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Subject: Comments on Draft Environmental Assessment Addendum, Proposed Revitalization of Parcel ED-1 at the Horizon Center, Oak Ridge, Tennessee, DOE/EA-1113-A2

Dear Ms. Vasquez and Mr. Shewairy:

Advocates for the Oak Ridge Reservation (AFORR) is pleased to submit comments on Draft Environmental Assessment Addendum, Proposed Revitalization of Parcel ED-1 at the Horizon Center, Oak Ridge, Tennessee, issued for comment in August 2020.

AFORR is a locally-based nonprofit organization that exists to support the preservation and appropriate stewardship of the natural resources of the Department of Energy (DOE) Oak Ridge Reservation (ORR) for the long-term benefit of DOE, the local community, and national and international interests.

Although the EA Addendum is the main focus of this communication, we deem it necessary to raise a larger issue: the need for a site-wide environmental impact statement covering DOE programs, activities, and plans across the ORR. AFORR has been concurrently reviewing two DOE environmental assessments (EAs) for proposed actions on the ORR, the other being DOE/EA-2144, the Draft Environmental Assessment for the Oak Ridge Enhanced Technology and Training Center (ORETTC) issued by the National Nuclear Security Administration (NNSA). These two documents reached us on the same day in August, and we are submitting comments on both. Our concurrent efforts to review two EAs highlight the need for a site-wide EIS, an issue that is larger than either of these EAs.

As federal property, the ORR is an asset that belongs to the people of the United States (and in fact was taken from some of the people of the United States in a time of urgent national need). It does not belong to the DOE; rather, DOE is the agency entrusted with its management. While DOE's primary purpose is to conduct activities in support of certain high-priority national needs on parts of the Reservation, we believe that DOE has a larger obligation to ensure that this public asset is responsibly managed in support of the broad public interest, now and in the future. For over two decades, AFORR has contended that, to properly discharge its management obligations for the ORR, DOE should prepare a site-wide environmental impact statement (EIS) for the entire DOE ORR, as provided for in DOE National Environmental Policy Act (NEPA) regulations at 10 CFR 1021.330, to include comprehensive consideration of land use. The regulation states: "As a matter of policy when not otherwise required, DOE shall prepare site-wide EISs for certain large, multiple-facility DOE sites." This requirement has been in place for many years, and there is no question that the ORR is a large, multiple-facility DOE site (with arguably more diversity of facilities and operations than any other DOE site), but there has never been a site-wide EIS to comprehensively examine the impacts of DOE programs and management activities across the ORR.¹ Every other major DOE site, and even some much smaller sites, has conducted at least one site-wide EIS, and most have reevaluated these documents regularly and conducted new site-wide EISs when situations have changed. For example, we note that on August 5 the NNSA issued a Notice of Intent for a new site-wide EIS for the Lawrence Livermore National Laboratory (<https://www.energy.gov/sites/prod/files/2020/08/f77/noi-eis-0547-llnl-site-wide-2020.pdf>), to replace or

¹ There is a site-wide EIS for the Y-12 National Nuclear Security Site on the ORR, but it addresses only the one facility, not the entire DOE site.

update previous site-wide EISs published in 1992 and 2005. In the absence of a site-wide EIS for the Oak Ridge site, there has been a history of piecemeal land transfers that have been dismantling the ORR piece by piece, with a NEPA EA and finding of no significant impact (FONSI) for each transfer, thus segmenting a larger action that should be considered a major federal action required to be examined by an EIS.

The fact that we received two different DOE draft EAs on the same day for two different DOE proposed actions (this document and the ORETTTC EA) at sites that are located across a highway from each other (the proposed site for the ORETTTC is directly across Tennessee State Route 95 from the Horizon Center), yet neither EA acknowledges the existence of the other proposed action or discusses their potential cumulative impacts, only emphasizes for us that DOE has failed to coordinate its actions affecting the ORR, much less treat the ORR as a coherent whole that deserves coordinated management. Land use changes and their impacts should be considered in the context of the entire ORR, not solely on a parcel-by-parcel basis. A site-wide EIS is required to help guide future decision-making by providing DOE and the public with a holistic understanding of the values of the ORR, the purposes and impacts of ongoing and future activities by DOE and other entities, and potential future directions for management of this resource.

Regarding the EA Addendum, as discussed in the attached comments, AFORR finds that the Draft EA Addendum is inadequate as a NEPA environmental impact document and cannot support a FONSI. Both the proposed action and (to a greater extent) Alternative 1 would do away with essential mitigations required for the initial FONSI (issued in April 1996) for the development of the Horizon Center. The passage of time has not made these mitigations any less essential for avoiding potential environmental impacts from this development, and the additional proposal to remove land use restrictions to allow the establishment of a motorsports and entertainment complex adds substantially to the potential for significant environmental impacts. If DOE intends to move forward with this proposal, a full EIS is required.

In the attached comments, we also address concerns regarding some "Environmental Study Reports" (not NEPA documents) that DOE prepared between 2011 and 2020 to justify decisions to allow a new electric power line to be connected to the Horizon Center along a route that would intrude into or otherwise affect both (1) areas of ED-1 that are excluded from development by the mitigation commitments made in the ED-1 FONSI and (2) the adjacent Black Oak Ridge Conservation Easement (BORCE). AFORR contends that any DOE grants of easements for a new power line are illegal because they violate the mitigation commitments necessary for the ED-1 FONSI and they were not subject to separate NEPA review. Accordingly, they should be rescinded by DOE pending appropriate review.

AFORR believes that industrial development can succeed at the Horizon Center without sacrificing the natural assets that DOE committed to protect in 1996. The proposals considered in the EA Addendum and the "Environmental Study Reports" for a new powerline are not consistent with accomplishing that result. We hope to work cooperatively with DOE and other interested parties toward making the vision expressed in 1996 become reality.

Sincerely,

Virginia H Dale

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1 **Advocates for the Oak Ridge Reservation (AFORR) comments on Draft Environmental**
2 **Assessment Addendum, Proposed Revitalization of Parcel ED-1 at the Horizon Center,**
3 **Oak Ridge, Tennessee, DOE/EA-1113-A2, issued for comment in August 2020**

4 **Major Comments**

5 **Summary:** AFORR finds that the Draft Environmental Assessment (EA) Addendum is inadequate as a
6 National Environmental Policy Act (NEPA) environmental impact document. The document appears to
7 have been written to support a specific conclusion without supporting evidence. There is little evidence of
8 the science upon which an environmental assessment should be based. Furthermore, we find that the
9 proposed conclusion of the document (that the proposed action would have no significant environmental
10 impact) is unsupported. If DOE intends to move forward with the proposed action, a full environmental
11 impact statement (EIS) is required.

12 **1. The proposal would abrogate mitigation commitments essential to the FONSI under which**
13 **Parcel ED-1 has been developed.**

14 The 1996 DOE EA for the lease of Parcel ED-1 (the Horizon Center site) found that the property
15 proposed for development was a complex of lands and waters with substantial and significant natural
16 resource value. DOE determined that a finding of no significant impact (FONSI) could not be supported
17 without major mitigation commitments to prevent significant adverse impacts to ecological resources,
18 floodplains, wetlands, water resources, and historic and archaeological resources. A central component of
19 the mitigation commitments, which were carried forward in subsequent NEPA reviews for ED-1, was the
20 identification of sizable areas that must be excluded from development and disturbance due to their
21 sensitivity or their contribution to maintaining the integrity of the overall resource. Both the proposed
22 action and the action alternative addressed in this EA Addendum would abrogate the commitments that
23 DOE made in 1996 and renewed in subsequent FONSI that were and still are essential to sustaining a
24 FONSI for the development of the Horizon Center.

25 Mitigation commitments that would be abrogated by the proposal considered in the EA Addendum are:

- 26 • **Upland hardwood habitat and features of special value for wildlife (including beech-maple**
27 **forest) shall be preserved and protected.**

28
29 Under Alternative 1, both the beech-maple forest and an upland hardwood forest stand north of
30 Development Area 5 that is integrated into the natural corridor between Development Areas 5 and
31 6 would be released for development.

- 32
33 • **A natural corridor system, a minimum of 61 m (200 ft) wide, shall be retained to connect**
34 **bottomland habitat to upland hardwood habitat north of the parcel; this would maintain**
35 **continuity of habitat and mitigate the adverse effects of forest fragmentation. This corridor**
36 **system shall be configured to include the isolated hardwood stands retained on the north**
37 **side of the parcel.**

38 Under the proposed action, the natural corridors would be crossed by roadways and fenced off,
39 thus defeating the purpose of maintaining continuity of habitat. Under Alternative 1, the natural
40 corridors would be released for development.

41

42 In addition, we note that easements that DOE already granted or has proposed to grant to extend an
43 electrical powerline to additional parts of the Horizon Center directly violate three of the primary
44 mitigation commitments in the original FONSI (April 23, 1996):

- 45 • **Bottomland hardwood habitat associated with East Fork Poplar Creek (EFPC) and its**
46 **tributaries, both in and out of the 100-year floodplain, shall not be disturbed. Buffer zones**
47 **shall extend at least 30 m (100 ft) on each side of streams.**

48 The cleared corridor for the proposed 69-kV transmission line would encroach significantly into
49 bottomland hardwood habitats and in places would have zero buffer from EFPC and other
50 streams.

- 51 • **Natural Area (NA) 47 shall be excluded from development.**

52 The area identified as NA 47 is immediately adjacent to the gravel road on the northern perimeter
53 of Parcel ED-1 (west of Development Area 5) and would be directly impacted by the
54 transmission line.

- 55 • **Road and utility extensions shall not cross natural areas NA-46 and NA-47.**

56 Comparison of maps of these natural areas and proposed route of the powerline indicates that the
57 disturbed corridor for the powerline would occupy (not merely "cross") NA-47.

58 The importance of these mitigation commitments in the 1996 FONSI has not been diminished by the
59 passage of time, nor by the history of development on the Horizon Center property. Indeed, we believe
60 that these commitments are more important now than ever, in view of increasing stresses from climate
61 change and continuing reports of drastic declines in bird populations, loss of insect diversity, and similar
62 changes occurring locally, regionally, and globally.

63 **2. Proposal to modify land use restrictions on Parcel ED-1 would violate an important integral** 64 **element of the proposal upon which the 1996 FONSI was based.**

65 An integral element of the proposed action on which the FONSI was based was the provision that land
66 use in the developable areas of the property would be limited to industrial purposes. Specifically, the deed
67 from DOE to the Community Reuse Organization of East Tennessee (CROET) limits Horizon Center
68 land use to light and heavy manufacturing and processing plants; research and development facilities;
69 warehousing and wholesale facilities; public or semipublic uses, including utility structures; offices; and
70 service industries. These land use restrictions were intended primarily to ensure that the public purpose
71 for transferring the land would be fulfilled, and because the industrial land use restriction was an integral
72 element of the proposal considered in the 1996 EA, that EA did not present an assessment of the potential
73 environmental impacts of not restricting land use. We submit that these restrictions also are an important
74 element in the protection of ecological resources in portions of the Horizon Center that are excluded from
75 development. Industrial uses are typically more protective of adjacent conservation areas than are
76 commercial and residential uses. Locally and elsewhere, managers of conservation and wildlife areas
77 report that nearby residents have a propensity to intrude upon these protected areas, including but not
78 limited to expanding their backyards into greenbelts, cutting down trees to improve the view, dumping
79 yard waste into adjacent conservation areas, building unauthorized trails in protected areas near their
80 homes, and digging up wildflowers to replant them on their own property. Similarly, commercial and
81 recreational establishments may impact adjacent conservation areas when (for example) litter such as
82 food wrappers dropped by customers blows offsite, or when customers park on adjacent open space areas
83 because parking lots are full or are a long walk from their destinations. Additionally, wildland fire

84 prevention and management are more challenging in proximity to residential areas because residents often
85 do not maintain the separation between structures and vegetation that wildland fire managers recommend.
86 Industrial tenants make better neighbors for conservation areas because they have far less visitor traffic
87 than commercial businesses and they are more likely than residents to enforce good practices such as
88 respect for property boundaries and safe separation distances between structures and flammable
89 vegetation.

90 Because the proposed changes in allowable land use are a significant departure from the proposal
91 assessed in the 1996 EA and therefore add potential environmental impacts that were not contemplated at
92 that time, the impacts of these changes on protected natural areas (including the Black Oak Ridge
93 Conservation Easement [BORCE] and protected areas within ED-1) and other offsite locations should
94 have received more thorough and thoughtful analysis in the EA Addendum. The EA Addendum analysis
95 of offsite impacts of changes in allowable land use is narrowly focused on the impacts of noise from
96 motorsports activity on residential areas. This scope is insufficient for understanding and disclosing the
97 full nature and extent of the potential impacts of the proposed land use changes. For reasons discussed
98 above, even if the proposal to expand allowable land uses was limited to addition of hotels, restaurants,
99 and residences, the impacts of these changes would add substantially to the potential environmental
100 impacts of the Horizon Center and must be considered in evaluating the potential for significant impacts
101 from the overall proposal.

102 **3. Purpose and need for action is not appropriately defined.**

103
104 This draft EA Addendum is based on a flawed definition of the purpose and need for DOE action.
105 Council on Environmental Quality (CEQ) regulation 40 CFR 1502.13 indicates that a document should
106 identify the underlying purpose and need to which the agency is responding. The statement of purpose
107 and need in EA Addendum Section 1.1, Purpose and Need for Action, is:

108 “The purpose of the proposed action is to enhance the potential for development by providing a
109 single large parcel and expanding allowable land use to provide a greater diversity of
110 development opportunities.”

111 This statement is not an appropriate public purpose for a federal agency action. Rather, it is a capsule
112 summary of the proposal. When the purpose for action is defined in this fashion, it stands to reason that
113 DOE was unable to identify any alternatives other than a variation on the proposal, but that would not be
114 the case if the purpose and need had been stated properly. (For more information on this topic, see Section
115 3, Purpose and Need for Action, in *Recommendations for the Preparation of Environmental Assessments
116 and Environmental Impact Statements*, Second Edition, December 2004, a.k.a. the DOE NEPA Green
117 Book, available at [https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-
118 greenbook.pdf](https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-
118 greenbook.pdf).) As we understand it, the underlying purpose and need for the proposed action considered
119 in the EA Addendum is to further economically productive development in the Horizon Center, consistent
120 with the purpose of the original lease of Parcel ED-1. This more accurate and appropriate restatement of
121 purpose and need would allow alternatives not considered in the draft document.

122
123 **4. Proposal for action is premised on two unsubstantiated (and apparently false) assumptions.**

124 As discussed below, the proposal addressed in the EA Addendum is premised on two unsubstantiated
125 assumptions that we believe to be false.

126 **(1) Unsubstantiated assumption that environmental constraints are the reason for lack of**
127 **development in the Horizon Center.** It is asserted in Section 1.1 of the EA Addendum that
128 environmental constraints are responsible for the limited amount of development in the Horizon

129 Center to date. Specifically, the document states that "several potential prospects have chosen other
130 sites due to current land use constraints, limited electrical capacity, and developable area parcel size,"
131 and that "many potential developers are looking for larger parcels of 200 or more acres," but it is not
132 apparent that these assertions are based on actual evidence.

133 Given the secrecy that surrounds industrial recruitment and corporate siting decisions, it probably is
134 impossible to make a conclusive determination of the reasons for lack of development. However,
135 members of our organization who have monitored public discussions of recruitment activities over the
136 years and have reviewed minutes of meetings of the Oak Ridge Industrial Development Board (IDB)
137 in the years since the IDB took responsibility for the property have observed that the primary reasons
138 reported for prospects going elsewhere include the following.

- 139 • The high asking price for industrial land at this site. Local industrial recruiters have said that
140 industrial prospects often expect to get land for free, particularly for large projects, but that is
141 impossible at the Horizon Center. Asking prices for Horizon Center property are much higher
142 than zero because (1) the IDB needs to pay CROET about \$9,000 per acre for any land that is
143 sold and (2) the IDB adds an incremental amount to help recoup its costs of doing business.
- 144 • Prospects were seeking a site with a spec building, but none was available at the Horizon Center.
145 The need for a spec building at the Horizon Center has come up repeatedly at IDB meetings that
146 our members have attended over the years and is seen in the minutes of the IDB from 2008
147 through 2019 that are archived on the Internet at
148 <http://www.oakridgetn.gov/content.aspx?article=2950>. Yet no spec building has been authorized
149 or built.
- 150 • Insufficient electric infrastructure capacity for the needs of the business, including both limited
151 power capacity and lack of the redundancy that many modern industrial businesses require for
152 reliability. Although ED-1 was supposed to be dedicated to industry, early in the development of
153 the Horizon Center, decisions were made to invest in esthetic features not normally associated
154 with industrial parks, such as sculptures,² boulevard-style roads, and decorative rock facing on
155 bridge abutments, rather than investing in infrastructure appropriate for industry. Also, for
156 esthetic reasons, the site was provided with underground electric lines that have insufficient
157 capacity to service the needs of many industrial customers and these lines are installed in conduit
158 that cannot accommodate additional conductors. Additionally, the power supply to the industrial
159 park currently comes from a single 13-kV line, so it lacks the redundancy of transmission sources
160 that many businesses now require for reliability.
- 161 • A financial services business that purchased property in the Horizon Center for a corporate
162 headquarters decided to build elsewhere after discovering that its headquarters employees had a
163 strong preference for a workplace close to other commercial businesses.

164 Desire for larger tracts is not on this list because our members do not recall that it has ever been
165 mentioned. That absence is possibly because it would make no sense for industrial recruiters working
166 for the IDB, city and county government, or partner organizations such as the Tennessee Valley

² As just one example of the investment in sculpture, on the webpage <https://www.codaworx.com/projects/the-phoenix-a-monument-for-oak-ridge-tn-croet-community-reuse-organization-of-east-tennessee/> artist Dave Caudill (<http://caudillart.com/>) describes the \$80,000 sculpture he created for CROET in 2003. According to the webpage, the sculpture was intended to provide an iconic monument to celebrate both the past of Oak Ridge's technological achievements and its future potential by employing the symbol of a phoenix rising from flames and ashes. The sculpture is 18' H x 7' W x 6' D and sits on a site is approximately 30 feet in diameter, adjacent to the visitor's center. The \$80,000 stated cost for the sculpture is only the cost for the art; there would have been additional costs for installation of the sculpture and the large boulders and other landscape features arrayed around it.

167 Authority or the State of Tennessee to attempt to market the Horizon Center to industries looking for
168 sites larger than those available. In 2013, Development Area 6 was designated a “Select Tennessee
169 Certified Site” by the Tennessee Department of Economic and Community Development, one of the
170 first six industrial sites to receive that designation (see "Two local industrial sites among first six
171 certified by state," by Tom Ballard, dated June 30, 2013, at [https://www.teknovention.biz/local-
172 industrial-sites-certified-state/](https://www.teknovention.biz/local-industrial-sites-certified-state/) and the site listing at [https://tnecd.com/certifiedsite/horizon-center-
173 development-area-6/](https://tnecd.com/certifiedsite/horizon-center-development-area-6/)), strongly suggesting that it was deemed to be a good site for industry. The IDB
174 has repeatedly been assured that there were plenty of industrial prospects with interest in sites in the
175 size ranges available at the Horizon Center. Additionally, until the proposal for a motorsports
176 complex surfaced in 2020, the requirement that land uses fit the definition of "industrial" had never
177 been mentioned publicly as a deterrent to prospects.

178
179 There doubtless are additional reasons why prospects choose to locate elsewhere, such as:

- 180 • Distance from the nearest Interstate entrance. There are two entrances to I-40 about 8 miles
181 by road from the site, one on Hwy. 58 near Kingston and the other on Hwy. 95 near Lenoir
182 City. It is clear to us that many businesses prefer to locate in industrial parks more convenient
183 to an Interstate entrance, such as the Roane Regional Business and Technology Park directly
184 adjacent to I-40 at Exit 362.
- 185 • Concern about the possibility of bedrock conditions (including sinkholes and bedrock
186 pinnacles associated with karst topography) that make construction more challenging than
187 may appear from surface inspection.
- 188 • Reluctance to locate in a community with a history associated with production of nuclear
189 weapons and the presence of radioactive waste.
- 190 • Higher prevailing wages than in competing locations.

191
192 The requirements for protection of environmentally sensitive areas have been present ever since
193 Parcel ED-1 was approved for development. We recall that these requirements were developed
194 through extensive discussion between DOE and various stakeholders, as a compromise to allow
195 development while providing the protection needed to the sensitive areas. A considered decision was
196 made to go ahead and pursue development in spite of the challenges associated with the exclusion
197 areas and other mitigation requirements of the FONSI. There is no reason to think that the nature or
198 industrial development has changed so drastically since 1996 that the decision made then is now
199 wrong. The issue now (as it was then) should not be how to remove protections of sensitive areas, but
200 how to develop successfully without impacting the protected areas.

201
202 **(2) Unsubstantiated assumption that the proposal for a motorsports complex is a coherent and**
203 **economically viable plan that will result in economic benefits.** This assumption is implicit in the
204 current EA Addendum, but it is not supported by evidence. The prospective developer of this
205 complex has made enthusiastic presentations about the economic possibilities of the proposed
206 complex, but it is becoming clear that this proposal is little more than optimistic speculation. At the
207 October 2020 meeting of the IDB, he indicated that he was planning to start work on developing a
208 business plan, and at an October 2020 work session of the Oak Ridge Municipal Planning
209 Commission his consultant indicated that no investigation had yet been done to determine whether
210 there is a market for the vehicle testing facility that the prospective developer has indicated he would
211 like to create.

212 It has been claimed that Oak Ridge National Laboratory (ORNL) and automotive suppliers in the
213 region have a need for testing facilities for vehicles, but this claim seems to be speculation with little
214 or no evidentiary basis. ORNL does conduct some vehicle-related research, but to the extent that this
215 includes physical testing (as distinct from computer-based investigation), it is done in controlled test
216 facilities (i.e., laboratories), not on outdoor tracks. Additionally, ORNL is not engaged in testing
217 high-speed vehicles. Suppliers of tires and other automotive components typically own or have access
218 to other existing testing facilities, so they are not a market for a new test track. Waymo and Uber
219 reportedly operate their own test facilities for self-driving vehicles that are configured as replica
220 towns.³

221 Where freestanding facilities for advanced vehicle testing exist in the United States and around the
222 world, they appear to be operated by, or with substantial support from, universities and governments.
223 They are not run as for-profit commercial enterprises established by independent entrepreneurs. An
224 August 2019 article entitled "Michigan's private playgrounds present new avenues for AV testing," in
225 the online publication *M:bility Magazine*,³ provides some background on vehicle testing facilities.
226 According to the article, "there are hundreds of vehicle testing grounds around the world" (this is a
227 hint that the vehicle testing facility contemplated for the ED-1 site would not be unique). The article
228 describes several facilities, most started several years ago and now well-established, that are being
229 used for testing of automated (self-driving) vehicles. It emphasizes that testing of automated vehicles
230 requires exceptionally complex capabilities, often on large sites (much larger than the ED-3 site) that
231 can be configured to replicate the diversity and complexity of driving conditions that automated
232 vehicles will need to navigate. The GoMentum Station in Concord, California, occupies a 2,100-acre
233 abandoned naval base and has been used as a test bed by companies including Honda, Toyota, and
234 Lyft. The automated-vehicle test facilities in other countries (supported by government and
235 universities) that are described in the article also appear intended to replicate urban settings; for
236 example, the The Centre of Excellence for Testing & Research of AVs (CETRAN) in Singapore
237 includes mock skyscrapers to simulate potential cell-signal interference in densely occupied
238 Singapore. The article identifies several test facilities in Michigan that are available and in use for
239 automated vehicle testing. The American Center for Mobility (<https://www.acmwillowrun.org/>) at the
240 former site of the General Motors Willow Run facility near Ypsilanti, Michigan, appears to be an
241 exemplar (on a much larger scale, with far more extensive capabilities) of the type of vehicle testing
242 facility that has been discussed for the Parcel ED-3 site. The American Center for Mobility is a non-
243 profit public-private partnership established with a \$35 million investment from the state of
244 Michigan, additional large investments from auto manufacturers, and university participation, located
245 on a site that was already equipped with many of the elements needed for automotive research, in
246 close proximity to the center of the U.S. auto industry. In spite of the generous subsidies it has
247 received and in spite of its being called the world's preeminent proving ground for advanced safety
248 and automated vehicle technologies, a November 2019 business news article⁴ indicates that the center
249 has not been seeing nearly as much activity or demand as its leadership expected. With this
250 background, we find little basis for the claim of bright economic prospects for a vehicle-testing
251 facility on the ED-1 site.

³ "Michigan's private playgrounds present new avenues for AV testing," *M:bility Magazine*, August 14, 2019, reproduced on the [automotiveworld.com](https://www.automotiveworld.com/articles/michigans-private-playgrounds-present-new-avenues-for-av-testing/) website at <https://www.automotiveworld.com/articles/michigans-private-playgrounds-present-new-avenues-for-av-testing/>

⁴ Walsh, Dustin. "Will American Center for Mobility live up to its promise?" *Crain's Detroit Business*. November 05, 2019 11:08 AM. Accessed on <https://www.autonews.com/mobility-report/will-american-center-mobility-live-its-promise>

252 It has been further claimed that the proposed motorsports complex would be a unique facility filling a
253 demand for private sports-car courses for exceptionally wealthy individuals who have few other
254 places to drive their sports cars. Contrary to the claim of uniqueness, we find that there are a number
255 of commercial road courses around the U.S. that appear to have similar attributes, including several
256 that have gone out of business.⁵ Additionally, it appears that the high prices that the community has
257 been told that customers would pay at private motor courses are being realized only in locations very
258 close to wealthy high-population metropolitan areas, such as New York City, and could not be
259 expected in east Tennessee.

260 This background leads us to believe that the proposal for a motorsports complex is a speculative
261 proposition, not a realistic business proposal. The kind of industrial development originally proposed
262 for the Horizon Center appears to us to be far more likely to result in new basic jobs and associated
263 economic benefit for the region.

264 DOE must not rush into a decision to sacrifice valuable public resources (i.e., land allocated for industrial
265 development in a region where suitable land for industry is scarce, plus irreplaceable ecological and
266 recreational resources) in pursuit of additional development at the Horizon Center on the basis of
267 unsubstantiated assertions.

268

269 **5. EA Addendum fails to consider appropriate alternatives.**

270 Assuming that the purpose and need for federal action is to enhance economic development by increasing
271 development in ED-1, the document should give consideration to alternatives that could achieve that
272 purpose without relaxing or eliminating environmental protections. Note that the NEPA regulations under
273 which this document was prepared advise agencies not to exclude reasonable alternatives that are outside
274 the agency's jurisdiction to implement (40 CFR 1502.14).

275 Since insufficient electric capacity in the Horizon Center has been identified as a constraint on
276 development, if the purpose and need for federal action is to facilitate development in the industrial park,
277 alternative ways to provide additional power to the area should be considered as reasonable alternatives to
278 the proposed action.

279 We note that earlier DOE issued a series of "Environmental Study Reports" (BJC/OR-3567
280 Environmental Study Report Proposed 69-kV Delivery Point Horizon Center, Oak Ridge, Tennessee
281 April, 2011, <https://doeic.science.energy.gov/uploads/E.0505.076.1312.pdf>, *Environmental Study Report,*
282 *Proposed 69-kV Delivery Point, Horizon Center, Oak Ridge, Tennessee* (2014), and DOE/OR/01-
283 2639/A1 Addendum to Environmental Study Report Proposed 69kV Delivery Point Horizon Center, Oak
284 Ridge, Tennessee February 2020, <https://doeic.science.energy.gov/uploads/E.0505.076.1407.pdf>) to
285 justify decisions to allow a new electric power line to be built on a route that would intrude into or
286 otherwise affect both (1) areas of ED-1 that were excluded from development by the ED-1 FONSIs and
287 (2) the adjacent BORCE. The proposals addressed in these "Environmental Study Reports" should have
288 been addressed in EAs (not in "environmental study reports" of no identifiable legal status with no known
289 provisions for public input) because the proposals would require incursions into areas designated for
290 protection as part of the mitigation required as a condition of the ED-1 FONSIs and because there had
291 been substantial changes to site conditions (including the establishment of the BORCE and significant
292 increases in recreational activity on trails in the immediate site area) subsequent to the most recent EA for
293 ED-1 that constituted "significant new circumstances or information relevant to environmental concerns

⁵ Wikipedia at https://en.wikipedia.org/wiki/List_of_auto_racing_tracks_in_the_United_States#Road_courses

294 and bearing on the proposed action or its impacts" (40 CFR 1502.9 (c)(1)(ii) and 10 CFR 1021.314 (a))
295 necessitating new analysis.

296 Those Environmental Study Reports have no discernible status under NEPA (and they are not even
297 included in the long list of previous environmental documents in the EA Addendum), so they do not
298 provide a defensible basis for DOE decisions to deviate from the mitigation commitments made as a
299 condition of the ED-1 FONSI. In the absence of appropriate NEPA review, AFORR believes that any
300 DOE grants of easements for a new power line were violations of NEPA. Accordingly, DOE can and
301 should (1) take back any electric line easements previously granted to the City of Oak Ridge or its
302 electrical utility, and (2) add consideration of alternatives for expanded electric power to the EA
303 Addendum. Since nothing has been built on the proposed power line route, there is still an opportunity for
304 a timely NEPA review of the environmental consequences of that proposal and other alternative means of
305 expanding power to the area.

306 The Environmental Study Reports failed to identify or provide meaningful consideration of practicable
307 alternatives to connect a 69-kV line to the Horizon Center. DOE's *Environmental Study Report, Proposed*
308 *69-kV Delivery Point, Horizon Center, Oak Ridge, Tennessee* (2014) asserted that there was no alternative
309 that could meet the need for power in the Horizon Center industrial park without much larger impact than
310 the proposed line, but it did not provide meaningful analysis in support of that assertion. The 2020
311 Addendum to Environmental Study Report asserted that DOE had screened several alternative routes for a
312 69-kV line for potential impacts, and that all possible options "would have involved going through the
313 BORCE and/or direct crossings of EFPC in the Horizon Center NA and the potential for greater impacts
314 to sensitive species," but no information was provided about the alternatives and their impacts.

315 We believe that there are several practicable routing alternatives for supplying additional power to the
316 Horizon Center that would have substantially less environmental harm relative to the proposed 69-kV line
317 and that therefore should be considered as alternatives in a NEPA context. These include:

318
319 **Utilization of the existing TVA transmission corridors across McKinney Ridge to the**
320 **Horizon Center vicinity.** The first environmental report on a powerline proposal mentioned only
321 one possible alternative for power delivery, specifically collocation of a new 161-kV line with
322 existing TVA transmission rights of way (ROWs). The report stated that the existing ROWs on
323 McKinney Ridge and in the Bear Creek floodplain could not accommodate a new 161-kV line
324 without being widened, and it summarily dismissed the possibility of widening the existing TVA
325 transmission rights of way (ROWs) to accommodate a new 161-kV line with a statement that this
326 could result in loss of "as much as 1.5 to 1.6 miles of forest habitat" (presumably meaning a 150-
327 ft wide corridor of that length, which equates to about 27 to 29 acres). Although the City of Oak
328 Ridge had revised its proposal to request a smaller 69-kV line instead of a 161-kV line, the report
329 did not discuss the possibility of alternative routes for a 69-kV line as an underbuild within the
330 existing corridor nor the impacts of using or widening the corridor (if needed) for the smaller line.
331 A 69-kV line should not have the same compatibility issues as a 161-kV line would have had,
332 and, if clearing was needed to widen the corridor and if it was limited to a 50-ft width, we
333 estimate that the loss of forest acreage or a line of the suggested length would be about 9 to 10
334 acres.

335
336 **An additional 13.8-kV line on the same poles that currently connect the Horizon Center to**
337 **the City of Oak Ridge substation west of the site.** A report provided to the City of Oak Ridge
338 several years ago by consultant Cannon & Cannon identified this as the lowest-cost option for

339 bringing more power to the Horizon Center from the substation, albeit with less capacity than a
340 69-kV line could provide.

341
342 **A 69-kV line in the existing ROW used by the 13.8-kV line that connects the Horizon Center**
343 **to the City of Oak Ridge substation.** The City of Oak Ridge Electric Director has stated that the
344 existing ROW along Blair Road should be able to accommodate a 69-kV line (on taller poles).

345 **Supplement the power available from lines connected from the City of Oak Ridge**
346 **substation west of the Horizon Center by extending an additional line (probably 13.8-kV)**
347 **from residential areas in the west end of Oak Ridge.** This measure could provide some
348 additional electrical capacity and would provide redundancy to enhance electrical reliability in the
349 Horizon Center. For the ORETTTC (directly across the highway from the Horizon Center), NNSA
350 is planning to obtain power by installing a new line connected to this source, so utility poles and
351 an electric line are likely to become available in the immediate vicinity within the next year.

352 We submit that the additional power supplied from any of those routing alternatives could be distributed
353 to all properties within the Horizon if above-ground distribution lines were installed along the streets
354 within the Horizon Center.

355
356 Additionally, since desire for a spec building has been identified publicly as a reason why some prospects
357 have gone elsewhere, construction of a spec building is another reasonable alternative that might be
358 considered in a NEPA document.

359 **6. Important relevant information from earlier documents is not incorporated in the EA**
360 **Addendum.**

361 The 1996 EA and the mitigation plan that provided details related to meeting the commitments made in
362 the FONSI are among the documents listed in Table 1.1 of the EA Addendum as having been
363 incorporated by reference in the Draft EA Addendum. However, the reasoning provided in those
364 documents for excluding specific portions of Parcel ED-1 from disturbance and development is not
365 summarized or otherwise reflected in the present document. This document should summarize
366 information from the EA regarding the special ecological values of the natural landscapes of the ED-1
367 area and the ecological functions that the mitigation measures were intended to preserve. It is not
368 sufficient merely to cite the earlier documents and claim that they are incorporated by reference.
369 Incorporation by reference is intended to cut down on bulk, not to allow omission of information critically
370 important to agency and public understanding of a proposal and its consequences (see 40 CFR 1502.21 in
371 the CEQ regulations under which this EA was prepared; 40 CFR 1501.12 in the July 2020 rulemaking).
372 To help rectify this omission, some salient information from the 1996 EA is excerpted or summarized
373 below.

374 **Reasons for requiring protected natural corridors between authorized development areas**

375 The 1996 EA stated (page J-3):

376 "The natural vegetation of Parcel ED-1 is continuous with (connected to) other areas of natural
377 vegetation both on the parcel and outside the parcel, thereby facilitating movement of organisms
378 between habitats. This continuity of natural vegetation provides landscape connectivity for the
379 natural communities. Should development of Parcel ED-1 reduce the natural landscape
380 connectivity of the site by creating barriers to the movement of native species, it would alter the

381 species composition of the natural areas. The species composition of these natural areas is critical
382 to the functioning of the ecosystems of which they are a part.

383 Many organisms must move between habitats to complete their life cycles. Organisms may be
384 required to move between habitats in the course of foraging (hunting for food), breeding, nesting,
385 dispersal of offspring to new locations, and seasonal migration. Most obvious are the movements
386 of large mammals such as deer and the seasonal migrations of birds between breeding and
387 wintering habitats. While the necessity of travel for smaller animals and plants is less obvious, it
388 is equally critical to the maintenance of these populations and the ecosystem functions of which
389 they are a part. For example, species of salamanders in the family Ambystomatidae (such as the
390 rare mole salamander historically reported as present on the ORR and the spotted salamander
391 currently found on the ORR) spend the first part of their life in seasonal ponds within bottomland
392 areas, migrate to upland forests to forage as adults, and then return to the ponds to locate a mate
393 and breed to complete their life cycles. Many species of plants produce some seeds (e.g., burrs
394 and beggar-ticks) which are adapted to be carried to appropriate habitats by clinging to a host
395 animal, or other seeds (e.g., small seeds in berries) which are eaten and carried in the digestive
396 tract of an animal. These plant species will no longer be propagated if their carrier animals either
397 are not present or are obstructed from traveling into areas where the plants can grow. If a plant
398 species becomes locally extinct due to lack of propagation, other species which depend upon it as
399 a resource (i.e., for food or habitat) may also decline in a domino effect, further damaging the
400 ecosystem.

401 [In addition to] providing habitat and travel routes for biological organisms, natural corridors
402 reduce impacts of erosion and sedimentation on aquatic ecosystems.”

403
404 **Value of the beech-maple forest tract adjacent to Development Area 4**

405 In the 1996 EA (page 3-34) the mature beech-maple forest adjacent to Development Area 5 was
406 described as a globally rare plant community The EA stated:

407 “The mature beech-sugar maple forest, an unusual forest type for the Ridge and Valley
408 Physiographic Province, is a representative of the *Fagus grandifolia-Acer saccharum-*
409 *Liriodendron tulipifera* forest alliance. In the Midwest, forests of this type have been
410 ranked G1 by The Nature Conservancy [explained on page 3-30 to mean "Critically
411 imperiled globally because of extreme rarity (typically 5 or fewer occurrences or very
412 few remaining acres) or because of some factor(s) making it particularly vulnerable to
413 extinction"] because they are extremely rare. The mature beech-sugar maple forest has an
414 open understory typical of mature forest types, relatively large-diameter trees, and a
415 closed canopy. Because of their rarity, insufficient data exists concerning these
416 communities in the Ridge and Valley Province. This community is significant because it
417 existed prior to the acquisition of the ORR (based on TVA aerial photography from 1942)
418 and has experienced minimal direct impact since government acquisition. A mature
419 beech-sugar maple forest has not to date been identified anywhere else on the ORR.”

420
421 In a comment on the draft EA (page B-51 of the 1996 EA), the Director of the Tennessee
422 Department of Environment and Conservation Division of Natural Heritage, Reginald Reeves,
423 echoed this analysis, saying that the maple-beech forest "represents a nationally rare community
424 type" and "appears to be one of the only undisturbed forest communities throughout the Oak
425 Ridge Reservation."

426 Additionally the EA indicated (on page 3-37) that this beech/sugar maple forest has special value
427 for wildlife, containing beech, hickory oak, and other trees with high value as sources of mast
428 (mast is a term for edible tree fruits that fall on the ground, where they are a valuable food for
429 wildlife), as well as shade, cover, and water (there are a number of small sinkholes in this tract
430 that would be water sources for wildlife).

431 **7. Implications for the value of the BORCE as Natural Resources Damage Assessment (NRDA)**
432 **compensation need to be addressed.**

433 The BORCE was established as compensation to the people of Tennessee and the United States for
434 damages from DOE contamination of Watts Bar Reservoir. Its value as compensation was based on the
435 ecological resources in the BORCE and the economic value of the recreation it would afford to the people
436 of Tennessee. The high noise levels predicted throughout the entire section of the BORCE adjacent to
437 Parcel ED-1 would seriously diminish the ecological and economic value of this area as NRDA
438 compensation. If DOE decides to allow the changes the Parcel ED-1 that are addressed in this document,
439 the NRDA compensation value of the BORCE should be reevaluated by the NRDA trustees.

440 **Section- and Page-Specific Comments**

441 **Chapter 2 - Alternatives**

442 **1. Sections 2.1 and 2.2.** Does DOE assume that existing industrial tenants in the Horizon Center, notably
443 Philotechnics Inc., would be evicted from the industrial park? Even if they are not evicted, if a
444 motorsports complex, entertainment venues, hotel, and residential uses are added to the Horizon Center, a
445 company might choose to leave in order to avoid having incompatible neighbors. The potential loss of
446 basic industrial jobs and corporate investment associated with these tenants should be accounted for as a
447 potential adverse socioeconomic impact from the proposal.

448 **2. Section 2.1.2, page 2-22.** This section describes DOEs intention to allow the natural corridors between
449 development areas to be fenced off and to allow fencing of the proposed motorway to prevent collisions
450 between wildlife and cars. Does DOE have information on how the proposed fencing would be
451 constructed and installed? How tall would the fencing need to be to exclude wildlife? What materials
452 would be used? Would this fencing be opaque or is it expected be a chain link fence? Would it be
453 electrified? It occurs to us that successful construction and maintenance of a wildlife-proof fence in this
454 setting could be a serious challenge, in view of the abundance of wildlife in the EFPC riparian zone,
455 including burrowing animals.

456 **3. Section 2.4** – The statement is made that other alternatives (not identified) were eliminated because
457 they do not meet the purpose and need of providing a single large parcel and expanding allowable land
458 use. However, that is not a valid and appropriate statement of a purpose and need for federal agency
459 action. DOE should be considering alternatives that could advance the apparent purpose of furthering
460 economically productive development in the Horizon Center.

461 **Chapter 3**

462 **Section 3.1.2 – Resource Areas Not Carried Forward for Detailed Analysis**

463 **1. Page 3-3.** Air quality and infrastructure are indicated to be resource areas that do not need detailed
464 analysis. To the contrary, we believe that additional consideration is needed regarding the following
465 topics (and probably others):

- 466 • **Potential air emissions of motor sports activities.** Impacts may be similar in magnitude to the
467 impacts considered as bounding in the earlier EAs, but the impacts of motorsports are likely to be
468 different in kind from the impacts of industry.
- 469 • **Impact of visitor traffic** to an entertainment complex (particularly for special events) on a
470 roadway that is an important highway access, with few viable bypass routes. How would the
471 traffic from event visitors affect the single highway that provides access?
- 472 • **Impacts of new traffic controls on air quality.** The potential addition of traffic lights is
473 mentioned here. New traffic lights will increase air quality impacts related to traffic congestion.
474

475 **Section 3.2 Noise**

476 1. The design and assumptions of the noise analysis are questionable. Local experience with other
477 environmental noise source and experience in the vicinity of other motorsports venues indicates that
478 impacts are typically much more severe than were predicted by other models (when modeling has been
479 done) and that are shown here. We believe that the assumptions and structure of the modeling may not
480 have taken proper account of the acoustic characteristics of the noise sources or of the effects of
481 atmospheric conditions, terrain reflection, and other complex factors.

482 2. Any methodology (model) used for the purpose of noise assessment should be validated by testing it
483 against observations at operating motorsports facilities.

484 3. The source cited for the noise methodology appears to be a user handbook for the software. Where is
485 the technical approach documented in peer-reviewed technical literature?

486 4. It is not clear that the analysis properly analyzed noise impacts of multiple vehicles running at the same
487 time (as in a race). Reported noise levels associated with races are shown as less the noise levels for a
488 single vehicle. It appears that the actual noise levels from races might have been obscured by applying an
489 averaging calculation that is not explained effectively in the document.

490 5. There is analysis of potential noise impacts from other noise sources associated with the outdoor
491 entertainment venues that are being proposed as part of the motorsports proposal and that would be
492 allowed under the proposed changes to land use restrictions. Analysis is needed on the potential impacts
493 of these additional noise sources, which include crowd noise during racing events and amplified music in
494 concerts held in an amphitheater setting. Operations at entertainment venues typically involve artificial
495 amplification of sound (with loudspeakers that typically are elevated well above ground level) and
496 activity at night. Also, an amphitheater would affect the geometric attributes of the sound source and the
497 potential for reflection. Note that noise sources such as a highly amplified human voice announcing a
498 sporting event can be disruptive because of the content of the noise, not merely the sound level.

499 6. **Impacts of noise on recreational users of the adjacent and nearby greenways.** Impacts of noise on
500 recreational users of the adjacent and nearby greenways, including birdwatchers, are not appropriately
501 addressed. Noise contour maps in the document (which do not indicate the locations of the nearby
502 greenways) predict that motorsports activity would yield noise levels in the 80+ and 90+ dBA range
503 along extensive segments of the greenways for both brief and extended durations (refer to Figures 3-3, 3-
504 5, 3-6, 3-8, 3-9, 3-11, and 3-12 of Appendix C of the EA Addendum). Noise levels in this range would be
505 intolerable for almost all greenway users; they would prevent conversation, make it impossible to hear
506 birds, and possibly could lead to hearing loss. This noise would destroy the value of this extremely
507 popular greenway. Limiting racing activity to daytime hours would not avoid this impact, since greenway

508 use is during daylight hours, and this greenway is heavily used in the daytime during the work week, as
509 well as on weekends.

510 **7. Impacts of noise on the planned NNSA ORETTTC.** Impacts of noise on the planned NNSA
511 ORETTTC, to be located across Hwy 95 from the Horizon Center, are not mentioned, but appear
512 potentially significant. Figure 3-6 of Appendix C of the EA Addendum shows predicted noise levels just
513 below 80 dBA on the proposed ORETTTC site from a single car operating with a 103 dBA noise limit.
514 How would noise levels in the 80 dBA range affect planned outdoor training activities at the ORETTTC?
515 For example, would trainees be able to hear their trainers? According to the Centers for Disease Control,
516 exposure to 70 dB over a prolonged period of time may start to damage hearing and at 85 dB a person
517 may need to raise their voice to be heard by a person only an arm's length away (Centers for Disease
518 Control, National Center for Environmental Health, "Loud Noise Can Cause Hearing Loss,"
519 https://www.cdc.gov/nceh/hearing_loss/what_noises_cause_hearing_loss.html, last reviewed October 7,
520 2019). Would ORETTTC outdoor training participants need to wear hearing protection during periods of
521 motorsports activities?

522 8. The dBA thresholds found in the City zoning ordinance should not be the only context for discussing or
523 evaluating the potential significance of the impact of predicted noise levels on residents and other people
524 exposed to noise. As Section 6.8 of the DOE NEPA Green Book advises, a DOE NEPA document should
525 "not rely on compliance with applicable requirements as evidence that an analyzed alternative does not
526 have potential for significant impact," and "as a practical matter, all alternatives must comply with
527 applicable requirements, yet some actions may nevertheless have significant environmental impacts (e.g.,
528 a new nuclear power reactor)." The analysis should discuss how people would experience the noise,
529 considering factors such as the characteristics of the noise, the ambient background noise levels in
530 affected areas, and indicators such as the potential to interfere with conversation. In a normally quiet
531 residential area such as those near the Horizon Center, where ambient noise is typically on the order of 45
532 dBA, even a two-fold increase in sound level to 55 dBA might be received as disturbing.

533 **Section 3.3 Land Use**

534 1. Data in the EA Addendum regarding surrounding land uses is from 2011. It should be updated to
535 include, in particular, the planned ORETTTC facility across Hwy. 95 from the Horizon Center and planned
536 residential use in the nearby Forest Creek Village residential subdivision that was laid out several years
537 and recently started home construction.

538 2. Removal of a short segment of the existing greenway (which crosses a Horizon Center development
539 area) is written off as a minor impact because it is only a small part of the total length of the greenway
540 trail, but trail connectivity – as a way to get from one place to another, and as a loop trail -- is a major
541 value of a greenway. Short unconnected trails would not have the same value as longer trail that makes
542 connections between destination nodes or allows people to hike around a loop trail (this trail supports
543 both of these valuable functions).

544 3. The quality of the experience on this greenway is not considered in the analysis, only the length. Not all
545 recreational trails are of equal value, and this greenway is very popular because it offers an exceptional
546 experience.

547 4. Noise would diminish the recreational experience of greenway users, due both to noise while they are
548 using the greenway and adverse effects on birds and other wildlife that contribute to the quality of the
549 experience. (Birding is one popular activity on this greenway.) Habitat removal and fencing across

550 wildlife corridors would cause additional adverse impacts to wildlife that greenway users like to observe,
551 thus further diminishing the quality of the recreational experience.

552 5. Where would the cars of people who visit this entertainment complex be parked? The prospective
553 developer of the motorsports complex has presented glowing descriptions of people sitting on the grass to
554 watch motorsports events or to listen to music in an outdoor entertainment venue similar to Ravinia in
555 Highland Park, Illinois, but (unlike Ravinia, which has rail service from Chicago) in this region almost all
556 visitors would arrive in private cars, so large entertainment venues will necessitate massive parking lots.

557 6. **Page 3-21.** The 6th bullet in the Summary of Impacts section on this page is the only place where the
558 document alludes to the possibility of impacts from lighting, and no discussion or analysis is provided.
559 This bullet states that consideration could be given to limiting the hours of operation for specific activities
560 to avoid noise and light disturbances to the surrounding residential properties. It seems very unrealistic to
561 assume that the motorsports complex would only be used during the day, and even less realistic to think
562 that an entertainment venue would not operate at night. The text suggests that DOE might impose a
563 restriction on hours of operation as a mitigation measure, but it is difficult to imagine how DOE would
564 succeed in enforcing that as a perpetual restriction. There needs to be acknowledgement and analysis of
565 the potential impacts of nighttime activity and security lighting on the night sky and on wildlife that
566 require darkness at night.

567
568 7. Development of a motorsports entertainment complex would inevitably affect future DOE land uses on
569 surrounding lands, contrary to assertions in the EA Addendum. Visitors to an entertainment complex can
570 be expected to use nearby DOE lands for overflow parking and other unauthorized purposes, and if the
571 motorsports entertainment complex is successful, prospective developers might seek adjacent DOE lands
572 in the immediate vicinity for additional restaurants or similar uses. The need for holistic consideration of
573 land use is one reason for a sitewide EIS.

574 **3.4 Terrestrial Ecology**

575 **Broad concerns about this section**

576 1. The singular focus of the discussion in this section on “plant and animal species that are federally or
577 state listed for protection” results in failure to acknowledge the ecological values for which the exclusion
578 zones (now referred to as Natural Areas) were designated for protection. See our Major Comment #1
579 regarding mitigation commitments that were determined to be essential to support the FONSI for ED-1
580 development and Major Comment #6 regarding important relevant information from earlier documents
581 that was not incorporated in the EA Addendum.

582 2. Discussion in this section regarding mitigation requirements of the FONSI related to ecological
583 resources deals only with actions that were required of the developer. Those actions were largely focused
584 on active measures to avoid effects on specific protected species and to prevent establishment or spread of
585 invasive species. The discussion fails to acknowledge the mitigation commitments DOE made that are
586 more passive in nature, but are arguably more centrally important to avoiding potentially significant
587 environmental impacts. Specifically, we refer to the commitment by DOE to prevent (through continued
588 ownership of the land) development or other incursions into certain areas that were identified as having
589 significant ecological value as communities or habitats or that were deemed necessary to preserve
590 important ecological functions. These are permanent commitments, not short-duration mitigation actions
591 like timing a tree-cutting operation to avoid impacts to nesting birds.

592

593 3. This section repeatedly asserts that the ecological losses resulting from development of protected areas
594 have been compensated for by the conservation of a similar number of acres of forest land in Horizon
595 Center Development Area 4. This seems to be based on a misconception that all forested land is of equal
596 value ecologically, or perhaps that the number of acres designated for protection in the ED-1 FONSI was
597 a magic number below which there would be no potential for significant environmental impact. In fact,
598 the lands designated for protection were identified because of their special natural attributes, including
599 floodplain, wetlands, riparian zones, rare plant communities, habitat for protected species, and potential to
600 help maintain connectivity and other important ecological functions of the landscape complex that existed
601 on Parcel ED-1 prior to its transfer. Conversion of Development Area 4 to conservation status does not
602 fulfill the purposes for which natural corridors were established and specific upland forest areas were
603 designated for protection.⁶

604 **Section 3.4.1 – Affected Environment**

606 1. The discussion in Section 3.4.1 does not appropriately distinguish between ecological conditions in
607 portions of the Horizon Center that were transferred for development and in some cases are cleared for
608 potential development (including the areas described on page 3-23 as “cleared areas that have been
609 replanted with tall fescue”) and areas in the Horizon Center that are still in DOE ownership and have been
610 protected from development as a necessary condition the FONSI for the establishment of the industrial
611 park.

613 2. Data on species present on the site is from 2013 or earlier. Current survey information is needed for
614 plants, birds, bats, fish, reptiles, amphibians, and other wildlife. Lists of rare species change, so species
615 that are rare now may not have been looked for or identified years ago. Species are not static-- some may
616 be present now that were not there years ago.

617 3. Discussion of ecologically sensitive areas is confusing. For example, the text appears to say that the
618 beech-maple forest is already part of Development Area 5, and thus already eligible for development. It is
619 our understanding that the beech-maple forest is currently excluded from development under the FONSI
620 conditions.

621 **Section 3.4.2.2 – [Impacts of the] Proposed Action**

622 1. **Pages 3-27 to 3-28** (paragraph spanning these pages). The discussion of impacts of noise on wildlife is
623 seriously deficient. Contrary to the bland assertions describing the main impact as mammals being
624 startled by or fleeing from a sound source but eventually acclimating to it, numerous researchers have
625 found significant evidence that noise is harmful to wildlife, particularly to songbirds and other creatures

⁶ A similar fallacy was present in the Environmental Study Reports for the powerline. For the one potential alternative that DOE did identify in those documents (widening the transmission line corridor across McKinney Ridge), there was no comparative discussion of the ecological significance of the potential habitat loss from widening the existing TVA transmission corridor versus the ecological significance of the impacts that would occur from the proposed construction of a power line along the northern boundary of the Horizon Center (Parcel ED-1). Natural landscapes have unique attributes, and not all natural landscapes have equal resource value. Even if the affected resources were of equal value (which they are not), adding to the width of an existing disturbance corridor would typically be expected to have far less adverse impact than cutting a new disturbance corridor through an existing intact habitat (because, for example, a new disturbance corridor would fragment habitat and would add new edges where invasive species could enter a formerly intact habitat).

626 that use auditory clues to find food or that use vocalizations to warn of the presence of predators and other
627 kinds of danger (and that are less able to communicate effectively in noisy conditions). Disruption of
628 communication can increase mortality and reduce breeding success. A science-based analysis is needed
629 regarding the potential impacts of noise on wildlife in those areas of Parcel ED-1 that would still be
630 excluded from development and in the adjacent BORCE. Here is some of the published research we have
631 found on the effects of noise on wildlife that should be considered and cited in regard to this impact:

- 632 • Barton, D. C. and A. L. Holmes (2007). Off-highway vehicle trial impacts on breeding
633 songbirds in northeastern California. *J. of Wildlife Management* 71: 1617-20 (Abst).
- 634 • Nakano, Yurika, Masayuki Senzaki, Nobuo Ishiyama, Satoshi Yamanaka, Kazuki Miura, and
635 Futoshi Nakamura. (2018) Noise pollution alters matrix permeability for dispersing anurans:
636 Differential effects among land covers. *Global Ecology and Conservation*, Volume 16, October
637 2018. <https://doi.org/10.1016/j.gecco.2018.e00484>
- 638 • Lengagne, Thierry (2008). Traffic noise affects communication behaviour in a breeding anuran,
639 *Hyla arborea*. *Biological Conservation*, Volume 141, Issue 8, August 2008, Pages 2023-2031
640 <https://doi.org/10.1016/j.biocon.2008.05.017>
- 641 • Damsky, Jacob, and Megan Call. January 2017. Anthropogenic noise reduces approach of Black-
642 capped Chickadee (*Poecile atricapillus*) and Tufted Titmouse (*Baeolophus bicolor*) to Tufted
643 Titmouse mobbing calls. *The Condor* 119(1):26-33. DOI: 10.1650/CONDOR-16-146.1 or
644 <https://www.researchgate.net/publication/312269686>. The key findings of the paper are
645 highlighted in a news release entitled “Traffic noise reduces birds' response to alarm calls” at
646 <https://www.sciencedaily.com/releases/2016/12/161228102424.htm>.)
- 647 • Francis, C. D., C.P. Ortega and A. Cruz (2011). Noise pollution filters bird communities based on
648 vocal frequency. *PLOS ONE*:
649 <http://plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0027052>
- 650 • Francis, C. D., N.J. Kleist, C.P. Ortega and A. Cruz (2012). Noise pollution alters ecological
651 services: enhanced pollination and disrupted seed dispersal. *Proc. Royal Soc. B*.
652 <https://doi.org/10.1098/rspb20120230>
- 653 • Habib, L., E.M. Bayne and S. Boutin (2007). Chronic industrial noise affects pairing success and
654 age structure of ovenbirds (*Seiurus aurocapilla*) *J. Applied Ecology* 44, 176-84
- 655 • Montgomery, R. and P.J. Weatherhead (1997). How robins find worms. *Animal Behavior*. 54,
656 143-51.
- 657 • Proppe, D.S., C.B. Sturdy, C.C.S. St.Clair (2013). Anthropogenic noise decreases urban songbird
658 diversity and may contribute to homogenization. *Global Change Biology* 19:1075-84.
- 659 • Rheindt, F.E. The impact of roads on birds: Does song frequency play a role in determining
660 susceptibility to noise pollution?. *J Ornithol* 144, 295–306 (2003).
661 <https://doi.org/10.1007/BF02465629>
- 662 • Senzaki, M., Yamaura, Y., Francis, C. et al. (2016) Traffic noise reduces foraging efficiency in
663 wild owls. *Sci Rep* 6, 30602 (2016). <https://doi.org/10.1038/srep30602>
- 664 • Senzaki, Masayuki, Taku Kadoya and Clinton D. Francis. (2020) Direct and indirect effects of
665 noise pollution alter biological communities in and near noise-exposed environments.
666 *Proceedings of the Royal Society B*. Published: 18 March 2020.
667 <https://doi.org/10.1098/rspb.2020.0176>
- 668 • Grubb, Michael M. 1979. Effects of Increased Noise Levels on Nesting Herons and Egrets.
669 *Proceedings of the Colonial Waterbird Group*, Vol. 2 (1979), pp. 49-54.
670 <https://www.jstor.org/stable/1520934>

671 In view of the ecological significance that the 1996 EA and FONSI attached to the protected areas where
672 noise would be received, not to mention our recollection that the preservation of the BORCE was
673 occasioned in no small part by information on its significance as interior forest breeding habitat for
674 songbirds with sensitive habitat requirements, it is disingenuous to assert that some wildlife might avoid
675 the affected areas due to noise, but that this avoidance is apparently OK because the affected areas would
676 be small compared with other similar habitat nearby in the ORR. Habitats with the qualities of the EFPC
677 riparian zone on ED-1 and the interior forest habitat on the BORCE are not found all over the ORR. (The
678 1996 EA stated, on page 3-35: "Overall, the mosaic of wildlife habitat on Parcel ED-1 provides one of the
679 best continuous blocks of natural habitat functionally connected to the rest of the ORR.") Individual wild
680 creatures displaced from their habitats are likely to die; if there is suitable habitat nearby, it probably is
681 occupied already.

682 The last sentence in this paragraph is "Overall, population-level effects to any species are not expected."
683 Should this be understood to mean to that no species will be in danger of extinction due to noise from the
684 proposed motorsports venue? That is very likely true, but extinction of a species is hardly the only kind of
685 significant ecological impact. DOE should still be concerned about avoiding adverse impacts to the
686 functioning ecological communities that the mitigation requirements in the 1996 EA are intended to
687 protect.

688 **2. Impact of fencing across the natural corridors.** This section of the EA Addendum does not mention
689 the impact of fencing on the connectivity of the natural corridors between the development areas, but loss
690 of connectivity is one of the most significant adverse impacts of the proposed action. As noted earlier in
691 this comment package, protection of these natural corridors was one of the mitigation measures required
692 by the 1996 FONSI in order to protect habitat connectivity and wildlife movement within and between the
693 habitats in the riparian and upland habitats in the Horizon Center and the upland forest to the north (now
694 part of the BORCE). Fencing around the perimeter of the proposed automobile track would eliminate
695 almost all wildlife movement in the natural corridors. (Some birds, bats, and insects could cross these
696 barriers, if the presence of roads does not deter them, but creatures than cannot fly would be excluded.)
697 By permanently blocking wildlife access to and through the natural corridors that are protected in order to
698 provide opportunity for wildlife movement within and between aquatic habitats and riparian areas
699 associated with EFPC and upland forest habitats to the north, the proposed action would largely defeat the
700 purpose for protecting those natural corridors.

701 Some supporters of a motorsports complex have suggested that wildlife do not need these corridors
702 because animals would still be able travel around the perimeter of the Horizon Center. That might be true
703 for large mammals like the black bears that occasionally wander through Oak Ridge, but most creatures
704 have a limited range and do not wander like black bears do. Fencing would severely and permanently
705 restrict the movements, and thus the habitat, of the wildlife these corridors were intended to support, such
706 as salamanders, turtles, lizards, foxes, and the small mammals that carry seeds of native plants or serve as
707 prey for the great horned owls that nest in the BORCE. Even if animals could find routes around the
708 Horizon Center, few of them could or would travel the distances necessary to get around the 1.6-mile-
709 long barrier that the Horizon Center would create in the absence of natural corridors.

710 The impacts of Alternative 1 would be much worse than the impacts of the proposed action, because
711 under Alternative 1 the natural corridors would be released for development. That change would mean
712 not only that wildlife connections would be blocked but also that all of the habitat associated with these
713 areas (and also the habitats and other values of the beech-maple forest and other upland forest associated
714 with the natural corridors) would be lost.

715 3. The document does acknowledge that Alternative 1 would lead to loss of wildlife habitat, but the
716 document is silent on the question of which creatures are likely to be affected. When habitats that have
717 been identified to protect wildlife are proposed for elimination, it is important to indicate what kinds of
718 wildlife that would be affected. Presumably the list includes songbirds, woodpeckers, bats, shrews
719 (possibly including the southeastern shrew, a species in need of management that was discussed in the
720 1996 EA), and predators like owls, hawks and foxes. The conclusions stated in an EA ought to be
721 supported by documented scientific information.

722 4. The repeated claim that the document presents a bounding analysis of potential impacts is belied by the
723 “where practicable” and “to the extent practicable the proponent will avoid” phrases sprinkled through
724 this section. Presentation of a bounding analysis of potential impacts is not consistent with assuming that
725 a future landowner probably would voluntarily implement mitigation measures to reduce the impacts.
726 Regardless of whether it claims to present a bounding analysis, the analysis in a NEPA document should
727 not credit the effects of mitigation unless the agency expects to ensure that the mitigation is implemented
728 and maintained.

729 5. Forest fragmentation has already occurred in the development approved areas of ED-1. Further
730 fragmentation by clearing in the protected sensitive areas will result in impacts to wildlife and plant
731 communities. Fragmentation creates new edges for invasive species to enter native communities.

732 6. Sections 2.1 and 2.2 of the EA Addendum stated that “only” 12% of the natural area would be affected
733 by the proposed action or the Alternative 1. At one time, most of ED-1 was forested and more of it was
734 natural, so there has already been incredible insult to the area. What percentage of ED-1 has been
735 cleared? How important is this 12% ecologically? Appropriate context should be provided for
736 understanding this impact, including discussion of the ecological values and functions of the habitat that
737 would be lost.

738 7. The Parcel ED-1 area has been used by DOE and other agencies in support of a variety of ORR
739 environmental monitoring purposes, wildlife management, and research, including long-term bird
740 monitoring by the U.S. Department of Interior Partners in Flight program, ORNL research on songbirds,
741 research on rare plant communities, and investigations related to contaminants in EFPC. These and other
742 management and research uses of this area could be affected by the land-use changes. It is possible that
743 scientists, students, bird watchers, and other wildlife enthusiasts who have traveled here to conduct
744 research and make observations may no longer come.

745 Were the organizations involved in these activities, such as the Tennessee Wildlife Resources Agency
746 (which manages the BORCE and is engaged in wildlife management throughout the ORR), the ORNL
747 Reservation Management group, and Partners in Flight notified about this proposal and consulted about
748 it? We note that Appendix B, Public/Agency Involvement on the Draft Environmental Assessment
749 Addendum, is empty. Does this mean that agency consultation (aside from the consultation required by
750 the Endangered Species Act) has not yet occurred?

751 8. The mitigation commitments in the 1996 FONSI are more important now than ever, with reports
752 locally, regionally, and globally of drastic declines in populations of birds, bats, salamanders, etc.

753 **Section 3.5 - Water Resources**

754 **Section 3.5.1 Affected Environment**

755 1. **Outdated information.** The information regarding the status of on-site water bodies and the water
756 quality status and designation of EFPC comes from the 1996 EA, and some of it is seriously outdated.
757 This kind of bland recitation of outdated information undermines the credibility of the assessment.

758 Some of the onsite water features described here have undoubtedly been altered by development activities
759 over the past 24 years during development of the Horizon Center (for example, conversion of forest to
760 mowed grass will have altered the hydrologic regime on the affected site). To support assessment of the
761 impact of the proposal considered in the EA Addendum, discussion of onsite water features should
762 emphasize water features on parts of the property that could be directly affected by the proposal,
763 including protected areas that could be released for development (i.e., the natural corridors, beech-maple
764 forest, and other upland forest near Development Area 5) and the development tracts that are proposed to
765 have land-use restrictions altered. Locations of specific features should refer to locations on the property
766 as it now exists (for example, use the names/numbers of Development Areas), rather than as it existed in
767 1996, and clear distinctions should be made between protected areas and development areas.

768 Water quality conditions change over time, so a water quality characterization that was accurate in 1994
769 (the date of the report cited in the 1996 EA) is unlikely to be correct 26 years later in 2020. Indeed,
770 contrary to what is stated here, the EPA webpage [https://mywaterway.epa.gov/waterbody-
771 report/TDECWR/TN06010207026_1000/2020](https://mywaterway.epa.gov/waterbody-report/TDECWR/TN06010207026_1000/2020) indicates that water quality in this section of EFPC is
772 designated as impaired for both fish & wildlife and recreation. More detailed information about water
773 quality conditions in EFPC should be readily available from state and federal government sources and
774 should be included in the document.

775 **Section 3.5.2.2 [Impacts of the] Proposed Action**

776 1. **First paragraph of section (page 3-31).** The change in allowable land use in the Horizon Center
777 could, in fact, have effects on water quality different from those of industrial development, contrary to
778 what is stated here. Whereas wastewater effluents from industrial operations typically are released
779 through point sources (for example, discharge to a municipal treatment plant under an NPDES industrial
780 pretreatment permit), motorsports activity (one of the uses proposed to be allowed) is a dispersed outdoor
781 activity that can cause nonpoint-source releases of contaminants, such as fuel and lubricants from leaks
782 and racing accidents, as well as fire-suppression foams used in responding to racing accidents.

783 The sinkholes and springs observed in many parts of Parcel ED-1 are indications that below-surface water
784 pathways are present throughout the site that likely lead to surface waters, including EFPC, and that could
785 become pathways to transport land-deposited contamination to these surface waters. Such contamination
786 could adversely affect ecological habitats in these waters, as well as adding to the burden of impaired
787 water quality noted on the EPA webpage cited above (this would be a cumulative impact, as it would be
788 additive with impacts from other sources). A motorsports facility would need to be designed and operated
789 to minimize the potential for contaminants from racing activities to enter below-surface water pathways.
790 To avoid introducing per- and polyfluoroalkyl substances (PFAS) and related chemicals of emerging
791 environmental and toxicological concern into the watershed of EFPC, use of chemical foams in fire
792 suppression should be prohibited.

793 2. **Surface water, page 3-31.** There is indication that “natural vegetation” would be planted as a measure
794 to impede stormwater flow and increase infiltration. This term needs clarification. To many, “natural”

795 simply means letting nature take its course. The result can be intrusion of invasive, non-native species
796 that can damage ecosystems. DOE must specify the use of native vegetation/communities appropriate to
797 the habitat.

798 **Section 4.1 - Cumulative impacts**

799 1. It is disturbing to see that the two DOE EAs published in August (the ORETTTC EA and this EA
800 Addendum) do not include each other as potential sources of cumulative impacts, even though they are
801 located across the highway from each other. Were the two DOE organizational components responsible
802 for these documents not aware of one another's plans? The potential for cumulative effects of these two
803 projects needs to be explored. There may be cumulative effects related to traffic, interactions between
804 ORETTTC trainee traffic and visitor traffic for events at a motorsports venue or amphitheater, and traffic
805 signals and median cuts likely to be added to the highway to accommodate the two proposals. The
806 ORETTTC would be upstream from tributary streams that enter EFPC in the Horizon Center area, so
807 downstream impacts of construction activities and long-term habitat losses from the ORETTTC could add
808 to stresses on some of the same ecological communities that would be affected by the proposed action on
809 Parcel ED-1, as well as on water quality in EFPC.

810 2. No effort is made in the EA Addendum to address the cumulative effects of the proposed airport and
811 the motorsports complex. The document says (page 4-1) that cumulative noise effects related to the
812 airport will be addressed in a future Federal Aviation Administration document. This approach is wrong.
813 Potential cumulative effects need to be considered in the context of every proposal that has the potential
814 to contribute to a cumulative effect. When two planned or reasonably foreseeable actions subject to
815 NEPA review have potential to cause a particular type of impact in a specific area, the cumulative impact
816 must be considered in NEPA review of both actions. The sponsor of the first action to receive NEPA
817 review cannot claim that the sponsor of the second action to receive review must take responsibility for
818 the entire cumulative impact of both actions. A motorsports complex established in consequence of a
819 DOE decision could generate noise that is the responsibility of the DOE to consider, and its proximity to
820 the proposed airport creates a likelihood of combined impacts from the two projects. Since these impacts
821 are reasonably foreseeable, DOE must evaluate the potential cumulative impact in its NEPA review.
822 Since noise of a potential airport was included in the earlier DOE EA on transfer of land for the airport,
823 and that earlier noise study of the airport is cited in the EA Addendum, it would appear that information is
824 readily available to allow DOE to provide at least a preliminary evaluation of the cumulative impacts.

825 3. The EA Addendum assumes no change in surrounding ORR land uses (page 4-1). That is unlikely. A
826 motorsports entertainment venue in this area would inevitably lead to a lot of uncontrolled ad hoc human
827 incursions into surrounding DOE lands (parking, camping, etc.).

828 4. **Page 4-1. Terrestrial Ecology.** This subsection states, in part (page 4-1):

829 The beech-maple forest is, in particular, vulnerable to cumulative effects due to its rarity in the
830 region. Where practicable, the proponent would avoid these areas entirely from development to
831 minimize potential adverse impacts to these sensitive communities.

832 Probably the first sentence should be restated to indicate that elimination of the beech-maple forest stand
833 on Parcel ED-1 (as would occur under Alternative 1) would have a large cumulative effect on the
834 representation of this plant community in the region, because this appears to be the last remaining
835 example. The second sentence is, however, nonsense. If DOE decides to relinquish control over the
836 beech-maple stand, DOE needs to acknowledge that this last representative of this community would be
837 eliminated. There is no justification for asserting that the prospective developer would protect the area
838 "where practicable."

839
840 **5. Page 4-2. Water Resources.** It is claimed that there would be no net loss of stream habitat from either
841 the proposed action or Alternative 1. This is hard to accept as a valid conclusion. Is DOE intending to
842 require that no culverts may be used to carry streams under new roads? Bridges built across streams and
843 fences constructed across streams would also adversely affect stream habitat, notably the stream
844 (designated NT-2 in the 1996 EA) in the natural corridor between Development Areas 6 and 7. Is DOE
845 perhaps assuming that NT-2 does not provide stream habitat or that no habitat is lost when light is
846 prevented from reaching a stream segment or woody material in stream is trapped behind a fence that
847 prevents it from being transported downstream?