

AMENDMENT NO. 5
TO THE
NAVAJO PROJECT
WESTERN TRANSMISSION SYSTEM
OPERATING AGREEMENT

By FERC order/notice of acceptance dated _____ in FERC Docket
No. _____, this Amendment No. 5 was accepted for filing
and the rate schedules became effective on _____.

Issued: October 30, 2014

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NAVAJO PROJECT
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AMENDMENT NO. 5
TO THE
NAVAJO PROJECT
WESTERN TRANSMISSION SYSTEM
OPERATING AGREEMENT

1. **PARTIES:** The parties to this AMENDMENT NO. 5 to the NAVAJO PROJECT WESTERN TRANSMISSION SYSTEM OPERATING AGREEMENT ("Amendment No. 5") are: THE UNITED STATES OF AMERICA, hereinafter referred to as the "United States," acting through the Secretary of the Interior, a duly appointed successor or a duly authorized representative; ARIZONA PUBLIC SERVICE COMPANY, hereinafter referred to as "Arizona," an Arizona corporation; THE CITY OF LOS ANGELES by and through the Department of Water and Power, hereinafter referred to as "Los Angeles," a department organized and existing under the Charter of the City of Los Angeles, a municipal corporation of the State of California; NEVADA POWER COMPANY, hereinafter referred to as "Nevada," a Nevada corporation; SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT AND POWER DISTRICT, hereinafter referred to as "Salt River Project" or "SRP," an agricultural improvement district organized and existing under the laws of the State of Arizona; and TUCSON ELECTRIC POWER COMPANY, hereinafter referred to as "Tucson," formerly known as Tucson Gas & Electric Company, an Arizona corporation; all of the foregoing are sometimes individually referred to as "Participant" and collectively as "Participants."

2. **RECITALS:** This Amendment No.5 is made with reference to the following facts, among others:

2.1 On July 23, 1979, the Participants entered into the NAVAJO PROJECT WESTERN TRANSMISSION SYSTEM OPERATING AGREEMENT ("Operating Agreement") which established certain terms and conditions relating to the operation and maintenance of the Western Transmission System.

1 2.2 On September 4, 1998, the Participants entered into AMENDMENT NO.
2 1 to the Operating Agreement ("Amendment No. 1") to reflect: (i)
3 the change in the Responsibility for Costs for the McCullough 500
4 kV Switchyard and the McCullough Substation Common Facilities;
5 (ii) the interconnection of the Marketplace 500 kV Tie-Line at
6 the McCullough 500 kV Switchyard; (iii) the Capital Improvements
7 which have been made to the Western Transmission System and the
8 capital improvements which have been made to the McCullough
9 Substation Common Facilities since completion of construction;
10 (iv) the interconnection of the Victorville Line 2 at the
11 McCullough 500 kV Switchyard; (v) the interconnection of the
12 500/230 kV transformer banks H and I at the McCullough 500 kV
13 Switchyard; (vi) the exclusion of capital improvements to the
14 McCullough Substation Common Facilities from Capital
15 Improvements; (vii) the addition of an annual capital
16 improvements budget for McCullough Substation Common Facilities;
17 (viii) an increase in the authorization level of the Transmission
18 Engineering and Operating Committee for a single Capital
19 Improvement not included in the annual Capital Improvements
20 budget or a single capital improvement to the McCullough
21 Substation Common Facilities not included in the annual capital
22 improvements budget for McCullough Substation Common Facilities;
23 and (ix) the authority of the Operating Agents to revise certain
24 exhibits subject to the approval of the Transmission Engineering
25 and Operating Committee.

26 2.3 On July 26, 1999, the Participants entered into AMENDMENT NO. 2
27 to the Operating Agreement ("Amendment No. 2") to reflect: (i)
28 the construction of the Crystal 500 kV Switchyard as a component
29 of the Western Transmission System and the loop-in of the Navajo-

1 McCullough 500 kV line at such switchyard, resulting in the
2 formation of the Navajo-Crystal and Crystal-McCullough 500 kV
3 line segments; and (ii) the interconnection of Nevada's Crystal
4 230 kV switchyard at Nevada's new delivery point in the Crystal
5 500 kV Switchyard.

6 2.4 On September 9, 2010, the Participants entered into AMENDMENT NO.
7 3 to the Operating Agreement ("Amendment No. 3") to reflect: (i)
8 the interconnection of Nevada's Harry Allen-Crystal 500 kV
9 transmission line at Nevada's designated point of delivery in the
10 Crystal 500 kV Switchyard; (ii) the clarification of ownership of
11 the Western Transmission Communication System and associated
12 Capital Improvements; and (iii) the clarification of exhibits to
13 the Operating Agreement that need to be revised upon any change
14 in the configuration of the Western Transmission System, the
15 McCullough Substation or the Crystal Substation.

16 2.5 On September 21, 2010 the Participants entered into AMENDMENT NO.
17 4 to the Operating Agreement ("Amendment No. 4") to reflect: (i)
18 the expansion of the existing Crystal 500 kV Switchyard to a
19 breaker-and-a-half scheme; (ii) the interconnection of a new 500
20 kV switchyard to be located adjacent to the existing Crystal 500
21 kV Switchyard thereby creating two switchyards, the South Crystal
22 500 kV Switchyard and the North Crystal 500 kV switchyard,
23 connected via two (2) 500 kV phase-shifting transformers; (iii) a
24 revised definition for the Crystal Substation and a revised
25 description of the Crystal Facilities; and (iv) the change in
26 operational control of the South Crystal 500 kV Switchyard.

27 2.6 On April 22, 2013, the Transmission Engineering and Operating
28 Committee approved the technical feasibility of the transmission-
29 to-transmission interconnection of Los Angeles' new transmission

1 line from the new Moapa Substation, to be operated by Los
2 Angeles, to the Navajo Project's Crystal South 500 kV Switchyard
3 operated by Nevada, i.e., the new Crystal-Moapa 500 kV
4 transmission line. This approval was based on the results of
5 technical studies performed by Nevada and presented by Nevada to
6 the Transmission Engineering and Operating Committee on March 5,
7 2013.

8 2.7 On September 16, 2014, the Transmission Engineering and Operating
9 Committee approved the technical feasibility of the transmission-
10 to-transmission interconnection of Los Angeles' new transmission
11 line to account for revised inverters. This approval was based
12 on results of technical studies performed by Nevada and presented
13 by Nevada to the Transmission Engineering and Operating Committee
14 on July 24, 2014.

15 2.8 The Participants desire to enter into this Amendment No. 5 to
16 reflect: (i) the interconnection of the new Crystal-Moapa 500 kV
17 transmission line into the Crystal South 500 kV Switchyard; (ii)
18 changes to the descriptions of certain Components of the Western
19 Transmission System to reflect these modifications; (iii) changes
20 to the one-line diagram in Exhibit B Sheet 8 to reflect these
21 modifications; (iv) modifications to cost responsibility for
22 Nevada and Los Angeles.

23 3. **AGREEMENT:** In consideration of the mutual covenants and benefits to be
24 derived from this Amendment No. 5, the Participants agree as follows:

25 4. **AGREEMENT MODIFICATIONS:**

26 4.1 Subsection 6.1 in Section 6, PERFORMANCE OF OPERATING WORK, of
27 the Operating Agreement is hereby deleted in its entirety and a
28 new Subsection 6.1 is hereby substituted to read in its entirety
29 as follows:

1 "6.1 Los Angeles, as Operating Agent for the McCullough
2 Facilities, shall have direct control for all functions
3 relating to switching, controlling line loading, voltage
4 levels and operating of capacitors and reactors as such
5 functions relate to the Navajo-Crystal 500 kV line, the
6 Crystal-McCullough 500 kV line, the termination facilities
7 for the Navajo-Crystal 500 kV line, the Crystal-Moapa 500
8 kV line and the Crystal-McCullough 500 kV line in the South
9 Crystal 500 kV Switchyard, the Project Series Capacitors
10 and shunt reactors on the South Crystal 500 kV Switchyard
11 end of the Navajo-Crystal 500 kV line, and the McCullough
12 Facilities. Los Angeles shall coordinate the
13 aforementioned functions with all Participants, as
14 applicable."

15 4.2 Subsection 6.1A in Section 6, PERFORMANCE OF OPERATING WORK, of
16 the Operating Agreement is hereby deleted in its entirety and a
17 new Subsection 6.1A is hereby substituted to read in its entirety
18 as follows:

19 "6.1A Nevada, as Operating Agent for the Western Line Facilities,
20 shall have direct control for all functions relating to
21 switching and voltage levels as such functions relate to
22 the South Crystal 500 kV Switchyard, but excluding the
23 termination facilities for the Navajo-Crystal 500 kV line,
24 the Crystal-McCullough 500 kV line, and the Crystal-Moapa
25 500 kV line in the South Crystal 500 kV Switchyard. Nevada
26 shall coordinate the aforementioned functions with all
27 Participants, as applicable."

1 4.3 Subsection 6.3 in Section 6, PERFORMANCE OF OPERATING WORK, of
2 the Operating Agreement is hereby deleted in its entirety and a
3 new Subsection 6.3 is hereby substituted to read in its entirety
4 as follows:

5 "6.3 Standard procedures for obtaining outages and clearances
6 shall be used between Los Angeles and Nevada and the other
7 Participants. Nevada shall be responsible to initiate and
8 recommend to Los Angeles such clearances as may be required
9 for emergencies or routine maintenance on the Navajo-
10 Crystal 500 kV line, the Crystal-McCullough 500 kV line,
11 Crystal-Moapa 500 kV line, any component of the Crystal
12 Facilities, and the Western Transmission Communications
13 System. Los Angeles shall be responsible for the
14 dispatching and scheduling functions required to effect
15 such clearances. Los Angeles shall be responsible to
16 initiate, dispatch and schedule such clearances as may be
17 required for emergencies or routine maintenance on the
18 McCullough Facilities."

19 4.4 Subsection 10.1 in Section 10, MICROWAVE SYSTEM, of the Operating
20 Agreement is hereby deleted in its entirety and a new Subsection
21 10.1 is hereby substituted to read in its entirety as follows:

22 "10.1 The Western Transmission Communication System described in
23 Exhibit A and Exhibit K hereof and associated Capital
24 Improvements shall be owned by the Co-Tenants as tenants in
25 common in the same ownership proportions as specified for
26 the Navajo-Crystal 500 kV line and the Crystal-McCullough
27 500 kV line in Section 6.2.6 of the Co-Tenancy Agreement."

28 4.5 Subsection A.1.3, CRYSTAL FACILITIES, in Section A.1, WESTERN
29 LINE FACILITIES, of Exhibit A, COMPONENTS OF THE WESTERN

1 TRANSMISSION SYSTEM, to the Operating Agreement is hereby deleted
2 in its entirety and a new Subsection A.1.3 is hereby substituted
3 to read in its entirety as follows:

4 "A.1.3 CRYSTAL FACILITIES:

5 A.1.3.1 The South Crystal 500 kV Switchyard, a basic
6 breaker-and-a-half scheme, comprising:

7 (i) the 500 kV busses and the structures
8 therefor;

9 (ii) the termination facilities for

10 (a) two (2) 500/230 kV transformer
11 banks,

12 (b) two (2) 500 kV phase-shifting
13 transformers,

14 (c) the Navajo-Crystal 500 kV line,

15 (d) the Crystal-McCullough 500 kV line,
16 and

17 (e) the Crystal-Moapa 500 kV line,

18 including, but not limited to, power
19 circuit breakers, disconnect switches,
20 and the structures therefor;

21 (iii) relays; and

22 (iv) other facilities up to and including the
23 connection to the high-side bushings of
24 the 500/230 kV transformer banks.

25 The South Crystal 500 kV Switchyard shall not
26 include: (i) any Crystal Substation Common
27 Facilities; (ii) any 500/230 kV transformer
28 banks located at the Crystal Substation; or

1 (iii) any 230 kV or 500 kV phase-shifting
2 transformers located at the Crystal Substation.

3 A.1.3.2 The Crystal Substation Common Facilities, all
4 or part of those certain structures,
5 improvements and facilities of the Crystal
6 Substation, which include, but are not limited
7 to: dikes, roadways, control building,
8 communications building, ancillary buildings,
9 trenches, conduits, remote terminal unit (RTU)
10 and SCADA interface equipment, control and
11 power cables, control equipment, batteries,
12 auxiliary equipment, station grounding grid,
13 fencing, lighting and yard improvements, and
14 related land or land rights. Crystal

15 Substation Common Facilities shall not include:

16 (i) any termination facilities associated with
17 any line or transformer termination at the
18 Crystal Substation; (ii) any 500/230 kV
19 transformer banks located at the Crystal
20 Substation; (iii) any 230 kV or 500 kV phase-
21 shifting transformers located at the Crystal
22 Substation; or (iv) the Los Angeles owned SEL-
23 3530 RTAC device in South Crystal 500 kV
24 Switchyard.

25 A.1.3.3 The Project Series Capacitors and shunt
26 reactors on the South Crystal 500 kV Switchyard
27 end of the Navajo-Crystal 500 kV line
28 including, but not limited to, the capacitors,
29 control equipment, reactors, power circuit

1 breaker, lightning arrestors, hazard fencing,
2 disconnects, structures and bus work from the
3 switchyard side of the first 500 kV
4 transmission line tower located outside the
5 switchyard to the attachment on the main
6 switchyard structure."

7 4.6 Sheets 1, 6, 7 and 8 of Exhibit B, NAVAJO PROJECT WESTERN
8 TRANSMISSION SYSTEM RESPONSIBILITY FOR COSTS, to the Operating
9 Agreement are hereby deleted in their entirety and replaced by
10 new Sheets 1, 6, 7 and 8 attached hereto and by this reference
11 incorporated herein.

12 5. **EFFECT:** Except for the changes set forth in this Amendment No. 5, all
13 provisions of the Operating Agreement as amended by Amendment Nos. 1,
14 2, 3 and 4 shall remain in full force and effect to the extent that
15 such provisions are not in conflict or inconsistent with this Amendment
16 No. 5. In the event of any conflict between the provisions of this
17 Amendment No. 5 and the Operating Agreement as amended by Amendment
18 Nos. 1, 2, 3 and 4, the provisions of this Amendment No. 5 shall
19 govern.

20 6. **EXECUTION AND EFFECTIVE DATE:**

21 6.1 This Amendment No. 5 may be executed in any number of
22 counterparts and, upon execution and delivery by each
23 Participant, the executed and delivered counterparts together
24 shall have the same force and effect as an original instrument as
25 if all the Participants had signed the same instrument. Any
26 signature page of this Amendment No. 5 may be detached from any
27 counterpart of this Amendment No. 5 without impairing the legal
28 effect of any signatures thereon, and may be attached to another

1 counterpart of this Amendment No. 5 identical in form thereto,
2 but having attached to it one or more signature pages.

3 6.2 When this Amendment No. 5 to the Operating Agreement has been
4 executed by, and delivered to, the duly authorized representative
5 of each Participant, Nevada shall promptly file this Amendment
6 No. 5 with the Federal Energy Regulatory Commission ("FERC") and,
7 if accepted for filing by FERC without condition or modification,
8 this Amendment No. 5 shall be effective as of the date specified
9 by Nevada in the filing letter to FERC.

10 6.3 In the event FERC conditions or modifies this Amendment No. 5,
11 Nevada shall promptly notify all the other Participants. Upon
12 written notice given within thirty (30) days from the date of
13 Nevada's notice to all other Participants by any Participant that
14 such condition or modification is objectionable, this Amendment
15 No. 5 shall terminate and be of no further force or effect. If
16 no written notice is given by any Participant that such condition
17 or modification is objectionable within such thirty (30) day
18 period, this Amendment No. 5 shall become effective the day after
19 such thirty (30) day period. Nevada shall set forth such
20 conditions or modifications in an appendix which shall be
21 attached hereto. Such appendix shall constitute an amendment to
22 this Amendment No. 5 which amendment shall not require signature
23 by the Participants.

24 /
25 /
26 [SIGNATURES APPEAR ON NEXT PAGE]
27

1 7. SIGNATURE CLAUSE: Each Participant hereto represents and warrants that
2 the person executing this Amendment No. 5 to the Navajo Project Western
3 Transmission System Operating Agreement has been duly authorized to act
4 on its behalf. This Amendment No. 5 to the Navajo Project Western
5 Transmission System Operating Agreement is hereby executed as of the
6 _____ day of _____, 2014.

9 UNITED STATES OF AMERICA

10 Signature _____

11 Name _____

12 Regional Director
13 Lower Colorado Region

14 Title U.S. Bureau of Reclamation

15 Date Signed _____

17 ARIZONA PUBLIC SERVICE COMPANY

18 Signature _____

19 Name _____

20 Title _____

21 Date Signed _____

23 DEPARTMENT OF WATER AND POWER
24 OF THE CITY OF LOS ANGELES

26 by

27 BOARD OF WATER AND POWER COMMISSIONERS
28 OF THE CITY OF LOS ANGELES

30 By _____

31 David H. Wright, General Manager

32 and _____

33 Secretary, Barbara Moschos

34 Date Signed _____

28 APPROVED AS TO FORM AND LEGALITY
29 MICHAEL N. FEUER, CITY ATTORNEY

31 BY SYNDI DRISCOLL
32 *DEC 15 2016*
33 SYNDI DRISCOLL
34 DEPUTY CITY ATTORNEY

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NEVADA POWER COMPANY

Signature _____

Name _____

Title _____

Date Signed _____

SALT RIVER PROJECT AGRICULTURAL
IMPROVEMENT AND POWER DISTRICT

Signature _____

Name _____

Title _____

Date Signed _____

TUCSON ELECTRIC POWER COMPANY

Signature _____

Name _____

Title _____

Date Signed _____

EXHIBIT B-SHEET 1

NAVAJO PROJECT WESTERN TRANSMISSION SYSTEM

RESPONSIBILITY FOR COSTS

COMPONENT	RESPONSIBILITY FOR COSTS (%)			
	LOS ANGELES	NEVADA	UNITED STATES	THIRD PARTY (IES)*
<u>A. WESTERN LINE FACILITIES</u>				
A.1 Navajo-Crystal 500 kV Line	48.90	26.10	25.00	0.00
A.2 Crystal-McCullough 500 kV Line	48.90	26.10	25.00	0.00
A.3 Crystal Facilities				
A.3.1 South Crystal 500 kV Switchyard	14.29	85.71	0.00	0.00
A.3.2 Crystal Substation Common Facilities (South Crystal 500 kV Switchyard portion only)	14.29	85.71	0.00	0.00
A.3.3 Navajo-Crystal Line Compensation	0.00	100.00	0.00	0.00
<u>B. McCULLOUGH FACILITIES</u>				
B.1 McCullough 500 kV Switchyard (including third parties)	58.77	16.23	10.71	14.29
B.2 Crystal-McCullough Line Compensation	48.90	26.10	25.00	0.00
B.3 McCullough Substation Common Facilities (500 kV portion only)	58.77	16.23	10.71	14.29
<u>C. MICROWAVE SYSTEM**</u>				
C.1 Western Transmission Communications System	48.90	26.10	25.00	0.00
C.2 Red Mountain to Desert Inn Dispatch Center	3.49	94.72	1.79	0.00
C.3 Apex Peak to Crystal	3.49	94.72	1.79	0.00
C.4 Red Mountain to McCullough	98.18	0.93	0.89	0.00

* Invoiced under separate agreement(s). Shown for informational purposes only.

** Responsibility For Costs taken from Exhibit K hereto.

EXHIBIT B-SHEET 6

NAVAJO PROJECT
WESTERN TRANSMISSION SYSTEM

SOUTH CRYSTAL 500 KV SWITCHYARD RESPONSIBILITY FOR COSTS

<u>DESCRIPTION OF TERMINATION</u>	<u>COST RESPONSIBILITY (%)</u>		
	<u>LOS ANGELES</u>	<u>NEVADA</u>	<u>UNITED STATES</u>
Bank No. 2 - 500 kV	0.00	100.00	0.00
Bank No. 3 - 500 kV	0.00	100.00	0.00
PS No. 5	0.00	100.00	0.00
PS No. 6	0.00	100.00	0.00
Navajo-Crystal	0.00	100.00	0.00
Crystal-McCullough	0.00	100.00	0.00
<u>Crystal-Moapa 500 kV</u>	<u>100.00</u>	<u>0.00</u>	<u>0.00</u>
TOTAL	100.00	600.00	0.00

Sum of Cost Percentages:

Los Angeles + Nevada + United States = 100.00 + 600.00 + 0.00 = 700.00

Cost responsibility percentages for the terminations in the South Crystal 500 kV Switchyard are shown in the above table and are used below to determine the cost responsibility percentages for the South Crystal 500 kV Switchyard infrastructure facilities such as, but not limited to, the busses, bus protection and metering, steel switchracks and associated concrete works, cable trenches and grounding.

Los Angeles = (100.00/700.00) x 100% = 14.29%
 Nevada = (600.00/700.00) x 100% = 85.71%
 United States = (0.00/700.00) x 100% = 0.00%

Maintenance identified to specific termination equipment shall be paid for by the party(ies) owning such equipment.

EXHIBIT B-SHEET 7

NAVAJO PROJECT
WESTERN TRANSMISSION SYSTEM

CRYSTAL SUBSTATION COMMON FACILITIES RESPONSIBILITY FOR COSTS
(SOUTH CRYSTAL 500 KV SWITCHYARD PORTION ONLY)

Costs of operation, maintenance and capital improvements for the Crystal Substation Common Facilities shall be allocated between the Crystal 230 kV switchyard (currently 4 terminations) and the North Crystal 500 kV switchyard (currently 3 terminations) and the South Crystal 500 kV Switchyard (currently 7 terminations) based on the ratio of the number of terminations in said switchyard to the total number of terminations in all three (3) switchyards (currently 14 terminations).

Crystal 230 kV switchyard:	4/14 = 0.2857 or 28.57%
North Crystal 500 kV switchyard:	3/14 = 0.2143 or 21.43%
South Crystal 500 kV Switchyard:	7/14 = 0.5000 or 50.00%

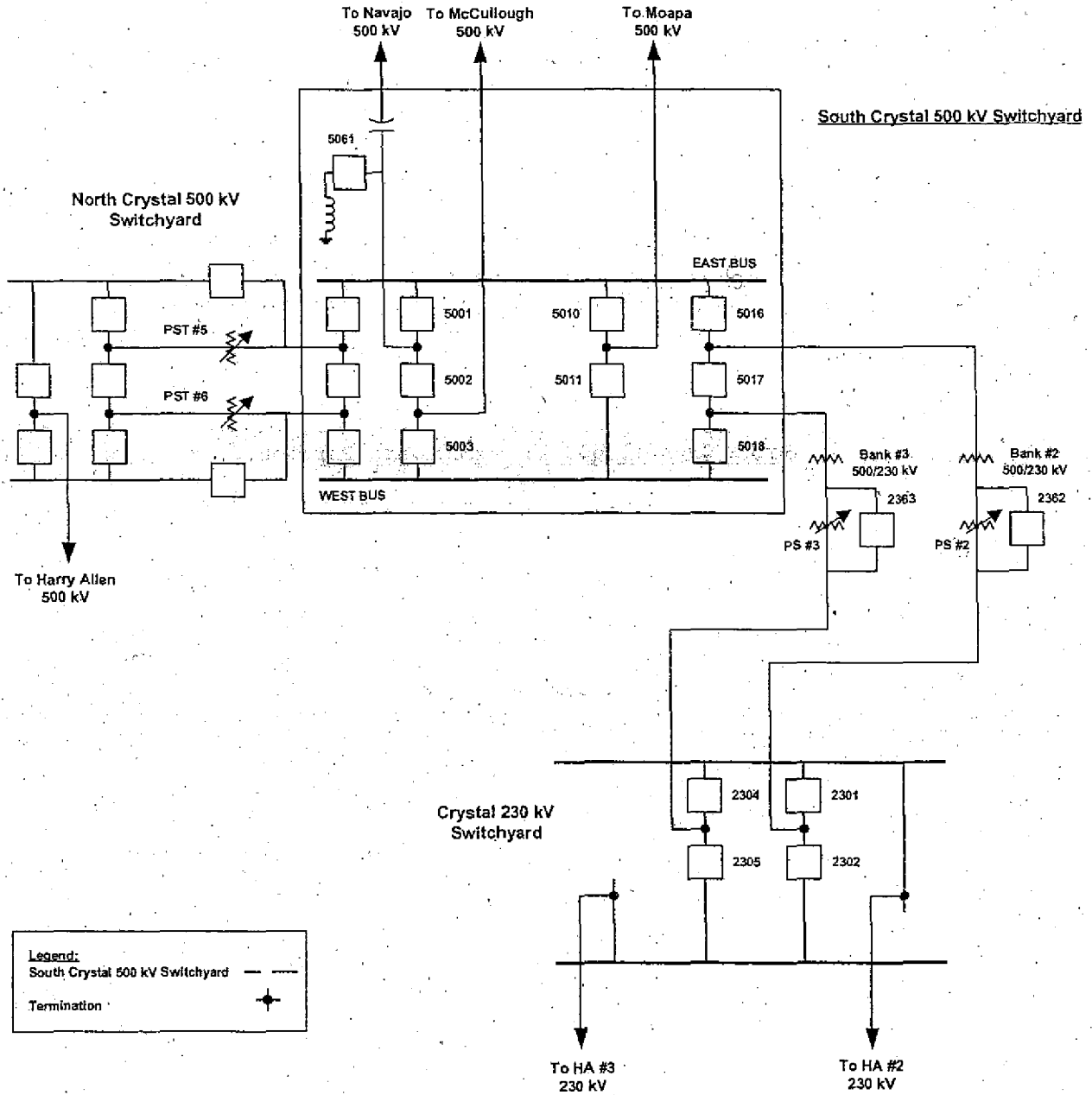
Responsibility for Costs
for
South Crystal 500 kV Switchyard Portion
of
Crystal Substation Common Facilities

Los Angeles	(100.00*/700.00*) x 100% = 14.29%
Nevada	(600.00*/700.00*) x 100% = 85.71%
United States	(0.00*/700.00*) x 100% = 0.00%

* Numbers used in the calculation of the Responsibility for Costs associated with the South Crystal 500 kV Switchyard portion of the Crystal Substation Common Facilities are taken from Exhibit B-Sheet 6 hereto.

EXHIBIT B SHEET 8
 NAVAJO PROJECT WESTERN TRANSMISSION SYSTEM

CRYSTAL SUBSTATION



Legend:
 South Crystal 500 kV Switchyard ———
 Termination —+

Note: The Crystal 230 kV switchyard, the 500/230 kV transformer banks, and the 230 kV phase-shifting transformers are shown for information purposes only.

Revised: October 30, 2014