Sound Study at 16.

<sup>57</sup> SAR, Attachment 4, Sound Study at 4.

<sup>58</sup> SAR, Attachment 4, Sound Study at 12.

<sup>59</sup> BBC Report, Section C at 42.

determined that none of the noise during the construction phase will reach hazardous levels.<sup>60</sup>

In its SAR, Starfire proposed several noise mitigation measures, including use of mufflers on construction vehicles, setting back the noisiest equipment from noise sensitive areas, and utilizing a complaint hotline with a local representative to address noise-related issues.<sup>61</sup>

The Siting Board finds that noise from the construction phase will be intermittent and temporary but will be significant to the nearest residences. As indicated by Tetra Tech and the BBC report, the noise will be loudest during the construction phase but will not be permanent to nearby residents.<sup>62</sup> The Siting Board further finds that the operational noise from inverters and the main transformer should have little to no effect on residences in the area.

Based on the case record, the Siting Board finds that Starfire's application is in compliance with the statutory requirements for disclosing noise levels. However, the Siting Board further finds that, based on the entire record, to ensure the impact of construction noise does not unduly impact nearby residents, Starfire will be required to implement specific mitigation measures to ensure the impact of construction noise does not unduly impact nearby residents. The mitigation measures implemented by the Siting Board are designed to limit the effects of construction noise by controlling the hours of construction in general, as well as the time and manner pile driving can occur. The Siting

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<sup>60</sup> BBC Report, Section C at 42

<sup>61</sup> SAR, Attachment 4, Sound Study at 7.

<sup>62</sup> SAR, Attachment 4, Sound Study at 12; BBC Report, Section C at 42.

Board will require Starfire to mitigate construction noise up to 1,500 feet to ensure the surrounding community is not negatively impacted by the construction noise. Starfire may forego noise suppression if it employs a panel installation method that does not involve pile driving, so long as the method does not produce noise levels similar to pile driving. These mitigation measures are further outlined in Appendix A to this Order, specifically mitigation measures 14 through 16.

#### Impact on Roads, Railways, and Fugitive Dust

The construction phase of the Project is expected to take 12 to 18 months, from the summer of 2026 up to December 31, 2027.<sup>63</sup> The site will be accessed by several existing gravel roads on Routes 476 and 1087.<sup>64</sup> Starfire's traffic study evaluated roadway capacity for the primary roadways serving the site, Routes 80, 476, and 1087.<sup>65</sup> During peak construction, the Project is anticipated to generate approximately 566 vehicle trips on a typical weekday.<sup>66</sup> The adjacent roadways are anticipated to have ample capacity to accommodate peak traffic during the construction phase.<sup>67</sup> The project will use vehicle cleaning stations, water trucks, and dust screens to control dust and ensure that sediment is not tracked from the Project site onto the road network.<sup>68</sup>

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<sup>63</sup> Starfire's Response to Staff's First Request, Item 67.

<sup>64</sup> SAR, Attachment 7, Traffic Study at 3.

<sup>65</sup> SAR, Attachment 7, Traffic Study at 3.

<sup>66</sup> SAR, Attachment 7, Traffic Study at 3.

<sup>67</sup> SAR, Attachment 7, Traffic Study at 3.

<sup>68</sup> SAR, Attachment 7, Traffic Study at 3.

The Siting Board finds that traffic and road congestion issues can be addressed with Starfire's mitigation measures and mitigation measures set forth in Appendix A to this Order and in particular, mitigation measures 20 through 26.

The Siting Board anticipates some fugitive dust from the construction phase. Starfire proposed a number of mitigation measures for dust from the construction phase, including covering sediment and utilizing water trucks.<sup>69</sup>

The Siting Board finds that additional mitigation measures are necessary to reduce any potentially harmful effects on the area, which are outlined in Appendix A to this Order. Additionally, to ensure appropriate monitoring of the Project, the Siting Board finds that Starfire should inform the Siting Board and the Energy and Environment Cabinet (EEC) of the date construction will commence, 30 days prior, to ensure the proper permits have been obtained and whether proper steps have been taken to comply with the mitigation measures set forth in Appendix A to this Order.

## **II. KRS 278.710(1) Criteria**

In addition to the evaluation of the factors addressed in the SAR, the Siting Board considered the below described factors set forth in KRS 278.710(1) in rendering its decision.

### **Economic Impact on Affected Region and the State**

Starfire contracted Mangum Economics, LLC (Mangum) to estimate the economic and fiscal impacts of the Starfire Project.<sup>70</sup> Starfire plans to encourage local hiring including contract provisions that require the engineering, procurement and construction

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<sup>69</sup> SAR, Attachment 7, Traffic Study at 7.

<sup>70</sup> Application, Exhibit I, Economic Study.

contractor (EPC) to host a job fair to prioritize local labor force hiring coordinated with Hazard Community & Technical College, Perry, Knott, and Breathitt County departments, local mining and reclamation companies, and community foundations.<sup>71</sup> The Project would provide a one-time stimulus to the Project area's local region of approximately 85 direct and 114 indirect and induced job years, \$11.9 million in associated wages and benefits, \$46.6 million in economic output, and \$2.7 million in state and local tax revenue.<sup>72</sup> The project would add a stimulus statewide, including the local region, of 192 direct and 304 indirect and induced statewide job years, \$39.3 million in wages and benefits, \$128.9 million in economic output, and \$6.9 million in state and local tax revenue.<sup>73</sup> The Project would include consistent economic impacts during the operation of the solar project of 1 direct and 8 indirect and induced local jobs, with approximately \$0.4 million in associated wages and benefits, and \$2.5 million in economic output.<sup>74</sup> The Project would add a stimulus statewide, including the local region, of 1 direct and 20 induced statewide jobs, with approximately \$1.3 million associated wages and benefits, and \$5.8 million in economic output.<sup>75</sup> Additionally, Starfire anticipates that an Industrial Revenue Bond (IRB) will generate approximately \$2.5 million in state tax revenue over the life of the Project.<sup>76</sup> Starfire anticipates a Payment in Lieu of Taxes (PILOT)

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<sup>71</sup> Starfire's Response to Siting Board Staff's Post-Hearing Request for Information (Staff's Post-hearing Request), Item 1.

<sup>72</sup> Application, Exhibit I, Economic Study at 1. In 2024 tax dollars.

<sup>73</sup> Application, Exhibit I, Economic Study at 1. In 2024 tax dollars.

<sup>74</sup> Application, Exhibit I, Economic Study at 2. In 2024 tax dollars.

<sup>75</sup> Application, Exhibit I, Economic Study at 2. In 2024 tax dollars.

<sup>76</sup> Application, Exhibit I, Economic Study at 4. In 2024 tax dollars

agreement that would generate payments to the counties of up to \$15.6 million over the life of the Project.<sup>77</sup>

Starfire stated that the current site would produce \$190,900 in total local revenue over a 40-year period without the Project.<sup>78</sup> This is compared to \$8.2 million in total local revenue over a 40-year period with the Project.<sup>79</sup>

BBC evaluated Mangum's Economic Study and concluded that the study is consistent with industry standards.<sup>80</sup> BBC further concluded that the Project would have a modest impact during operation, but that the Project will enhance local government revenue while requiring very few resources.<sup>81</sup> The largest impact on employment would be felt during the initial construction phase.<sup>82</sup>

The Siting Board finds that the proposed Project has a net positive economic impact on the affected region and the state.

#### Existence of Other Generating Facilities

Starfire stated that it could not feasibly co-locate with existing generating facilities, but was able to locate on a reclaimed coal mine in proximity to a utility substation with available capacity and corresponding electric transmission lines.<sup>83</sup> The Project will interconnect to an existing off-site location, the Harbert Substation, which is owned and

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<sup>77</sup> Application, Exhibit I, Economic Study at 3.

<sup>78</sup> Application, Exhibit I, Economic Study at 38.

<sup>79</sup> Application, Exhibit I, Economic Study at 38.

<sup>80</sup> BBC Report, Section B at 5.

<sup>81</sup> BBC Report, Section B at 5.

<sup>82</sup> BBC Report, Section B at 5.

<sup>83</sup> Application at 9.



operated by Kentucky Power and is located 3.6 miles northeast of the Project site.<sup>84</sup> A separate application will be filed with the Siting Board for its nonregulated electric transmission line.<sup>85</sup>

#### Local Planning and Zoning Requirements

Knott, Perry, and Breathitt counties do not have planning and zoning commissions.<sup>86</sup> The statutory requirements of KRS 278.704(2) apply unless a deviation is applied for and granted by the Siting Board. KRS 278.704(2) requires that all proposed structures or facilities used for generation of electricity must be 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility. Starfire contends that the project, in this case, will not be closer than 2,000 feet to any residential neighborhood, school, hospital, or nursing home facility; and therefore, Starfire is not seeking a deviation from the setback requirements of KRS 278.704(2).<sup>87</sup>

#### Impact on Transmission System

Starfire employed a consultant to analyze the effects of the Project on the American Electric Power (AEP)<sup>88</sup> owned transmission system.<sup>89</sup> Starfire stated that with moderate system upgrades, paid for by Starfire, the Project will enhance the reliability of AEP's electric system by increasing the amount of renewable energy supplied to the AEP

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<sup>84</sup> Application at 9-10.

<sup>85</sup> Application at 10.

<sup>86</sup> Application at 7.

<sup>87</sup> Application at 7.

<sup>88</sup> AEP is the parent company of Kentucky Power.

<sup>89</sup> Application at 10.

system and the transmission system.<sup>90</sup>

#### Compliance with Setback Requirements

Knott, Perry, and Breathitt counties do not have planning and zoning commissions.<sup>91</sup> The statutory requirement of KRS 278.704(2) requires that all proposed structures or facilities used for generation of electricity must be 2,000 feet from any residential neighborhood, school, hospital, or nursing home facility.<sup>92</sup> KRS 278.704(4) authorizes the Siting Board to grant a deviation from the setback requirements in KRS 278.704(2) if requested. Starfire contends that the Project in this case will not be closer than 2,000 feet to any residential neighborhood, school, hospital, or nursing home facility; and therefore, Starfire is not seeking a deviation from the setback requirements of KRS 278.704(2).<sup>93</sup>

The Siting Board finds, given the nature of the surrounding property and the mitigation measures the Siting Board has imposed in Appendix A, the statutory purposes are met by the Project.

#### History of Environmental Compliance

In its application, Starfire states that neither it, nor anyone with an ownership interest in it, has violated any environmental laws, rules, or administrative regulations.<sup>94</sup> Further, Starfire has stated that there are no pending actions, judicial or administrative,

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<sup>90</sup> Application at 11.

<sup>91</sup> Application at 7.

<sup>92</sup> KRS 278.704(2).

<sup>93</sup> Application at 7.

<sup>94</sup> Application at 12.

against it or any entity with an ownership interest in it.<sup>95</sup>

### Decommissioning

Starfire submitted a decommissioning plan with the application.<sup>96</sup> The decommissioning plan includes provisions to remove underground components up to 3 feet deep, unless otherwise requested by the landowner.<sup>97</sup> Starfire stated it will secure a bond to assure the financial performance of the decommissioning obligation.<sup>98</sup> The amount of the bond will be an amount equal to the net present value of the total estimated cost of completing the decommissioning plan, less the salvage value of the facility's components.<sup>99</sup>

The Siting Board finds that Starfire must return the land to its original use, to the extent possible, at the end of the Project's life. Returning the land back to its original state and use after decades of operation is a material element of the Siting Board's finding regarding the impact of the facilities on scenic surroundings, property values, and the economy. The relatively "temporary" nature of the facilities compared to other types of more permanent development, such as thermal merchant generation facilities, industrial operations, or housing, is a prime consideration of the Siting Board in granting a certificate, with conditions, on this matter. An inability or unwillingness to return the land back to its prior state after the life of the facility, including leaving facilities in excess of three feet, increases the permanence of the facility. As such, the Siting Board finds that

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<sup>95</sup> Application at 12.

<sup>96</sup> Application, Exhibit K.

<sup>97</sup> Application, Exhibit K at 4.

<sup>98</sup> Application, Exhibit K at 7.

<sup>99</sup> Application, Exhibit K at 7.

Starfire should remove all facility components, both above and below ground, unless the landowner agrees otherwise, and regrade and recompact the soil. Removal of all underground components and regrading or recompacting the soil will mitigate any damage to the land, thus returning the land to a state that provides at least as great of an economic impact as it does today. The Siting Board finds that Starfire should also implement additional measures related to decommissioning, which are outlined in Appendix A to this Order, particularly mitigation measures 31 through 34.

### CONCLUSION

After carefully considering the criteria outlined in KRS Chapter 278, the Siting Board finds that Starfire has presented sufficient evidence to support the issuance of a Construction Certificate to construct the proposed merchant solar facility. The Siting Board conditions its approval upon the full implementation of all mitigation measures and other requirements described herein and listed in Appendix A to this Order. A map showing the site plan of the proposed solar generating facility is attached hereto as Appendix B.

IT IS THEREFORE ORDERED that:

1. Starfire's application for a Construction Certificate to construct an approximately 210 MW merchant solar electric generating facility in Breathitt, Perry, and Knott counties Kentucky, is conditionally granted subject to full compliance with the mitigation measures and conditions prescribed in Appendix A.
2. Starfire shall fully comply with the mitigation measures and conditions prescribed in Appendix A to this Order.
3. In the event mitigation measures within the body of this Order conflict with

those prescribed in Appendix A to this Order, the measures in Appendix A shall control.

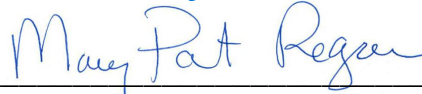
4. This case is closed and removed from the commission's docket.

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KENTUCKY STATE BOARD ON ELECTRIC  
GENERATION AND TRANSMISSION SITING



Chairman, Public Service Commission

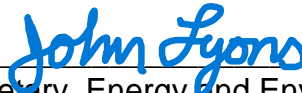


Commissioner, Public Service Commission



Commissioner, Public Service Commission

by ALT  
w/ permission



Secretary, Energy and Environment Cabinet,  
or her designee



Secretary, Cabinet for Economic Development,  
or his designee

ATTEST:



Executive Director  
Public Service Commission  
*on behalf of the Kentucky State  
Board on Electric Generation  
and Transmission Siting*



## APPENDIX A

### APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION SITING IN CASE NO. 2024-00255 DATED AUG 01 2025

#### MITIGATION MEASURES AND CONDITIONS IMPOSED

The following mitigation measures and conditions are hereby imposed on STMO BN, LLC (Starfire) to ensure that the facilities proposed in this proceeding are constructed as ordered.

1. A final site layout plan shall be submitted to the Siting Board upon completion of the final site design. Deviations from the preliminary site layout should be clearly indicated on the revised graphic. Those changes could include, but are not limited to, location of solar panels, inverters, transformers, substation, operation and maintenance building, transmission line route, or other Project facilities and infrastructure. As noted in paragraph three, any parcels not specifically approved in this site plan added to the Project would require approval from the Siting Board.

2. Any change in the Project boundaries from the information that formed this evaluation shall be submitted to the Siting Board for review.

3. The Siting Board will determine whether any deviation in the boundaries or site layout plan is likely to create a materially different pattern or magnitude of impacts.

4. Starfire shall provide the date that construction will commence to the Siting Board and the Energy and Environment Cabinet (EEC), Division of Waste Management, 30 days prior to the commencement of construction of the Project.

5. Starfire shall submit a status report to the Siting Board every six months, until the Project begins generating electricity, to update the Siting Board on the status of

the Project. The report shall reference this case number and be filed in post-case correspondence in this case.

6. Starfire shall comply with all requirements in KRS 278.710 for monitoring by the EEC.

7. Prior to construction, Starfire shall provide a finalized Emergency Response Plan to the local fire district, first responders, and any county emergency management agency. Starfire shall provide site-specific training for local emergency responders at their request. Access for fire and emergency units shall be set up after consultation with local authorities.

8. Starfire or its contractor will control access to the site during construction and operation. All construction entrances will be gated and locked when not in use.

9. Starfire's access control strategy shall also include appropriate signage to warn potential trespassers. Starfire must ensure that all site entrances and boundaries have adequate signage, particularly in locations visible to the public, local residents, and business owners.

10. The security fence must be installed prior to activation of any electrical installation work in accordance with National Electrical Safety Code (NESC) standards. The substation shall have its own separate security fence and locked access installed in accordance with NESC standards.

11. Existing vegetation between solar arrays and nearby roadways and homes shall be left in place to the extent feasible to help minimize visual impacts and screen the project from nearby homeowners and travelers. Starfire will not remove any existing



vegetation except to the extent it must remove such vegetation for the construction and operation of project components.

12. To the extent that existing vegetative buffers are found to be insufficient, Starfire shall implement planting of native evergreen species as a visual buffer to mitigate visual viewshed impacts, in areas where those viewshed impacts occur from residences or roadways directly adjacent to the Project. If it is not adequate, then vegetation ten feet thick reaching six feet at maturity (in four years) will be added by Starfire between Project infrastructure and residences, or other occupied structures, with a line of sight to the facility to the reasonable satisfaction of the affected adjacent property owners. Planting of vegetative buffers may be done over the construction period; however, Starfire should prioritize vegetative planting at all periods of construction to reduce viewshed impacts. All planting shall be done prior to the operation of the facility.

13. Starfire shall cultivate at least two acres of native, pollinator-friendly species onsite.

14. Starfire is required to limit construction activity, including construction activities that create a higher level of noise, process, and deliveries to the hours between 6 a.m. and 7 p.m. local time, Monday through Saturday, with construction not occurring on Sunday unless necessary to make up for delays. Non-noise causing and non-construction activities can take place on the site between 6 a.m. and 10 p.m. local time, Monday through Sunday, including field visits, arrival, departure, planning, meetings, mowing, surveying, etc.

15. If the pile-driving activity occurs within 1,500 feet of a noise-sensitive receptor, Starfire shall implement a construction method that will suppress the noise

generated during the pile-driving process (i.e., semi-tractor and canvas method; sound blankets on fencing surrounding the solar site; or any other comparable method). Starfire can forego using noise suppression measures if it employs a panel installation method that does not use pile driving, so long as that method does not create noise levels similar to pile driving.

16. Starfire shall notify residents and businesses within 2,400 feet of the Project boundary about the construction plan, the noise potential, any mitigation plans, and its Complaint Resolution Program referred to in Item 33 of this Appendix, at least one month prior to the start of construction.

17. Starfire shall place panels, inverters, and substation equipment consistent with the distances to noise receptors to which it has committed in its maps and site plans. Nevertheless, Starfire shall not place solar panels or string inverters, if used, closer than 150 feet from a residence, church, or school, 25 feet from non-participating adjoining parcels, or 50 feet from adjacent roadways. Starfire shall not place a central inverter, and if used, energy storage systems, closer than 450 feet from any adjacent residences, church, or school. These further setbacks shall not be required for residences owned by landowners involved in the Project that explicitly agree to lesser setbacks and have done so in writing. All agreements by participating landowners to lesser setbacks must include language advising the participating landowners of the setbacks otherwise required herein. All agreements by participating landowners to lesser setbacks must be filed with the Siting Board prior to commencement of the Project.

18. Starfire shall fix or pay for repairs for damage to roads and bridges resulting from any vehicle transport to the site. For damage resulting from vehicle transport in accordance with all permits, those permits will control.

19. Starfire shall comply with all laws and regulations regarding the use of roadways.

20. Starfire shall implement ridesharing between construction workers when feasible, use appropriate traffic controls, or allow flexible working hours outside of peak hours to minimize any potential traffic delays during AM and PM peak hours.

21. Starfire shall consult with the Kentucky Transportation Cabinet (KYTC) regarding truck and other construction traffic and obtain necessary permits from the KYTC.

22. Starfire shall consult with the Breathitt, Perry, and Knott County Road Departments (County Road Departments) regarding truck and other construction traffic and obtain any necessary permits from the County Road Departments.

23. Starfire shall develop special plans and obtain necessary permits before transporting heavy loads, especially the substation transformer, onto state or county roads.

24. Starfire shall comply with any road use agreement executed with the County Road Departments. Such an agreement might include special considerations for overweight loads, routes utilized by heavy trucks, road weight limits, and bridge weight limits.

25. Starfire shall develop and implement a traffic management plan to minimize the impact on traffic flow and keep traffic safe. Any such traffic management plan shall

also identify any traffic-related noise concerns during the construction phase and develop measures that would address those noise concerns.

26. Starfire shall properly maintain construction equipment and follow best management practices related to fugitive dust throughout the construction process, including the use of water trucks. Dust impacts shall be kept at a minimal level. The Siting Board requires Starfire's compliance with 401 KAR 63:010.

27. If any person shall acquire or transfer ownership of, or control, or the right to control the Project, by sale of assets, transfer of stock, or otherwise, or abandon the same, Starfire or its successors or assigns shall request explicit approval from the Siting Board with notice of the request provided to the Breathitt, Perry, and Knott County Fiscal Court. In any application requesting such abandonment, sale, or change of control, Starfire shall certify its compliance with KRS 278.710(1)(i).

28. As applicable to individual lease agreements, Starfire, its successors, or assigns will abide by the specific land restoration commitments agreed to by individual property owners as described in each executed lease agreement.

29. Starfire shall file a complete and explicit decommissioning plan with the Siting Board. This plan shall commit Starfire to remove all facility components, above ground and below ground, regardless of depth, from the Project site. Upon its completion, this plan shall be filed with the Siting Board or its successors. The decommissioning plan shall be completed at least one month before the construction of the Project.

30. Starfire shall file a bond with the Breathitt, Perry, and Knott County Fiscal Courts, equal to the amount necessary to effectuate the explicit or formal decommissioning plan naming Breathitt, Perry, and Knott counties as third-party obligee

(or secondary, in addition to individual landowners) beneficiaries, in addition to the lessors of the subject property insofar as the leases contain a decommissioning bonding requirement so that Breathitt, Perry, and Knott counties will have the authority to draw upon the bond to effectuate the decommissioning plan. For land with no bonding requirement otherwise, Breathitt, Perry, and Knott counties shall be the primary beneficiaries of the decommissioning bond for that portion of the Project. The bond shall be filed with the Breathitt, Perry, and Knott County Treasurers or with a bank, title company, or financial institution reasonably acceptable to the county. The acceptance of the counties of allowing the filing the bond with an entity other than the Fiscal Court, through the Breathitt, Perry, and Knott County Treasurers, can be evidenced by a letter from the Judge-Executive, the Fiscal Court, or the County Attorney. The bond(s) shall be in place at the time of commencement of operation of the Project. The bond amount shall be reviewed every five years at Starfire's expense to determine and update the cost of removal amount. This review shall be conducted by an individual or firm with experience or expertise in the costs of removal or decommissioning of electric generating facilities. Certification of this review shall be provided to the Siting Board or its successors and the Breathitt, Perry, and Knott County Fiscal Courts. Such certificate shall be by letter and shall include the current amount of the anticipated bond and any change in the costs of removal or decommissioning.

31. Starfire or its assigns shall provide notice to the Siting Board, if, during any two-year (730 days) period, it replaces more than 20 percent of its facilities. Starfire shall commit to removing the debris and replaced facility components from the Project site and from Breathitt, Perry, and Knott County upon replacement. If the replaced components

are properly disposed of at a permitted facility, they do not have to be physically removed from Breathitt, Perry, and Knott County. However, if the replaced facility components remain in the counties, Starfire must inform the Siting Board of the location where the components are being disposed.

32. Any disposal or recycling of Project equipment, during operations or decommissioning, shall be done in accordance with applicable laws and requirements.

33. Starfire shall initiate and maintain the Complaint Resolution Program provided to the Siting Board in the case record to address any complaints from community members. Starfire shall also submit annually a status report associated with its Complaint Resolution Program, providing, among other things, the individual complaints, how Starfire addressed those complaints, and the ultimate resolution of those complaints identifying whether the resolution was to the complainant's satisfaction.

34. Within 30 days of service of this Order, Starfire shall send a copy of this Order to all the adjoining landowners who previously were required to receive notice of this Project.

APPENDIX B

APPENDIX TO AN ORDER OF THE KENTUCKY STATE BOARD ON  
ELECTRIC GENERATION AND TRANSMISSION SITING IN  
CASE NO. 2024-00255 DATED AUG 01 2025

ONE PAGE TO FOLLOW

# Starfire Solar Facility Knott, Breathitt, and Perry Counties, Kentucky

## Sensitive Receptors

### LEGEND

- Proposed Project Area
- Proposed Limit of Disturbance (LOD)
- 2000-ft Buffer
- 1000-ft Buffer
- 500-ft Buffer
- 2-Mile Buffer
- Cemetery
- USGS Protected Areas Database
- State Owned Management Lands
- Elk Regulated Area

### Notes:

1. The State Owned Management Lands identified within the 2-Mile buffer are not recreational parks.
2. The Elk Regulated Areas are managed by the Kentucky Department of Fish and Wildlife Resources.

### Data Sources:

ESRI Aerial 2023, NEPA Assist accessed 8/8/2023, USGS PADUS, KDFWR 2024, USGS National Map

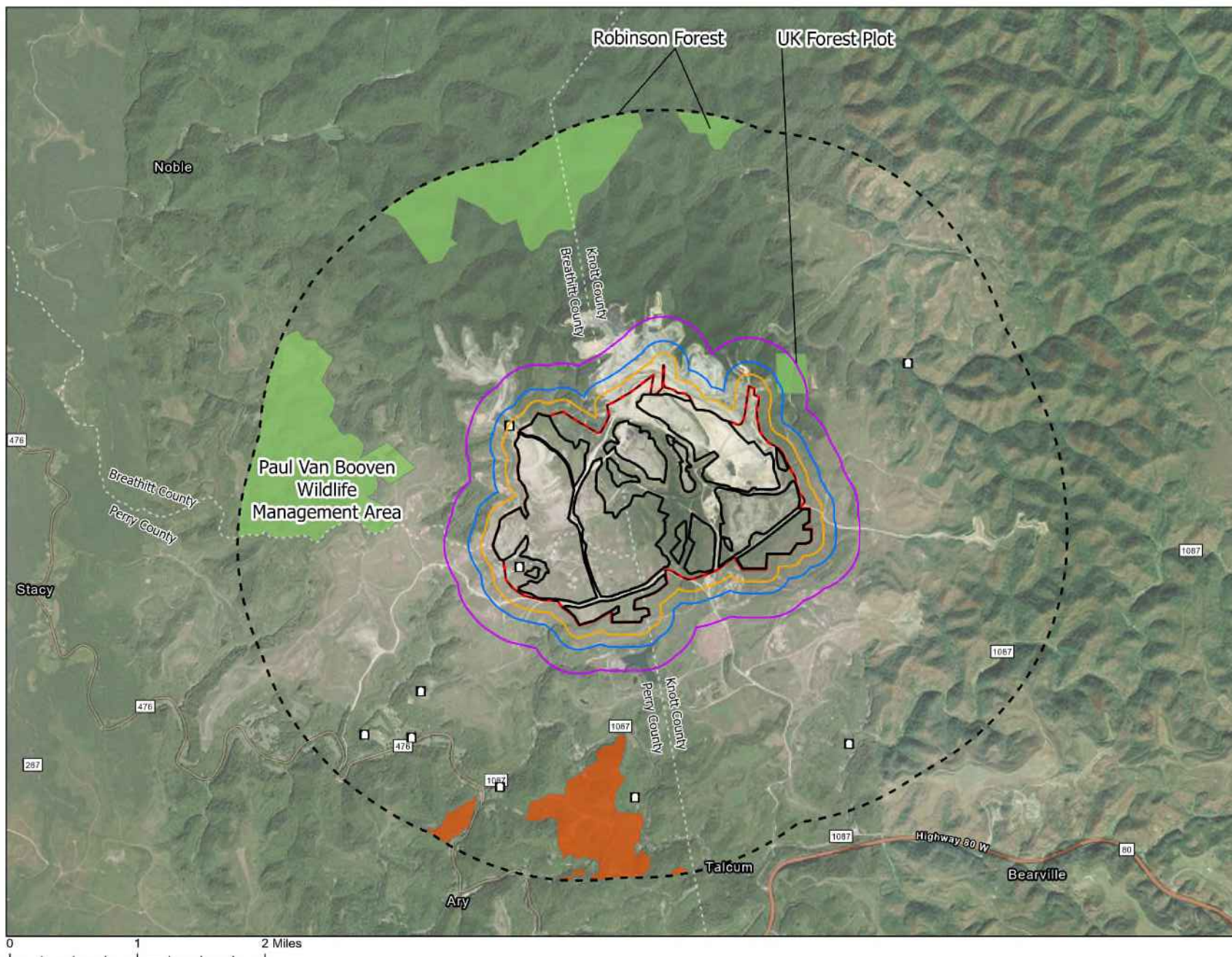
Prepared for: STMOBn, LLC

Prepared by: Tetra Tech GIS Team (NAB)

Updated: 1/15/2025



Spatial Reference: NAD 1983  
StatePlane Kentucky South FIPS: 1602





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