

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 **COMMISSIONERS**

3 Lea Márquez-Peterson, Chairwoman
4 Sandra D. Kennedy
5 Justin Olson
6 Anna Tovar
7 Jim O'Connor

8 IN THE MATTER OF THE APPLICATION OF SUNZIA
9 TRANSMISSION, LLC, IN CONFORMANCE WITH
10 THE REQUIREMENTS OF ARIZONA REVISED
11 STATUTES 40-360, ET. SEQ., FOR A CERTIFICATE OF
12 ENVIRONMENTAL COMPATIBILITY AUTHORIZING
13 THE SUNZIA SOUTHWEST TRANSMISSION
14 PROJECT, WHICH INCLUDES THE CONSTRUCTION
15 OF TWO NEW 500 KV TRANSMISSION LINES AND
16 ASSOCIATED FACILITIES ORIGINATING AT A NEW
17 SUBSTATION (SUNZIA EAST) IN LINCOLN COUNTY,
18 NEW MEXICO, AND TERMINATING AT THE PINAL
19 CENTRAL SUBSTATION IN PINAL COUNTY,
20 ARIZONA. THE ARIZONA PORTION OF THE
21 PROJECT IS LOCATED WITHIN GRAHAM,
22 GREENLEE, COCHISE, PINAL AND PIMA COUNTIES.

DOCKET NO.:
L-00000YY-15-0318-
00171

**APPLICATION TO
AMEND PURSUANT
TO A.R.S. § 40-252**

23 SunZia Transmission, LLC (“SunZia”), respectfully requests that the Commission
24 modify Decision No. 75464, which approved the Certificate of Environmental
25 Compatibility (“CEC”) for the SunZia Southwest Transmission Project (“Project”).
26 Specifically, SunZia requests the Commission modify Decision No. 75464 to: A) authorize
27 the use of updated structure designs and additional structure types that resulted from
28 detailed engineering efforts; B) allow for separate assignment and future ownership of each
approved transmission line and its associated facilities to enable project financing; and C)
extend the expiration date of the CEC for SunZia line 1 from February 2026 to February
2028.¹ SunZia is not requesting any amendments to the approved corridor authorized by
the CEC.

¹ SunZia is no longer pursuing the amendment application filed October 22, 2018, requesting a minor route change to accommodate the proposed expansion of Pinal County’s Manuel Airport. Since that time, Pinal County has updated its Airport Layout Plan, which resolves the concerns with SunZia’s approved route. On September 1, 2021, the FAA approved the revised Airport Layout Plan. On May 3, 2022, SunZia applied to the FAA for a new determination and anticipates the FAA will issue a Determination of No Hazard. In the unlikely event some structures would still need to be moved based on FAA’s review, SunZia will seek Commission approval to modify the route as needed.

1 **INRODUCTION**

2 Commission Decision No. 75464 approved a CEC for the SunZia Project which
3 consists of two 500 kV transmission lines, one alternating current (“AC”) and one either
4 AC or direct current (“DC”), and associated interconnection facilities that will provide a
5 path for new generation sources, including New Mexico wind resources to the Arizona
6 regional grid. The \$4 billion privately funded Project will provide substantial economic
7 benefits to Arizona, including significant employment opportunities during its construction
8 period and substantial revenues to state and local jurisdictions and the Arizona State Land
9 Department throughout the life of the Project.

10 The SunZia Project also benefits Arizona by providing needed increases in energy
11 and power transfer capability and improved transmission reliability. Consequently, the
12 Project will: 1) reduce existing transmission congestion; 2) support the development and
13 transmission of renewable energy resource potential; 3) provide power to help meet future
14 electricity demand in Arizona; and 4) provide a strategic option for Arizona, and its
15 utilities, to reduce carbon emissions.

16 The CEC included two expiration dates, one for each 500 kilovolt (“kV”)
17 transmission line. SunZia plans to construct the two lines in phases and construct the first
18 line as a nominal 500 kV DC line, which is expected to be in operation prior to the second
19 line. Since the CEC was issued, SunZia has advanced the engineering design for the DC
20 line and the DC converter station that was authorized by the CEC. The DC converter
21 station is now referred to as “SunZia West.”

22 This application to amend the CEC has three components: 1) add additional
23 structure types to address the structural design changes that resulted from detailed
24 engineering efforts associated with the DC facility; 2) bifurcate decision no. 75464 into
25 two certificates to provide for separate ownership of each line, which enables the projects
26 to be financed; and 3) extend the CEC expiration date for line 1. SunZia is not seeking any
27 amendments to the approved corridor authorized by the CEC.
28

1 **I. AMENDMENT A: REQUEST TO AUTHORIZE ADDITIONAL**
2 **STRUCTURE DESIGNS**

3 Since the Commission issued the CEC in 2016, SunZia has made significant
4 progress on the engineering and final design on the structures for SunZia’s first 500 kV
5 DC line. Appendix G of SunZia’s original application provided typical structure diagrams
6 anticipated for the Project, including typical DC structures. With the advancement of
7 detailed engineering and designs, the typical DC guyed lattice, dead-end and self-
8 supporting lattice, and tubular structures (collectively referred to as the “Updated DC
9 Structures”) were modified. Refer to Exhibit 1 for a side-by-side view of the Updated DC
10 Structures compared to those in SunZia’s original CEC application (dated 2015). These
11 modifications are the result of detailed engineering and the final design regarding ground
12 return of the DC transmission facilities. The original DC structure designs assumed the
13 use of ground electrodes for the ground return path primarily for monopole operation of
14 the DC line and the need for additional ground-based facilities for installation of the ground
15 electrodes. However, SunZia has concluded that the use of a ground electrode system is
16 not as effective as dedicated metallic return conductors (“MRC” or “DMR”) physically
17 mounted on the top of the DC structures. The Updated DC Structures assume that the two
18 MRCs need to be installed along with shield wires and the DC pole conductors. The MRC
19 conductors are positioned between the shield wires and pole conductors as shown in
20 Figures 1 - 4 of Exhibit 1.

21 In addition to the Updated DC Structures described above, SunZia also requests the
22 option to use double-circuit AC structures (Figure 5, Exhibit 1) or modified single-circuit
23 AC dead-end structures (Figure 6, Exhibit 1) in the location between SunZia West and the
24 existing Pinal Central Substation. The distance between SunZia West and the existing
25 Pinal Central Substation is less than one mile.

26 At present, SunZia has secured a 200-foot-wide right-of-way (“ROW”) on the
27 private land underlying the less than one mile stretch between SunZia West and Pinal
28 Central Substation. SunZia will need the option to use the requested double or single circuit

1 AC structures (Figures 5 and 6, Exhibit 1) to fit within the 200-foot-wide ROW to deliver
2 the capacity of SunZia Line 1 from SunZia West to Pinal Central Substation. The use of
3 double-circuit structures will not negatively affect the reliability of the SunZia Project or
4 the regional transmission grid because the North American Electric Reliability
5 Corporation's Transmission System Planning Performance Requirements (i.e., TPL-001-
6 5) do allow for circuits to share a common structure for one mile or less.

8 **II. AMENDMENT B: BIFURCATE DECISION NO. 75464 INTO TWO** 9 **CERTIFICATES**

10 SunZia currently anticipates that the two lines approved in Decision No. 75464 will
11 be separately financed and may be separately owned in the future. SunZia therefore
12 requests the Commission modify its decision to provide for two CECs, one for each line.
13 Doing so will facilitate necessary financing and assignment of the CEC authorizations if
14 ownership of either line changes in the future. The Commission has authorized two CECs
15 in one docket on multiple recent occasions, including Case 187 (Decision No. 77888 and
16 77889) and Case 196 (Decision No. 78430 and 78431). In addition, SunZia is aware of
17 two pending CEC applications in which the applicants are requesting two CECs, also to
18 facilitate future separate ownership: Case 200, L-21183A-22-0069-00200, and Case 202,
19 Docket L-21187A-22-0078-00202. Exhibit 2, attached, provides two proposed forms of
20 order to address this request.

21 **III. AMENDMENT C: EXTEND THE CEC EXPIRATION OF LINE 1**

22 The deadline conditioned in the CEC to place the first line in-service is February
23 2026. SunZia continues to actively pursue all federal, state, and private ROW needed for
24 the Project and currently anticipates the first line will be constructed and operational by the
25 4th quarter of 2025. Because the planned in-service date is very close to the current deadline
26 for the first line as set forth in the Decision and that timing depends on federal permitting
27 processes not fully under the control of SunZia and supply chains that are severely stressed
28 at the moment, SunZia requests a two-year extension to construct the first line. A time

1 extension to place the first line in-service by February 2028 is in the public interest as it
2 will give lenders comfort for financing and may be necessary in light of global supply chain
3 challenges.

4 **IV. RESOURCE ANALYSES IN SUPPORT OF THIS APPLICATION**

5
6 SunZia retained POWER Engineers, Inc. to conduct an environmental evaluation
7 for the requested amendments. The results of this evaluation are described below. This
8 impact evaluation only applies to Amendment A as resource analysis is not necessary for
9 the modifications requested in Amendments B and C. Refer to Exhibit 3, POWER
10 Engineers Declaration, regarding the following environmental evaluation.

11 **Land Use**

12 Land use impacts associated with the Updated DC Structures and the request to use
13 a double-circuit structure in an area that is less than one mile are comparable to the impacts
14 disclosed in the original SunZia application because no additional ROW is required. ROW
15 for the high voltage direct current (HVDC) structures is the same as that required for AC
16 structures. The overall number of structures needed using the original structure designs or
17 the updated DC Structures is similar. The same structure locations already planned for
18 SunZia are suitable for the Updated DC Structures.

19 **Visual Resources**

20 Impacts to visual resources are also expected to be minimal when comparing the
21 updated and new structure designs. The visual profile of the Updated DC Structures is
22 generally the same as the original structures, with only minor changes near the top of the
23 structures (see Exhibit 1). The visual mass and contrast created by the Updated DC
24 Structures would increase slightly due to the wider conductor cross-arm and down-guy
25 member assemblies, but the overall change in the viewshed would be similar to the original
26 structures and the results of previous analyses would not change.

1 **Cultural Resources**

2 Impacts to cultural resources would be similar to the original analysis. Principally
3 because the footprint of the updated DC Structures will be the same, no additional ROW
4 is required, and there is no increase in the number of structures. The treatment of cultural
5 resources, as governed by the Programmatic Agreement (“PA”) that has been executed for
6 the Project, are unchanged.

7 **Biological Resources**

8 Impacts to vegetation, wildlife, and avian species are similar to the original structure
9 types. No additional ROW is required, there is no increase in the number of structures, and
10 the biological protection measures that have been developed for the Project remain
11 unchanged. The MRC associated with the Updated DC Structures are positioned in
12 compliance with avian protection standards, as is the design for the new double-circuit AC
13 structures.

14 The evaluation concluded that the environmental effects associated with
15 Amendment A are consistent with, and no greater than, the effects of the SunZia Project as
16 originally approved.

17
18 **V. CONCLUSION**

19 SunZia greatly appreciates the Commission’s consideration of this Application.
20 Given the proposed changes have no or minimal effects on reliability of the regional grid
21 and the environment, SunZia respectfully requests Commission approve the amendments
22 without an evidentiary hearing, consistent with precedent for other amendments with
23 similarly minor changes and as authorized under A.R.S § 40-252.
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1 **Respectfully submitted** this 13th day of May 2022, by:

2
3 By: /s/ Albert H Acken
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8 bert@ackenlaw.com
9 *Attorneys for SunZia*
10 *Transmission LLC*

11 **Original + 13 copies** of the foregoing
12 Filed this 13th day of May 2022, with:

13 Docket Control
14 Arizona Corporation Commission
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16 Phoenix, Arizona 85007
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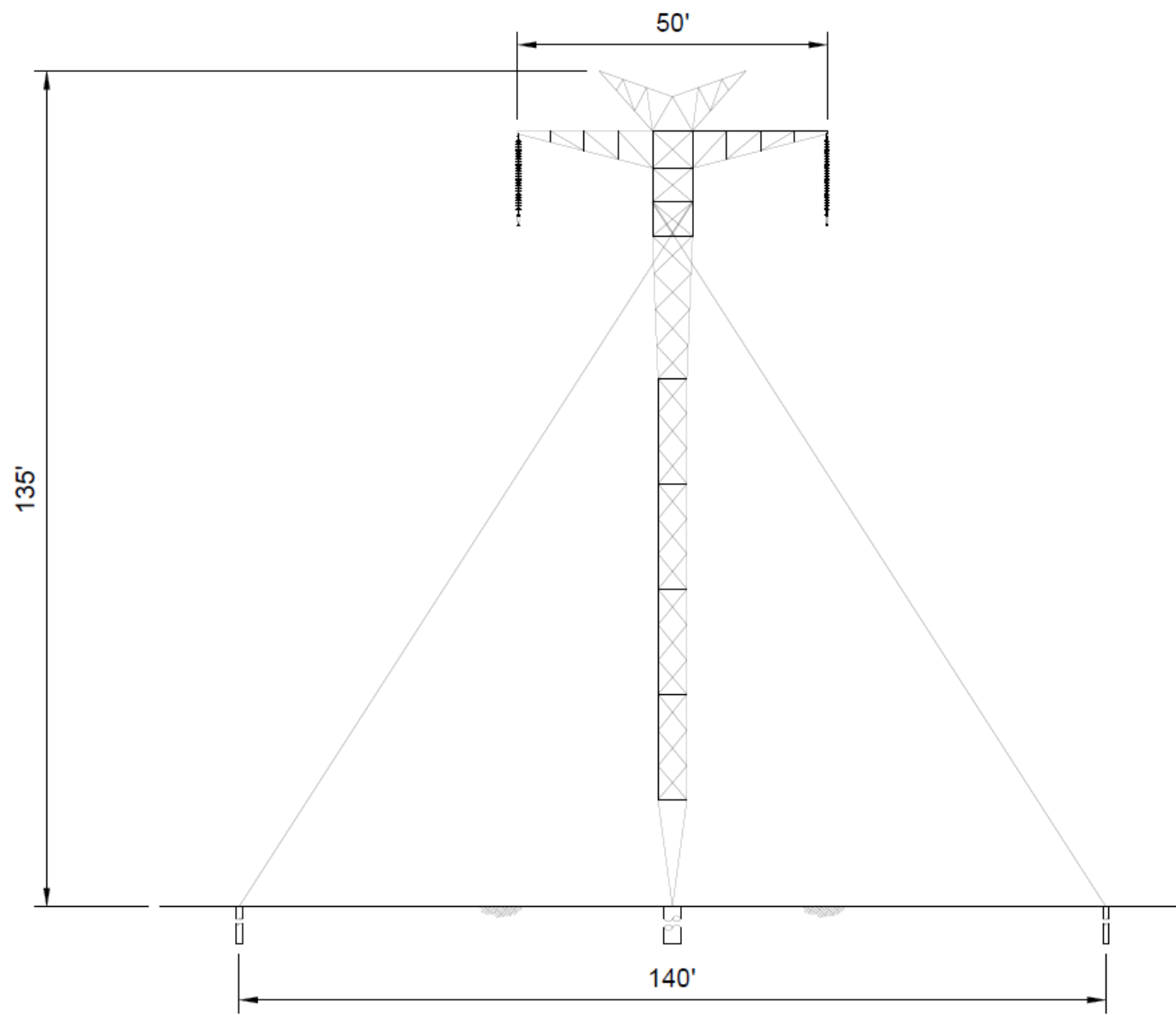
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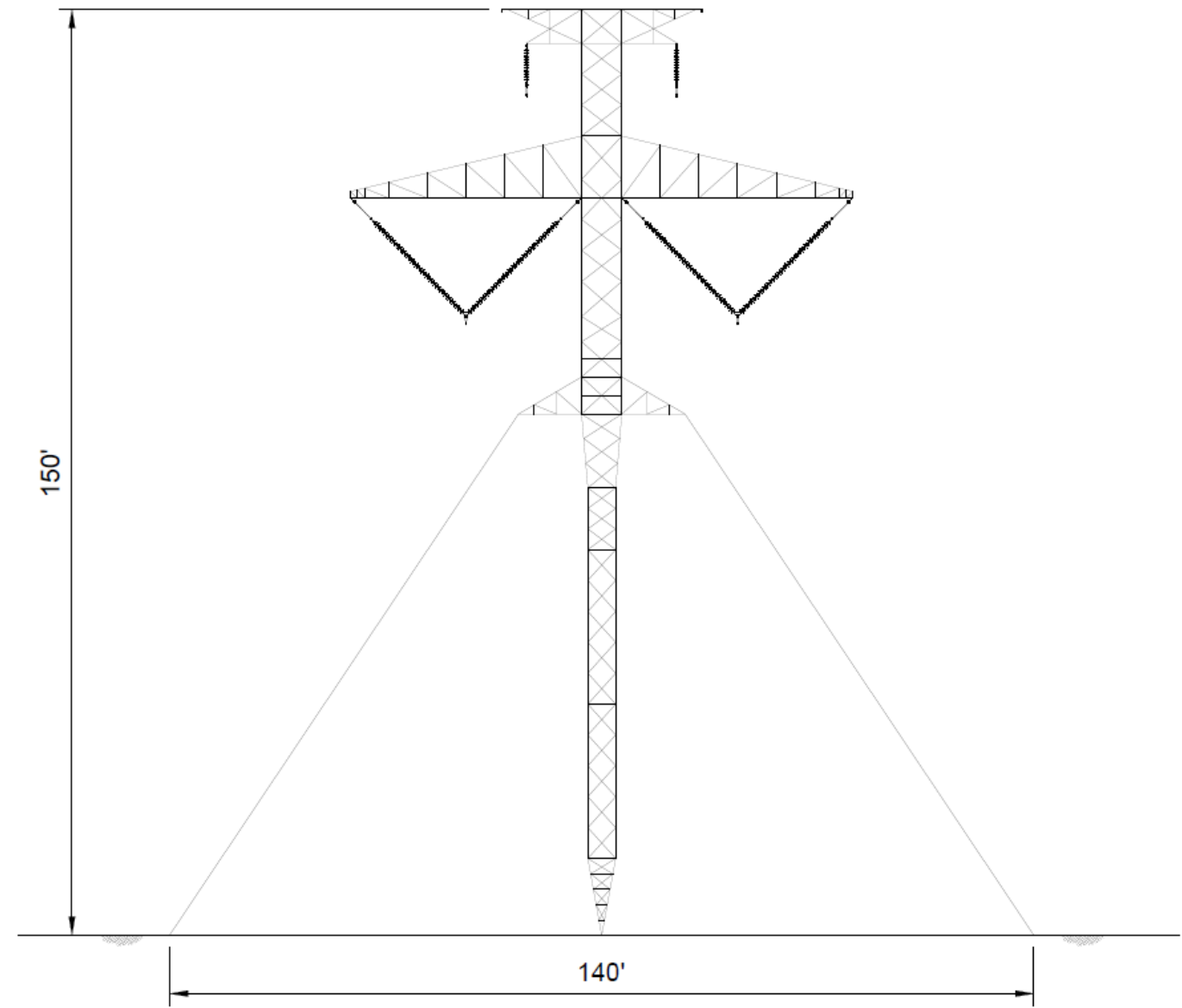
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EXHIBIT 1

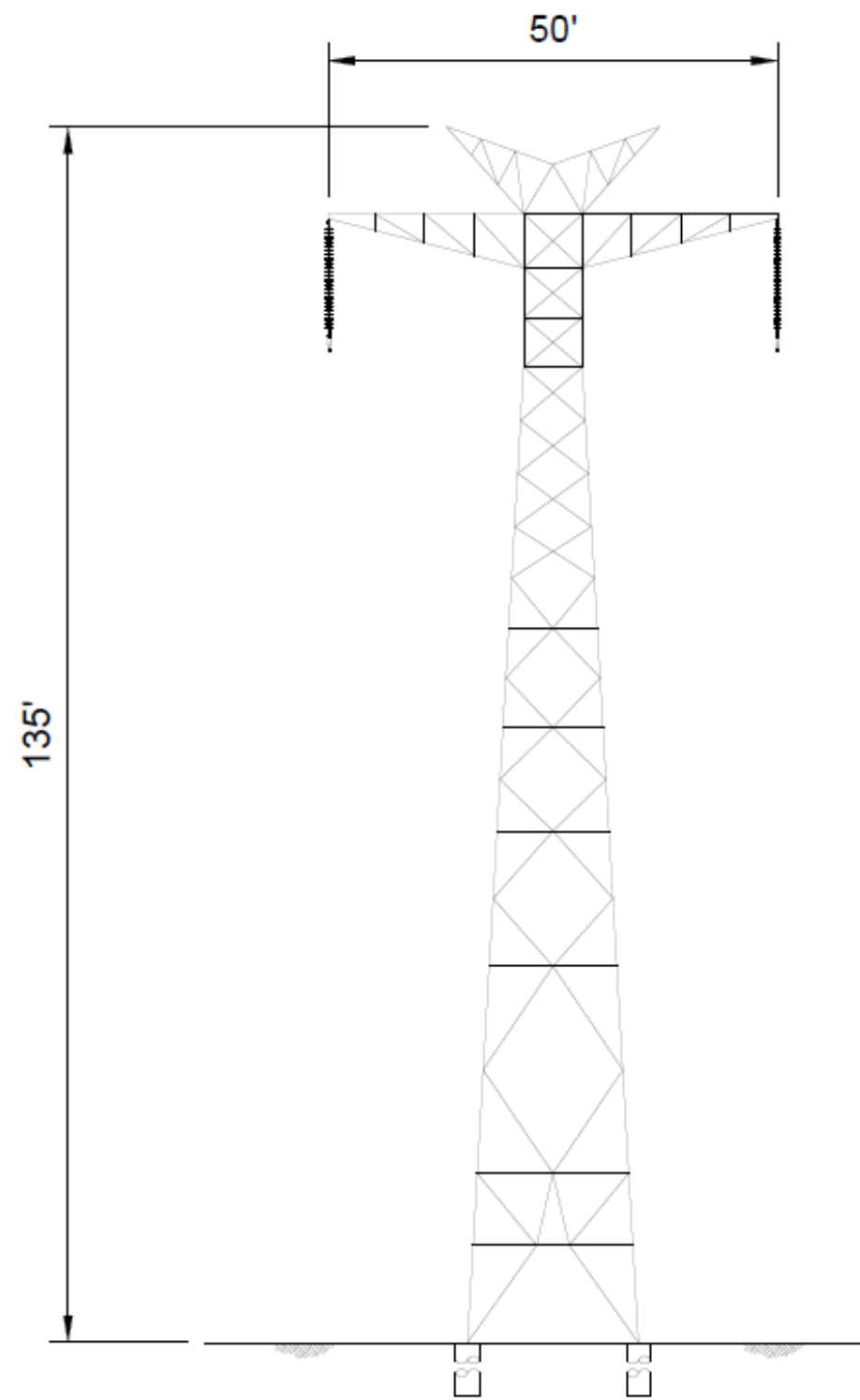


2015 DESIGN

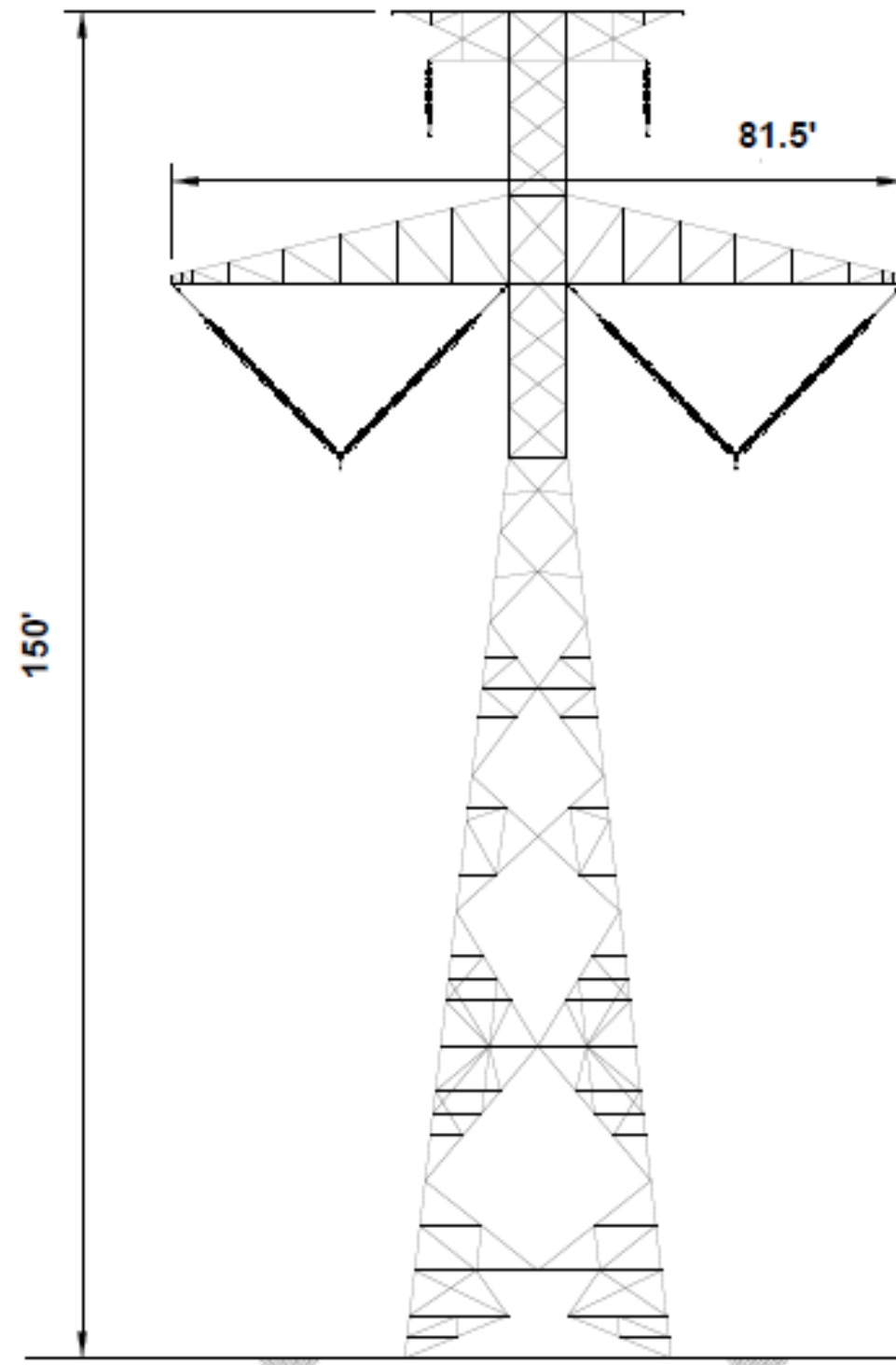


CURRENT DESIGN

FIGURE 1 – TYPICAL DIRECT CURRENT GUYED LATTICE TANGENT STRUCTURE

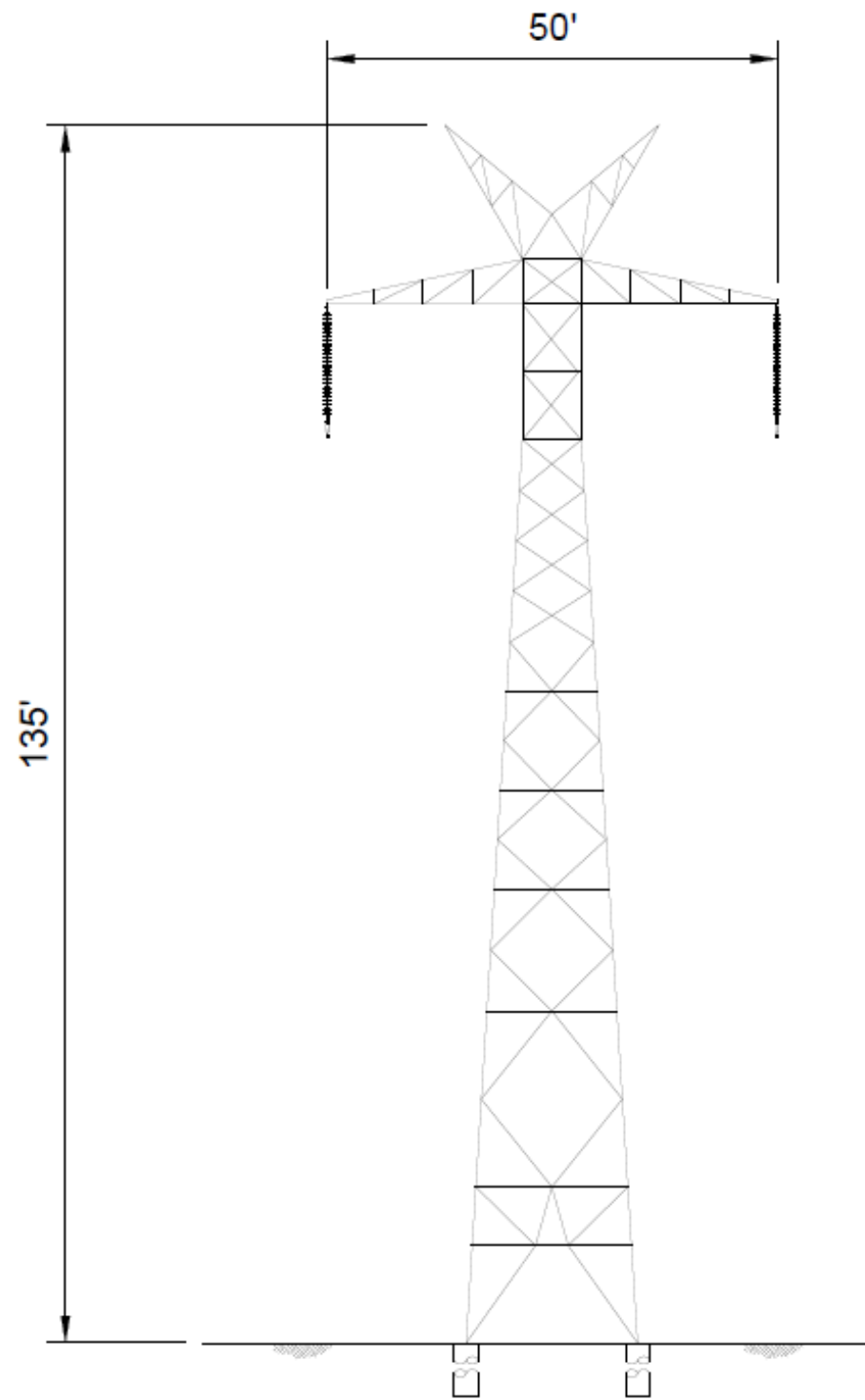


2015 DESIGN

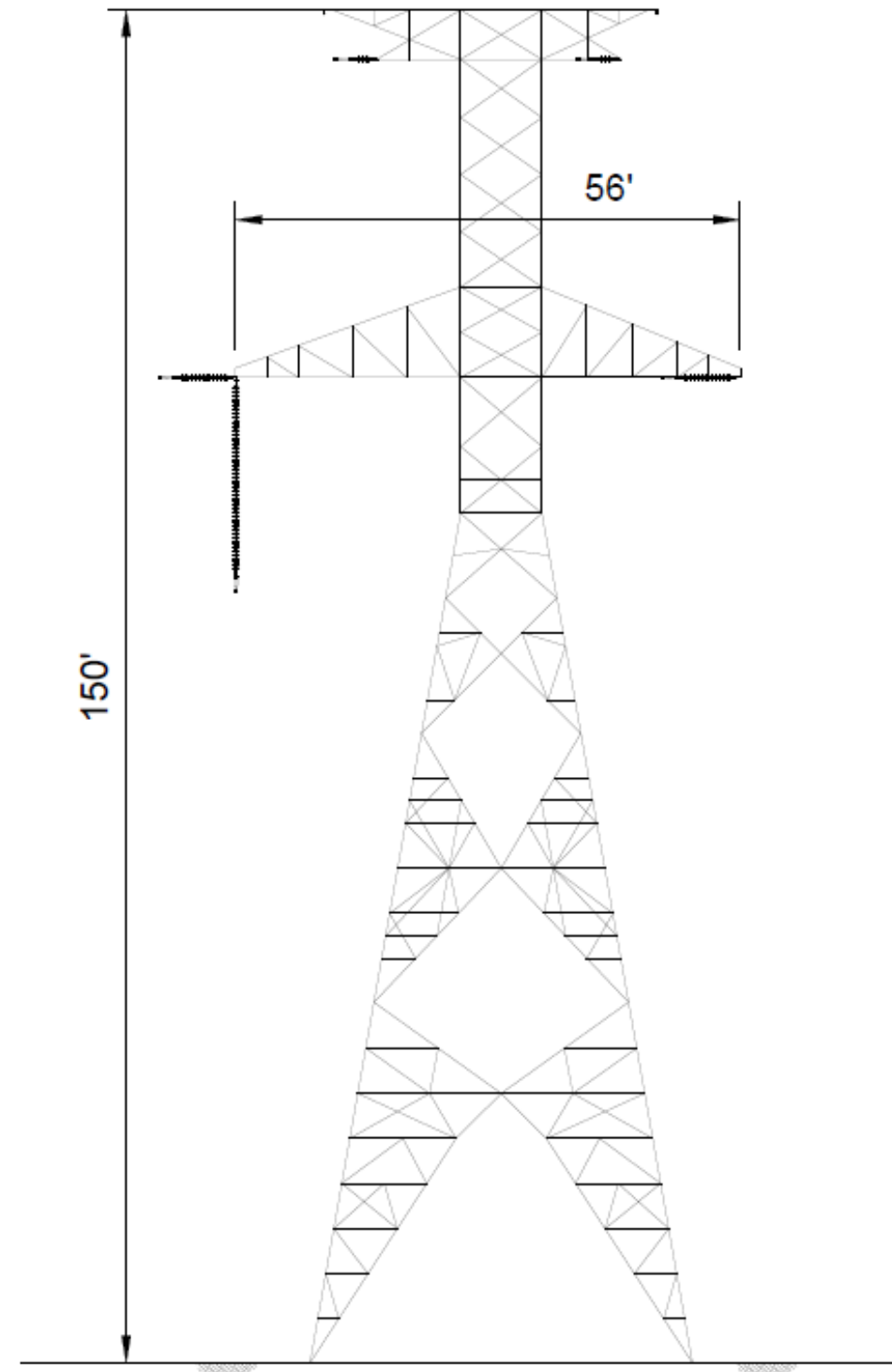


CURRENT DESIGN

FIGURE 2 – TYPICAL DIRECT CURRENT SELF-SUPPORTING LATTICE TANGENT STRUCTURE

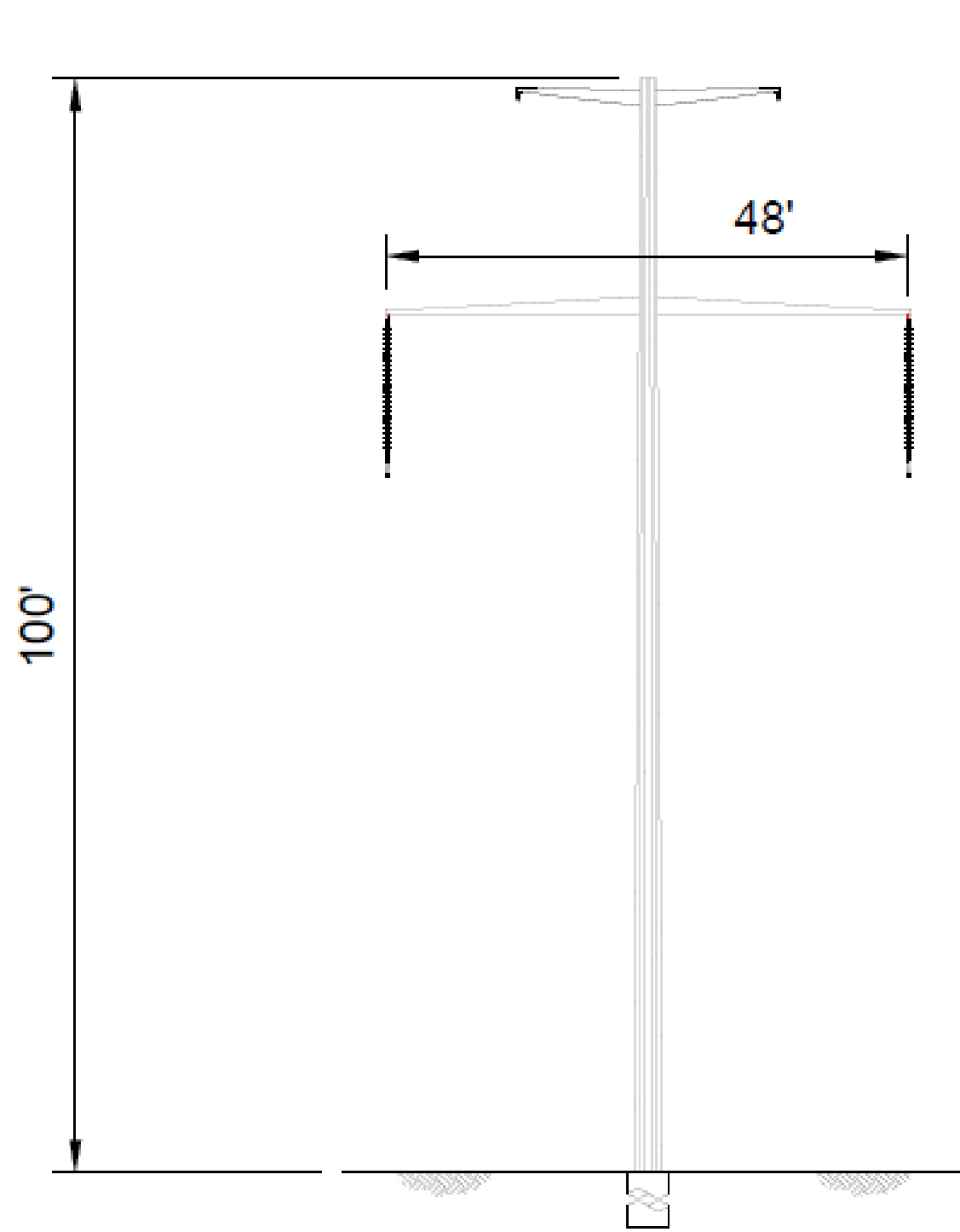


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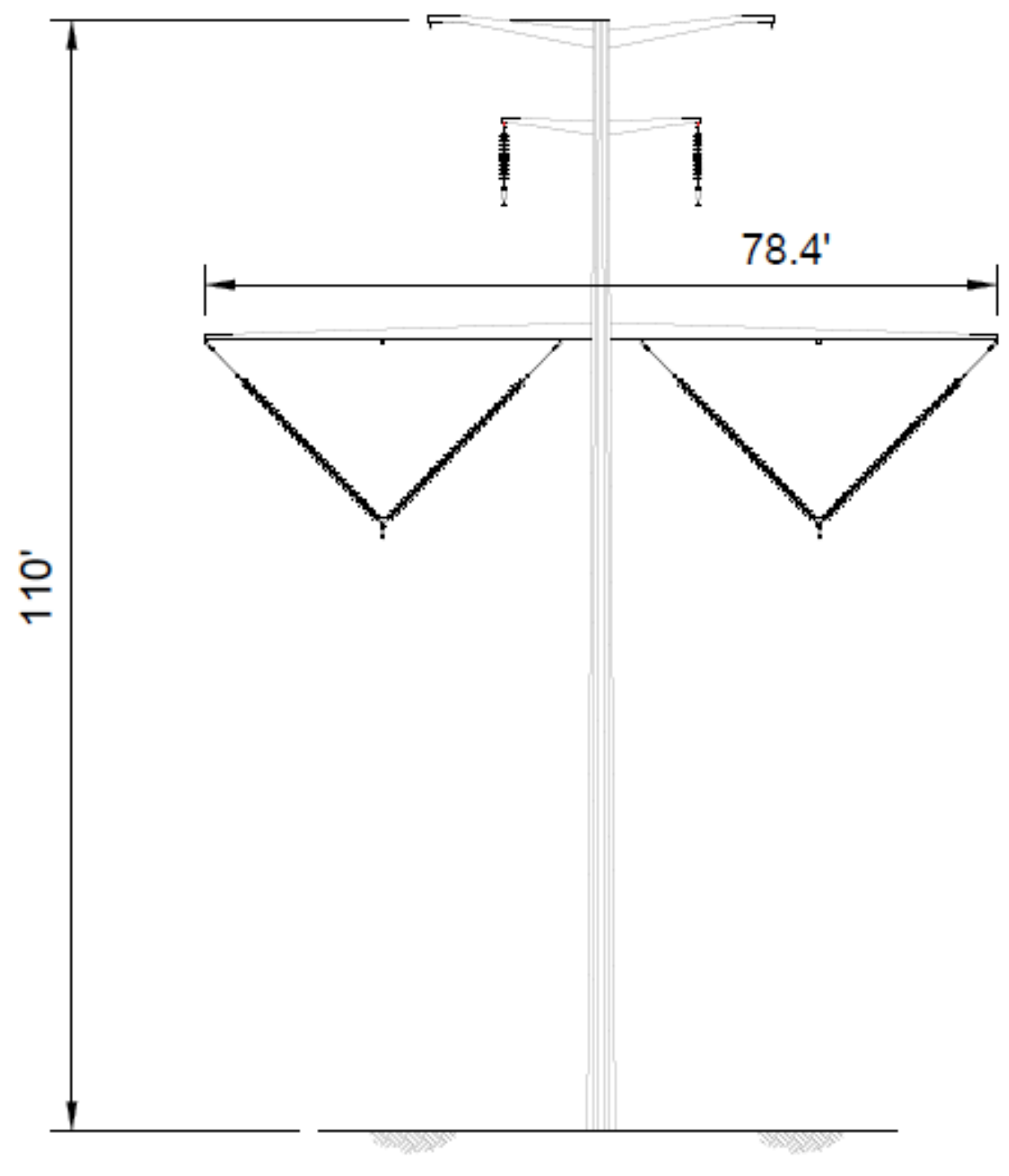


CURRENT DESIGN

FIGURE 3 – TYPICAL DIRECT CURRENT SELF-SUPPORTING LATTICE DEAD-END STRUCTURE

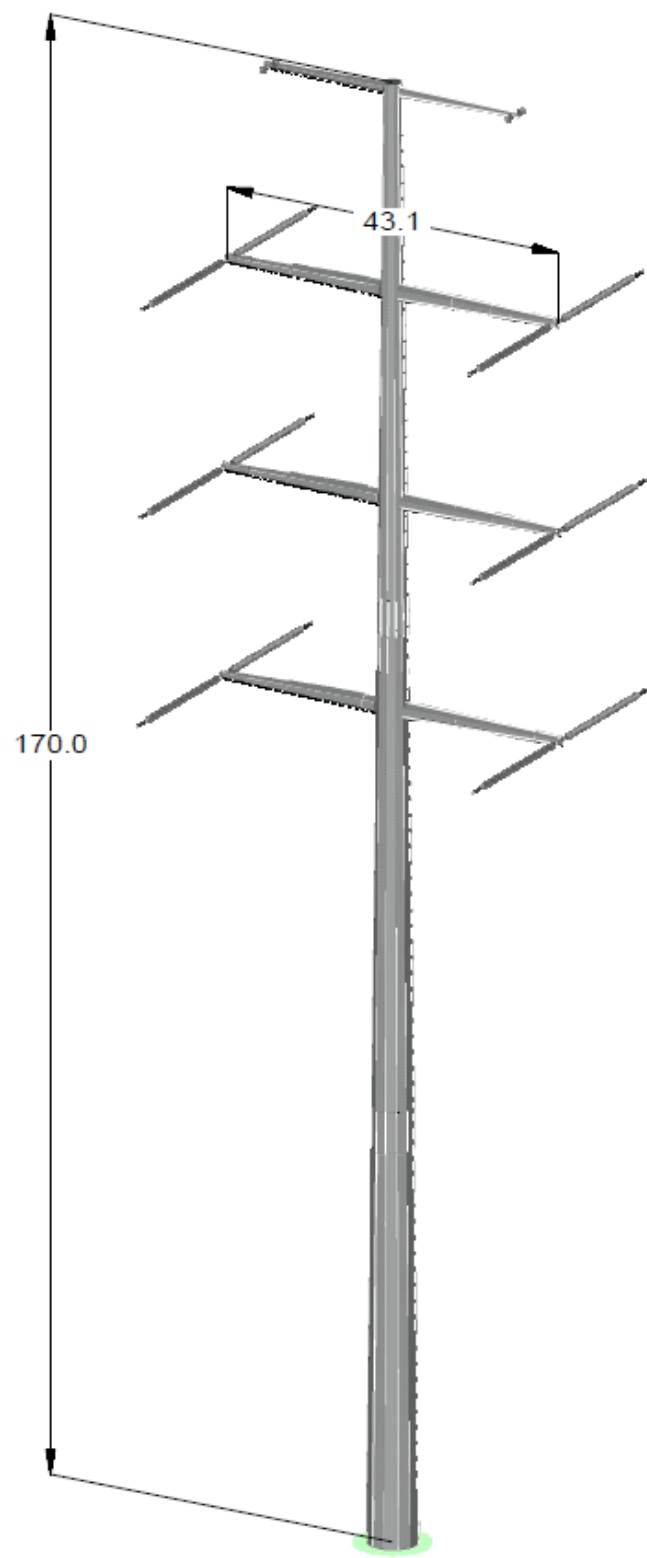


2015 DESIGN



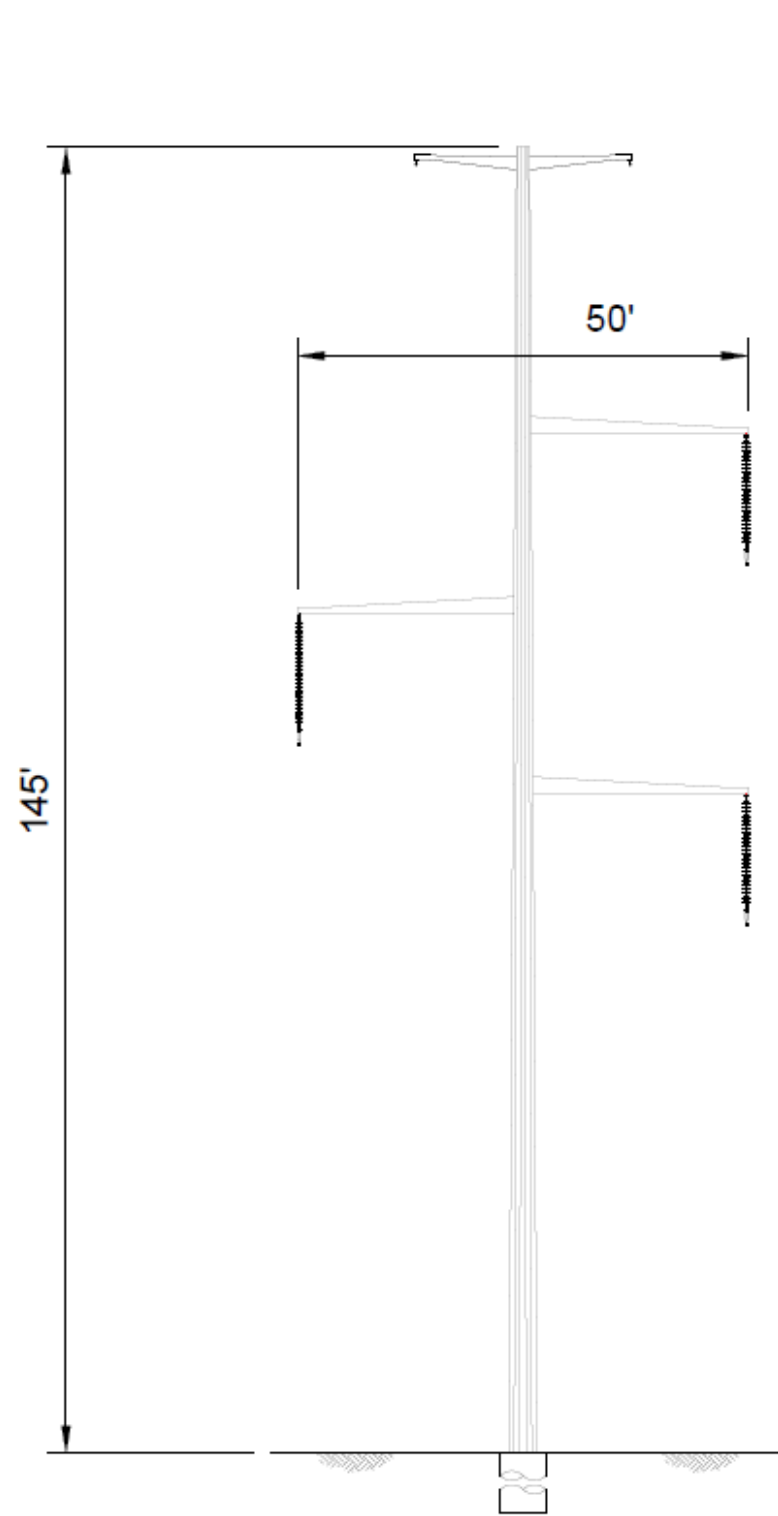
CURRENT DESIGN

FIGURE 4 – TYPICAL DIRECT CURRENT SINGLE-CIRCUIT TANGENT TUBULAR STRUCTURE DESIGN

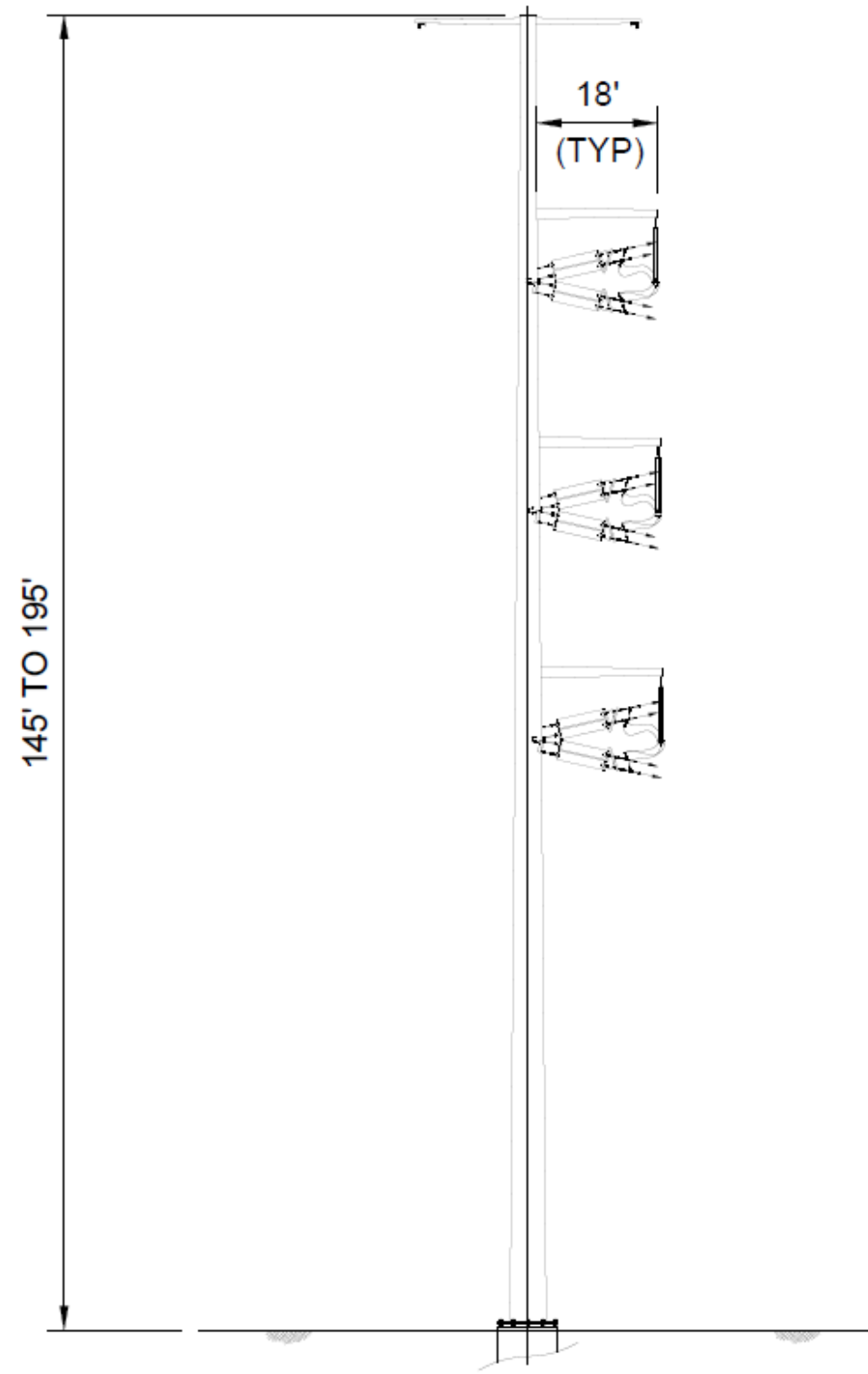


CURRENT DESIGN

FIGURE 5 – NEW ALTERNATING CURRENT DOUBLE-CIRCUIT STRUCTURE DESIGN



2015 DESIGN



CURRENT DESIGN

FIGURE 6 – TYPICAL ALTERNATING CURRENT SELF-SUPPORTING DEAD-END TUBULAR STRUCTURE

EXHIBIT 2 – PROPOSED FORMS OF ORDER CEC 1& 2

1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

2 **COMMISSIONERS**

3 Lea Márquez-Peterson, Chairwoman
4 Sandra D. Kennedy
5 Justin Olson
6 Anna Tovar
7 Jim O'Connor

8 IN THE MATTER OF THE APPLICATION
9 OF SUNZIA TRANSMISSION, LLC, IN
10 CONFORMANCE WITH THE
11 REQUIREMENTS OF ARIZONA REVISED
12 STATUTES 40-360, ET. SEQ., FOR A
13 CERTIFICATE OF ENVIRONMENTAL
14 COMPATIBILITY AUTHORIZING THE
15 SUNZIA SOUTHWEST TRANSMISSION
16 PROJECT, WHICH INCLUDES THE
17 CONSTRUCTION OF TWO NEW 500KV
18 TRANSMISSION LINES AND ASSOCIATED
19 FACILITIES ORIGINATING AT A NEW
20 SUBSTATION (SUNZIA EAST) IN LINCOLN
21 COUNTY, NEW MEXICO, AND
22 TERMINATING AT THE PINAL CENTRAL
23 SUBSTATION IN PINAL COUNTY,
24 ARIZONA. THE ARIZONA PORTION OF
25 THE PROJECT IS LOCATED WITHIN
26 GRAHAM, GREENLEE, COCHISE, PINAL
27 AND PIMA COUNTIES.

DOCKET NO.: L-00000YY-15-0318-
00171

ORDER

**SUNZIA'S APPLICATION TO
AMEND DECISION NO. 75464
PURSUANT TO A.R.S. § 40-252**

CEC-1

16 BY THE COMMISSION:

17 **FINDINGS OF FACT**

18 **Background**

19 1. On ____, SunZia Transmission LLC ("SunZia"), submitted a request, pursuant
20 to A.R.S. § 40-252, to amend Decision No. 75464, issued by the Arizona Corporation
21 Commission ("Commission") on February 22, 2016, which approved the Certificate of
22 Environmental Compatibility ("CEC") for the SunZia Southwest Transmission Project
23 ("Project").

24 2. SunZia requested the Commission modify Decision No. 75464 to: A)
25 authorize the use of updated structure designs and additional structure types that resulted
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27
28

1 from detailed engineering effort; B) allow for separate assignment and future ownership of
2 each approved transmission line and its associated facilities; and C) extend the expiration
3 date of the CEC for SunZia line 1 from February 2026 to February 2029.

4 3. SunZia submits that the proposed changes create no impacts to the
5 environment or the reliability of the transmission system, therefore there is no need for an
6 evidentiary hearing, and the application should be considered and approved by the
7 Commission.

8 **Staff Analysis and Recommendations**

9 *TBD*

10 CONCLUSIONS OF LAW

11 1. The Commission has jurisdiction over SunZia Transmission LLC and the
12 subject matter contained herein pursuant to A.R.S. §§ 40-252 and 40-360 et seq.

13 2. Notice of this proceeding has been given in the manner provided by law.

14 3. The Commission, having reviewed and considered the application to amend
15 Decision No. 75464 and the Staff Memorandum, concludes that it is in the public interest to
16 amend the Certificate of Environmental Compatibility Case No. 171 to: A) authorize the use
17 of updated structure designs and additional structure types; B) allow for separate assignment
18 and future ownership of each approved transmission line and its associated facilities; and C)
19 extend the expiration date of the CEC for SunZia line 1 from February 2026 to February
20 2029.

21 ORDER

22 IT IS THEREFORE ORDERED that Decision No. 75464 is amended to authorize
23 the use of updated structure designs and additional structure types as provided in Exhibit A
24 hereto.

25 IT IS FURTHER ORDERED that Decision No. 75464 is amended to explicitly
26 authorize separate ownership of each transmission line. This Decision authorizes CEC-1 for
27
28

1 the transmission line that will operate as either an alternating current (“AC”) or direct current
2 (“DC”) facility.

3 IT IS FURTHER ORDERED that Decision No. 75464 is amended to extend the
4 expiration date for the first line, authorized in CEC-1, until February 22, 2029.

5 IT IS FURTHER ORDERED that all other aspects of Decision No. 75464 shall
6 remain in effect.

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8 IT IS FURTHER ORDERED that this Decision shall become effective immediately.
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1 **BEFORE THE ARIZONA CORPORATION COMMISSION**

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10 CONFORMANCE WITH THE
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14 COMPATIBILITY AUTHORIZING THE
15 SUNZIA SOUTHWEST TRANSMISSION
16 PROJECT, WHICH INCLUDES THE
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18 TRANSMISSION LINES AND ASSOCIATED
19 FACILITIES ORIGINATING AT A NEW
20 SUBSTATION (SUNZIA EAST) IN LINCOLN
21 COUNTY, NEW MEXICO, AND
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23 SUBSTATION IN PINAL COUNTY,
24 ARIZONA. THE ARIZONA PORTION OF
25 THE PROJECT IS LOCATED WITHIN
26 GRAHAM, GREENLEE, COCHISE, PINAL
27 AND PIMA COUNTIES.

DOCKET NO.: L-00000YY-15-0318-
00171

ORDER

**SUNZIA'S APPLICATION TO
AMEND DECISION NO. 75464
PURSUANT TO A.R.S. § 40-252**

CEC-2

16 BY THE COMMISSION:

17 **FINDINGS OF FACT**

18 **Background**

19 1. On ____, SunZia Transmission LLC ("SunZia"), submitted a request, pursuant
20 to A.R.S. § 40-252, to amend Decision No. 75464, issued by the Arizona Corporation
21 Commission ("Commission") on February 22, 2016, which approved the Certificate of
22 Environmental Compatibility ("CEC") for the SunZia Southwest Transmission Project
23 ("Project").
24

25 2. SunZia requested the Commission modify Decision No. 75464 to: A)
26 authorize the use of updated structure designs and additional structure types that resulted
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28

1 from detailed engineering effort; B) allow for separate assignment and future ownership of
2 each approved transmission line and its associated facilities; and C) extend the expiration
3 date of the CEC for SunZia line 1 from February 2026 to February 2029.

4 3. SunZia submits that the proposed changes create no impacts to the
5 environment or the reliability of the transmission system, therefore there is no need for an
6 evidentiary hearing, and the application should be considered and approved by the
7 Commission.

8 **Staff Analysis and Recommendations**

9 *TBD*

10 CONCLUSIONS OF LAW

11 1. The Commission has jurisdiction over SunZia and the subject matter contained
12 herein pursuant to A.R.S. §§ 40-252 and 40-360 et seq.

13 2. Notice of this proceeding has been given in the manner provided by law.

14 3. The Commission, having reviewed and considered the application to amend
15 Decision No. 75464 and the Staff Memorandum, concludes that it is in the public interest to
16 amend the Certificate of Environmental Compatibility Case No. 171 to: A) authorize the use
17 of updated structure designs and additional structure types; B) allow for separate assignment
18 and future ownership of each approved transmission line and its associated facilities; and C)
19 extend the expiration date of the CEC for SunZia line 1 from February 2026 to February
20 2029.
21

22 ORDER

23 IT IS THEREFORE ORDERED that Decision No. 75464 is amended to authorize
24 the use of updated structure designs and additional structure types as provided in Exhibit A
25 hereto.
26

27 IT IS FURTHER ORDERED that Decision No. 75464 is amended to explicitly
28 authorize separate ownership of each transmission line. This Decision authorizes CEC-2 for

1 the second transmission line to be constructed that will operate as an alternating current
2 (“AC”).

3 IT IS FURTHER ORDERED that all other aspects of Decision No. 75464 shall
4 remain in effect.

5 IT IS FURTHER ORDERED that this Decision shall become effective immediately.
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EXHIBIT 3 – POWER DECLARATION

EXHIBIT 3

TO APPLICATION TO AMEND COMMISSION DECISION NO. 75464

DECLARATION

I, Glenn Darrington, declare as follows:

That I make this declaration in support of SunZia Transmission's, LLC ("SunZia"), Application to Amend Commission Decision No. 75464. I have personal knowledge of the facts and matters set forth in the Application and this declaration.

The matters set forth herein are true and accurate to the best of my knowledge, information, and belief.

1. I am employed by POWER Engineers Inc. (POWER) as a Senior Project Manager. I have 35 years of experience in the routing, siting, permitting, and construction of transmission line projects in Arizona and across the western United States. My business address is 7600 North 16th Street, Suite 130, Phoenix, Arizona 85020.
2. POWER has been engaged by SunZia to perform environmental evaluations and related work to analyze the potential impacts associated with the request to authorize additional structure designs (Exhibit 1).
3. The additional structure designs require an amendment of Decision No. 75464.
4. POWER staff have reviewed the structures originally approved by the Commission and the additional structures being proposed and have assessed the potential for the new designs to affect land use, visual resources, cultural resources, and biological resources. The results of this assessment include:

Land Use

Land use impacts associated with the updated DC Structures and the request to use a double-circuit structure in an area that is less than one mile are comparable to the impacts disclosed in the original SunZia application because no additional ROW is required. ROW for the HVDC structures is the same as that required for AC structures. The overall number

of structures needed using the original structure designs or the updated DC Structures is similar. The same structure locations already planned for SunZia are suitable for the updated DC Structures.

Visual Resources

Impacts to visual resources are also expected to be minimal when comparing the updated and new structure designs. The visual profile of the updated DC Structures are generally the same as the original structure, with only minor changes near the top of the structure. The visual mass and contrast created by the Updated DC Structures would increase slightly due to the wider conductor cross-arm and down-guy member assemblies, but the overall change in the viewshed would be similar to the original structures and the results of previous analyses would not change.

Cultural Resources

Impacts to cultural resources would be similar to the original analysis. Principally because the footprint of the updated DC Structures will be the same, no additional ROW is required, and there is no increase in the number of structures. The treatment of cultural resources, as governed by the Programmatic Agreement (PA) that has been executed for the Project, are unchanged.


Biological Resources

Impacts to vegetation, wildlife, and avian species are similar to the original structure types. No additional ROW is required, there is no increase in the number of structures, and the biological protection measures that have been developed for the Project remain unchanged. The MRC associated with the updated DC Structures are positioned in compliance with avian protection standards, as is the design for the new double-circuit AC structures.

5. Based on the results of this assessment it is my expert opinion that Amendment A is environmentally compatible with the original Certificate of Environmental Compatibility.

I declare under penalty of perjury that the foregoing is true and correct.

Signed on this 13th day of May 2022.

Signature of Verifying Party: 

Name of Verifying Party: Glenn Darrington, Ph.D., RPA

Title of Verifying Party: Senior Project Manager, POWER Engineers Inc.