

## **EXHIBIT G – CONCEPTS OF PROPOSED FACILITIES**

As stated in Exhibit G of Exhibit 1 to the Rules of Practice and Procedure Before Power Plant and Transmission Line Siting Committee:

"Attach any artist's or architect's conception of the proposed plan or transmission line structures and switchyards, which applicant believes may be informative to the committee."

Set forth below is a list of attached sub-exhibits, which provide concepts of the proposed CEC Transmission Facilities that Applicants believe will be informative to the Siting Committee:

Exhibit G-1	Typical 138-kV Tangent Tubular Steel Monopole
Exhibit G-2	Typical 138-kV Angle/Dead-End Tubular Steel Monopole
Exhibit G-3	Typical 230-kV Tangent Tubular Steel Monopole
Exhibit G-4	Typical 230-kV Angle/Dead-End Tubular Steel Monopole
Exhibit G-5	Typical Triple-Circuit 138-kV and 230-kV Tangent Tubular Steel Monopole
Exhibit G-6	Typical Triple-Circuit 138- and 230-kV Angle/Dead- End Tubular Steel Monopole
Exhibit G-7	Conceptual Illustration of Proposed Gateway Substation
Exhibit G-8	Representative Photographs of HVDC Converter Equipment
Exhibit G-9	ROW Configuration of Nogales Interconnection Project Alternative Route 3, Segment 10
Exhibit G-10	ROW Configuration of Nogales Tap to Kantor Upgrade Project

Pursuant to Footnote 1 of Exhibit 1 to the Rules of Practice and Procedure Before Power Plant and Line Siting Committee, Applicants refer the Committee to the

following studies for additional analysis of the concepts of the proposed facilities for the Nogales Interconnection Project:

- Exhibit B-1(a): PP EA (Section 2)
- Exhibit B-1(b): DOE Draft EA (Sections 2.4, 2.5, 2.6)

Three types of tubular steel monopole structures are being considered for the Nogales Interconnection Project: 138-kV monopoles (Exhibits G-1 through G-2), 230-kV monopoles (Exhibits G-3 through G-4), and triple-circuit capable monopoles that can support both a double circuit 138-kV transmission line and a single circuit 230-kV transmission line (Exhibits G-5 through G-6). The 138-kV monopoles will range in height from 75 to 110 feet and have a base diameter of approximately three feet. The 230-kV monopoles will range in height from 95 to 115 feet and have a base diameter of approximately four feet. The triple-circuit capable monopoles will have an approximate height of 140 feet and a base diameter of approximately four to six feet. Depending on site-specific characteristics, the distance in between the monopoles will be between 600 and 1,000 feet, or approximately five to nine structures per mile (with the exception of the triple-circuit monopoles, which would total approximately seven poles dispersed throughout Route Segment Variation 6).

The 138-kV transmission line upgrade is proposed to be constructed on 138-kV tubular steel monopole structures (Exhibits G-1 through G-2). The monopole structures will range in height from 75 to 110 feet and have a base diameter of approximately three feet. Depending on site-specific characteristics, the distance in between the structures will be between 600 and 1,000 feet, or approximately five to nine structures per mile.

Substation improvements to Valencia Substation, which are needed to accommodate the connection from the proposed 138-kV transmission line from Gateway Substation to Valencia Substation, would generally include minor modifications relating to relaying equipment. The Nogales Interconnection Project will require construction of a Nogales Transmission 230-kV Gateway Substation and a UNSE 138-kV Gateway Substation (referred to collectively as the "Gateway Substation") in Santa Cruz County on 11 acres of land that Nogales Transmission plans to acquire from Tucson Electric Power ("TEP"). Gateway Substation will contain both 138-kV and 230-kV substation components, High Voltage Direct Current ("HVDC") converter equipment and connections to same, and connections to future UNSE distribution facilities. See Exhibit G-7 for a conceptual illustration of the proposed Gateway Substation, and Exhibit G-8 for representative photographs of HVDC converter equipment.

CEC Application Exhibit G

Finally, Exhibits G-9 and G-10 provide examples of right-of-way configuration for the Nogales Interconnection Project and the Nogales Tap to Kantor Upgrade Project.

Exhibit G-1: Typical 138-kV Tangent Tubular Steel Monopole

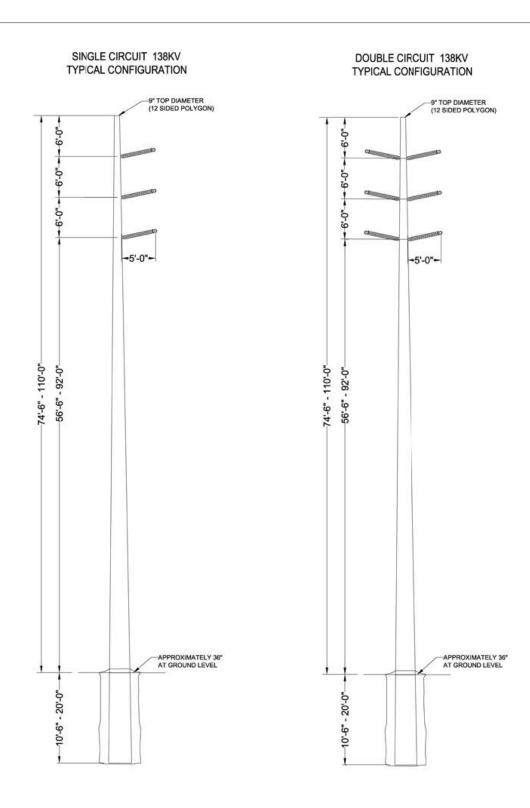
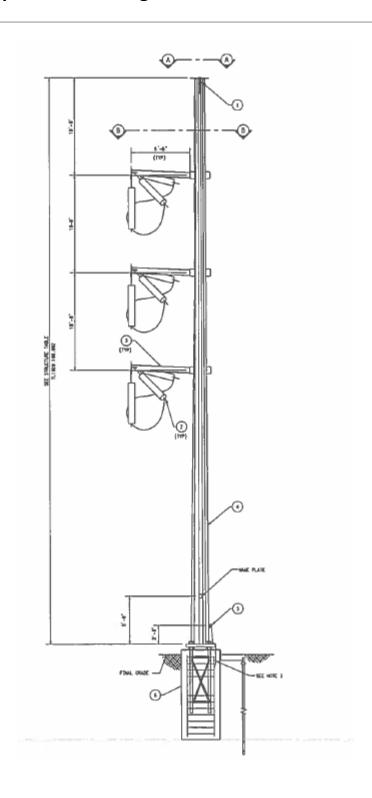


Exhibit G-2: Typical 138-kV Angle/Dead-End Tubular Steel Monopole



**Exhibit G-3: Typical 230-kV Tangent Tubular Steel Monopole** 

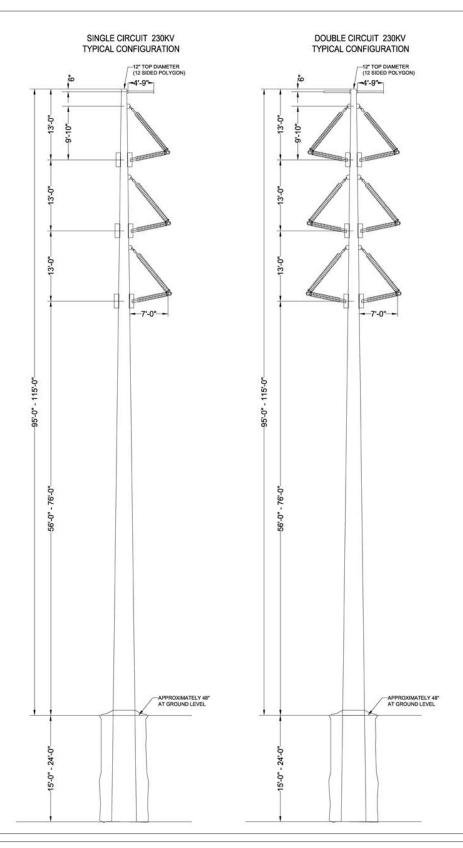


Exhibit G-4: Typical 230-kV Angle/Dead-End Tubular Steel Monopole

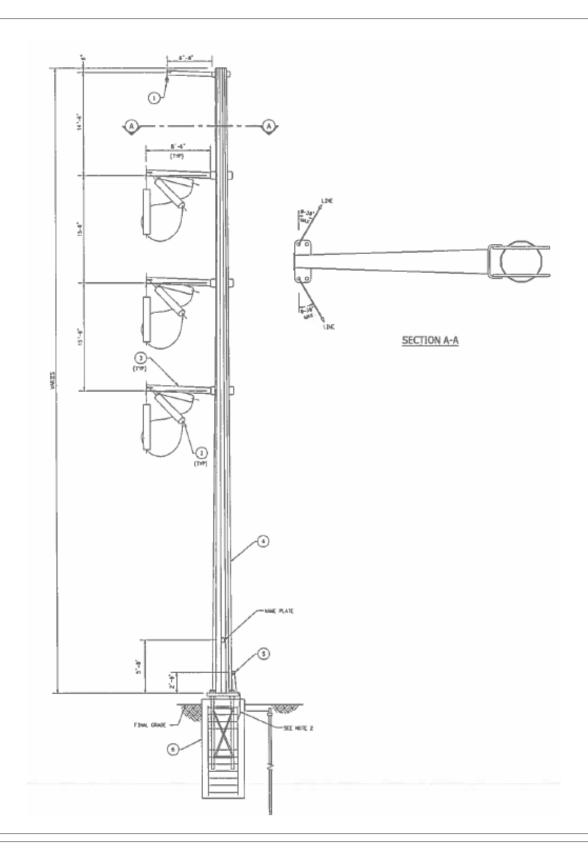


Exhibit G-5: Typical Triple-Circuit 138- and 230-kV Tangent Tubular Steel Monopole

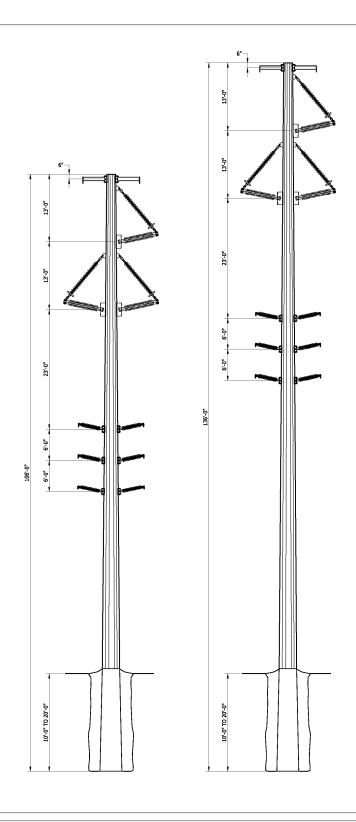
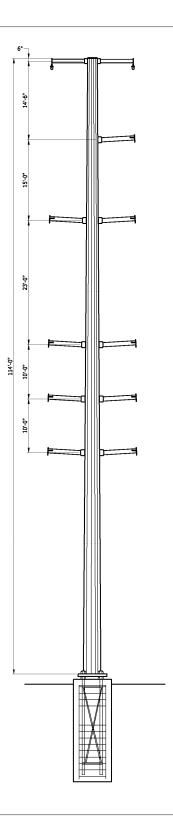


Exhibit G-6: Typical Triple-Circuit 138- and 230-kV Angle/Dead-End Tubular Steel Monopole



## **Exhibit G-7: Conceptual Illustration of Proposed Gateway Substation**

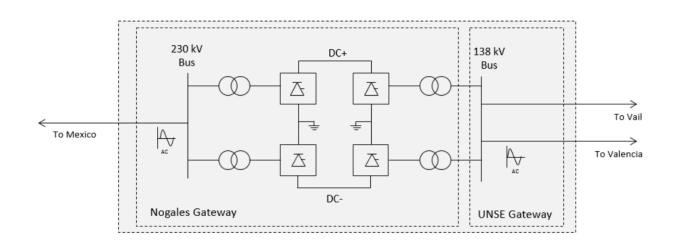


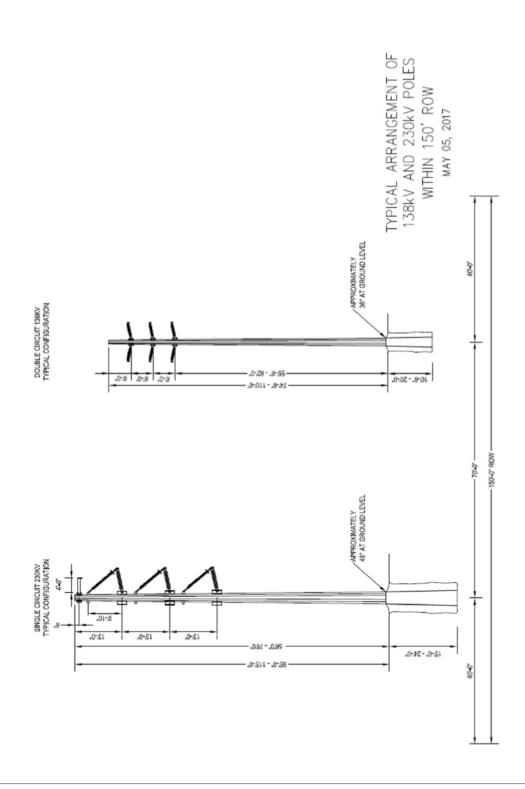
Exhibit G-8: Representative Photographs of HVDC Converter Equipment







Exhibit G-9: ROW Configuration of Nogales Interconnection Project Alternative Route 3, Segment 10



**Exhibit G-10: ROW Configuration of Nogales Tap to Kantor Upgrade Project** 

