

Bouse Upgrade Project



**Western Area
Power Administration**

Desert Southwest Region
Short Form Revision – October 2018

Prepared by Civil Design & Engineering



Executive Summary

WAPA’s Capital Planning Committee Technical Sub-Team, requested an analysis of a proposed Parker – Bouse (PAD – BSE) Upgrade Project (Project) that will remedy reliability and growth issues at the BSE and Headgate Rock (HDR) Substations, this has been an ongoing concern and has necessitated new solutions to improve WAPA’s bulk electric system (BES) in the region.

The Project proposes redirecting the Parker – Liberty #2 (PAD – LIB2) 230-kV line using a new double-circuit transmission line, the transmission line will require 15 miles of new 230-kV structures in order to pass through the BSE Substation and return. This will allow for 161-kV power to be supplied to HDR Substation utilizing the existing rights-of-way (ROW) and transmission lines south of the Parker Strip area. This Project will eliminate the need for the transmission lines currently crossing the Parker Strip and Colorado River into CA. Upgrades executed at the BSE Substation will provide WAPA the facilities to meet future loads in the region and the ability to serve a potential renewable interconnect for the Colorado River Tribe.

The PAD – BSE Upgrade is comprised of four parts:

Part 1: Build a new 230-kV transmission line from PAD – LIB2 through BLM Land

Part 2: Expand BSE Substation by adding 230 kV bus

Part 3: Connect BSE to HDR using a new Jumper between lines (Two options)

Part 4: Remove 20 miles of the existing PAD-HDR and the PAD-BSE Transmission Lines through the Parker Strip

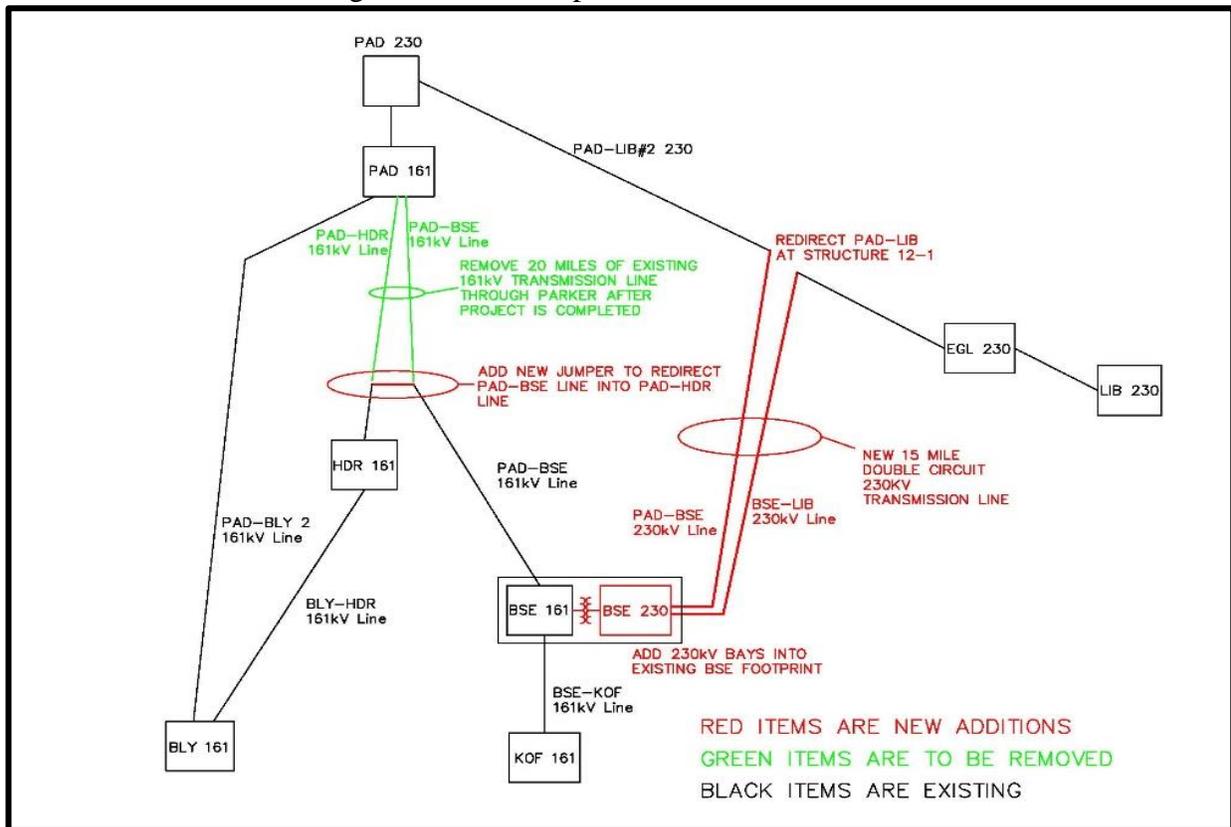


Figure 1: Overview of Project Initiatives





Conceptual Costing of PAD – BSE Upgrade Project

Below is a break out of the conceptual costing for the PAD – BSE Upgrade Project. For the purposes of this study, the Project is simplified into four parts. Table 1 illustrates estimated Non-Program (99) funds broken out by part. Table 3 highlights Conceptual Program expenditures. A Project Total sum including Program and Non-Program costs are shown in Table 4, with no contingencies.

Table 1: Non-Program Funds Conceptual Estimate

Non - Program Funds Conceptual Estimate		
BOUSE UPGRADE		
PART #1	Estimated Contract	██████████
	Est. Environmental Contract	██████████
	Estimated GFE	██████████
	Part 1 – Non-Program Funds	██████████
PART #2	Estimated Contract	██████████
	Estimated GFE	██████████
	Part 2 – Non-Program Funds	██████████
PART #3	Estimated Contract	██████████
	Estimated GFE	██████████
	Part 3 – Non-Program Funds	██████████
PART #4	Estimated Contract	██████████
	Estimated GFE	██
	Part 4 – Non-Program Funds	██████████
Subtotal Non-Program Funds		\$31,964,000
MANAGEMENT RESERVE		0.00%
Total Non-Program Funds		\$31,964,000





Table 2: Program Funds Conceptual Estimate

Program Funds Conceptual Estimate	
BOUSE UPGRADE	
Administrative	\$4,289,000
EVMS	\$1,000,000
Design	\$682,000
Environmental	\$937,000
Right-of-Way	\$1,529,000
Construction Supervision	\$3,644,000
Commissioning Activity	\$943,000
Subtotal Program Funds	\$13,024,000
MANAGEMENT RESERVE	0.00%
Total Program Funds	\$13,024,000

Table 3: Project Total Conceptual Estimate Program and Non-Program

Project Total Conceptual Estimate Program and Non-Program	
BOUSE UPGRADE	
Subtotal Program Funds	\$31,964,000
Subtotal Non-Program Funds (From Table 1)	\$13,024,000
Total Project Budget	\$44,988,000





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Introduction

WAPA's Transmission Planning Group has expressed concerns on the need for more reliable power to the town of Parker and the surrounding areas. The BSE Substation is currently supplied power from the PAD – BSE 161-kV transmission line which has created reliability and safety concerns. The PAD – BSE 161-kV line is in a state of disrepair due to its age and requires corrective action.

The PAD – BSE and PAD – HDR 161-kV lines have exceeded normal service life and were scheduled for replacement in 1999. The wood poles on these lines display symptoms of advanced external shell rot, weathering and large cracks. Damage to the outer layer can allow the ingress of fungus and insects that cause internal decay, further weakening the poles. The shell rot manifests reliability and safety concerns due to the reduction of wood available to sustain the load induced by the conductors and hardware. These issues indicate that failure of these structures is imminent.

Past encroachments onto WAPA's right-of-way including under the conductors also present a concern. These encroachments include: roads, other utilities, equipment storage, buildings, metal fences, trees, walls, and residential properties. These issues present many different safety and reliability risks not only for WAPA, but to the general public as well. The risks include, but are not limited to: induced currents, blocked access for maintenance or repair, dropped conductors, as well as fallen structures on residential and commercial properties.

The transmission lines currently have overhead ground wire (OGW) to protect it from lightning strikes. This Project would provide an ideal opportunity to integrate optical ground wire (OPGW) to create a redundant communication path.

The PAD – BSE Upgrade is comprised of four parts:

- Part 1:** Build a new 230-kV transmission line through BLM Land
- Part 2:** Expand BSE Substation adding 230-kV bus
- Part 3:** Connect BSE to HDR using a new Jumper (Two Options)
- Part 4:** Remove 20 miles of the existing PAD-HDR and the PAD-BSE transmission lines through the Parker Strip and over the Colorado River



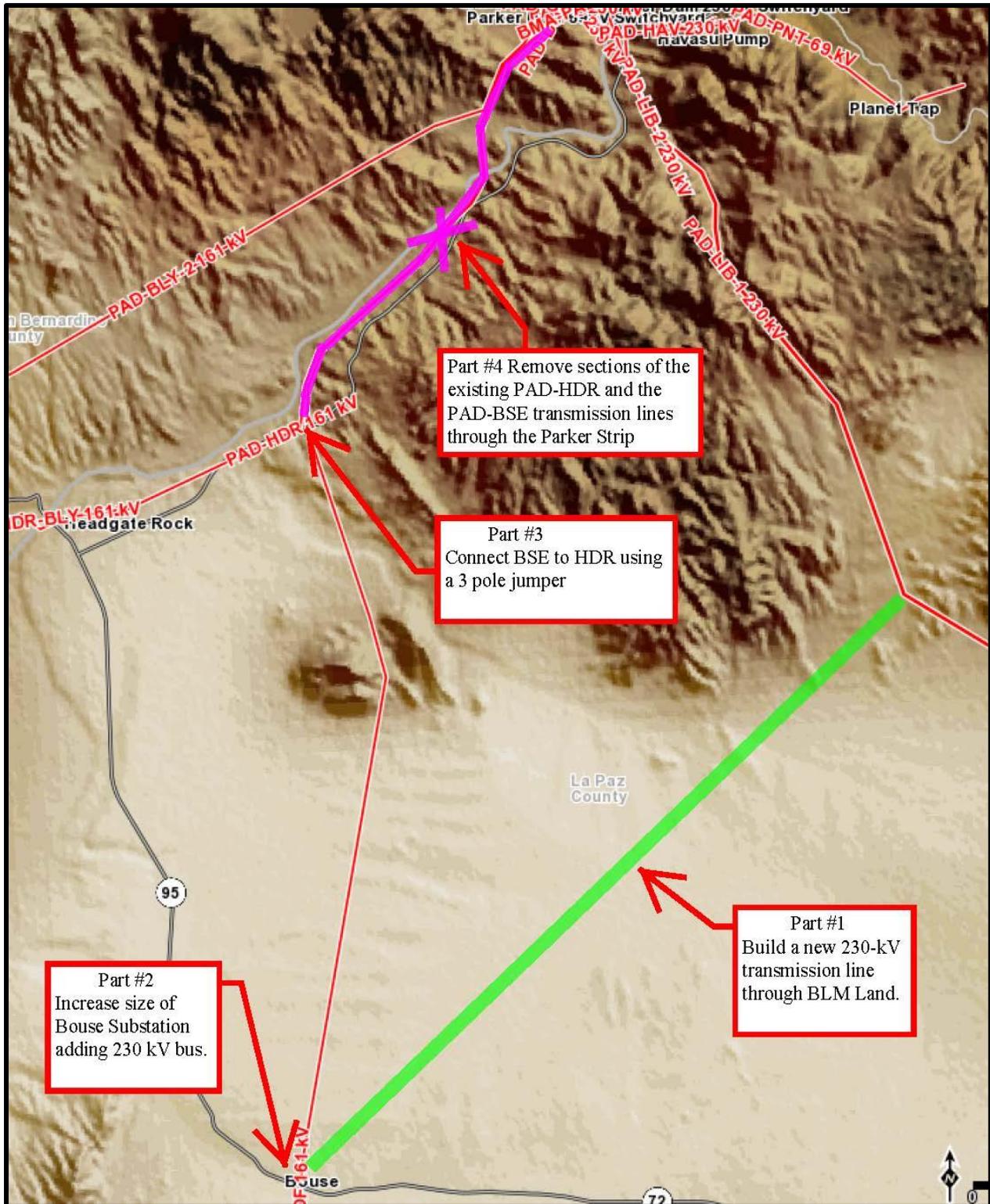


Figure 2: Overview Map of Proposed Project



Part 1 – Build a new 230-kV transmission line through BLM Land

The first portion of the Project will be to construct a new double circuit 230-kV transmission line by redirecting the existing PAD-LIB2 230-kV line at or near structure 12-1, a distance of approximately 15 miles to the BSE Substation. The line will pass through a new 4-breaker ring bus at the BSE substation and be routed back to the existing PAD-LIB2 230-kV line. This redirect will require approximately 60 double circuit 230-kV steel structures supporting 1272 kcmil ACSR phase conductors with one OGW and one OPGW. This new route of approximately 15 miles would require the submission of an application to the BLM in Lake Havasu City, AZ for a new ROW grant.

The PAD-LIB2, 230-kV Transmission Line was built in 1991. The PAD – LIB2 line leaves the Parker Substation and immediately crosses over the Colorado River into Arizona where it runs south east through the northern section of Parker and continues through mountainous low desert terrain. The line utilizes lattice steel towers to support 1272 kcmil ACSR phase conductors for 59 miles to the APS Eagle Eye Substation.

Modifications to the transmission line redirecting structures (11-4 and 12-1) or work required outside the existing 140’ ROW may require WAPA to submit a complete application to the BLM in Lake Havasu City, AZ. Refer to “Stake Holder Involvement” lands section of this report for detailed information. As an alternative a three way dead-end structure between 11-4 and 12-1 may save on cost and outage time.

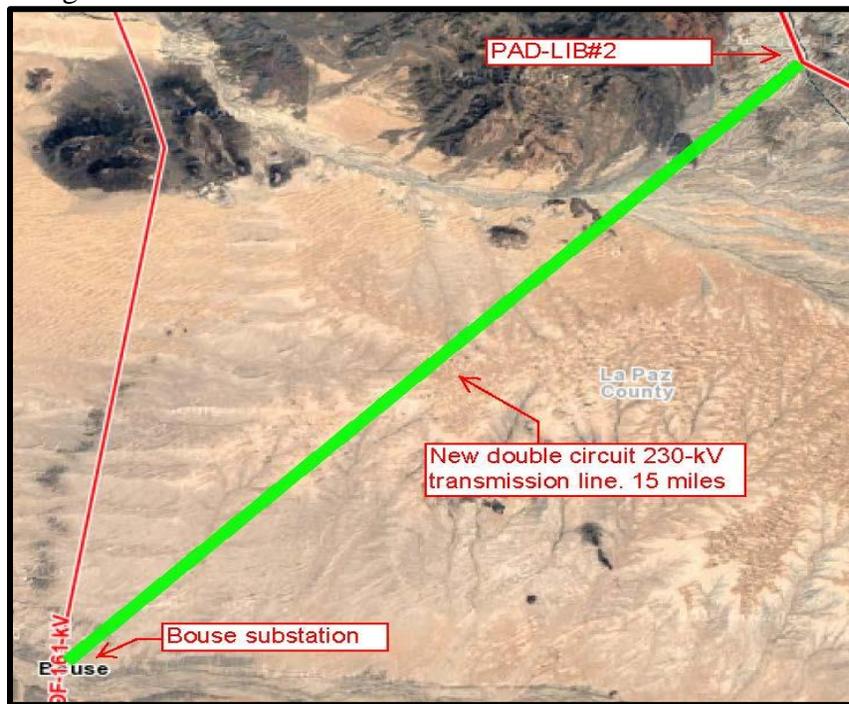


Figure 3: Part 1 New 230-kV Transmission Line

Table 4: Part 1 – Non-Program Cost Estimate

PART #1	Estimated Contract	██████████
	Est. Environmental Contract	██████████
	Estimated GFE	██████████
	Part 1 – Non-Program Funds	██████████





Part 2 – Expand BSE Substation Adding 230-kV Bus

Originally commissioned in 1990, the BSE substation was demolished and rebuilt in 2012. The work executed in 2012 included construction of a new 230-kV switching station (currently operated at 161-kV) in a three breaker ring configuration, three approach spans with associated shoo-fly and dead-end structures. Also installed in the 2012 rebuild was a communication tower, service building, and duct banks between the APS yard and the BSE Switchyard.

The PAD – BSE Upgrade proposes that the BSE Substation be renovated using the existing three bay 161-kV three breaker ring bus and adding 5 breakers and associated switches to form a four bay 230-kV switching station (operated at 161-kV) Double Breaker-Double Bus configuration. Two new 230-kV bays added in a 4 breaker ring bus configuration as well as two 250 MVA 230/161-kv transformers. Cabinets in the control house are existing for all existing bay work as well as the new bays and one transformer, one new cabinet will need to be added for the second transformer. The existing capacitor bank will need to be relocated for site access, A study may determine that the capacitor bank can be removed. The fence line will need to be extended but new site work will fit within the existing WAPA owned site parcel boundary reducing the environmental and lands effort.

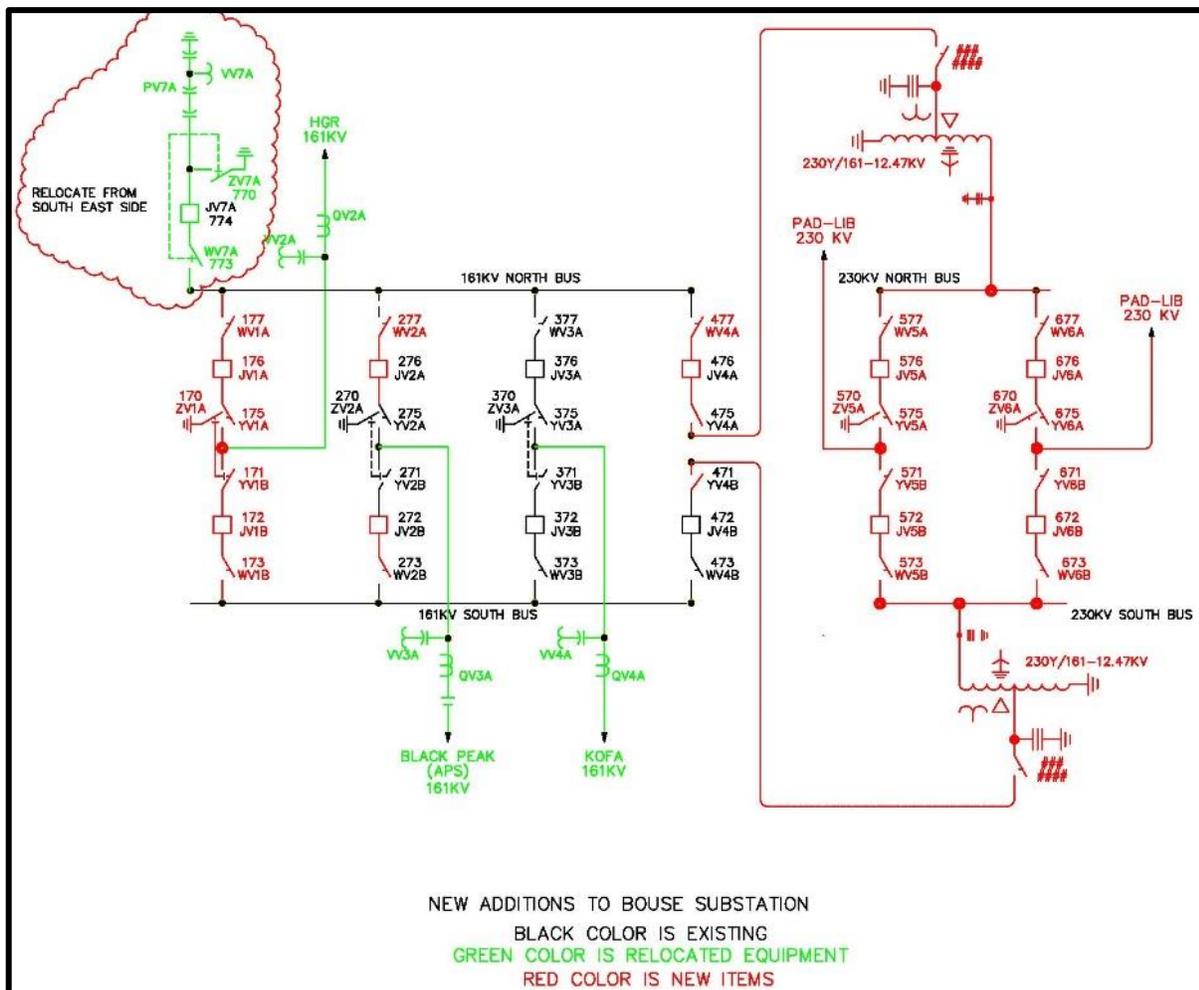


Figure 4: Part 2 – Expanded Bouse Substation



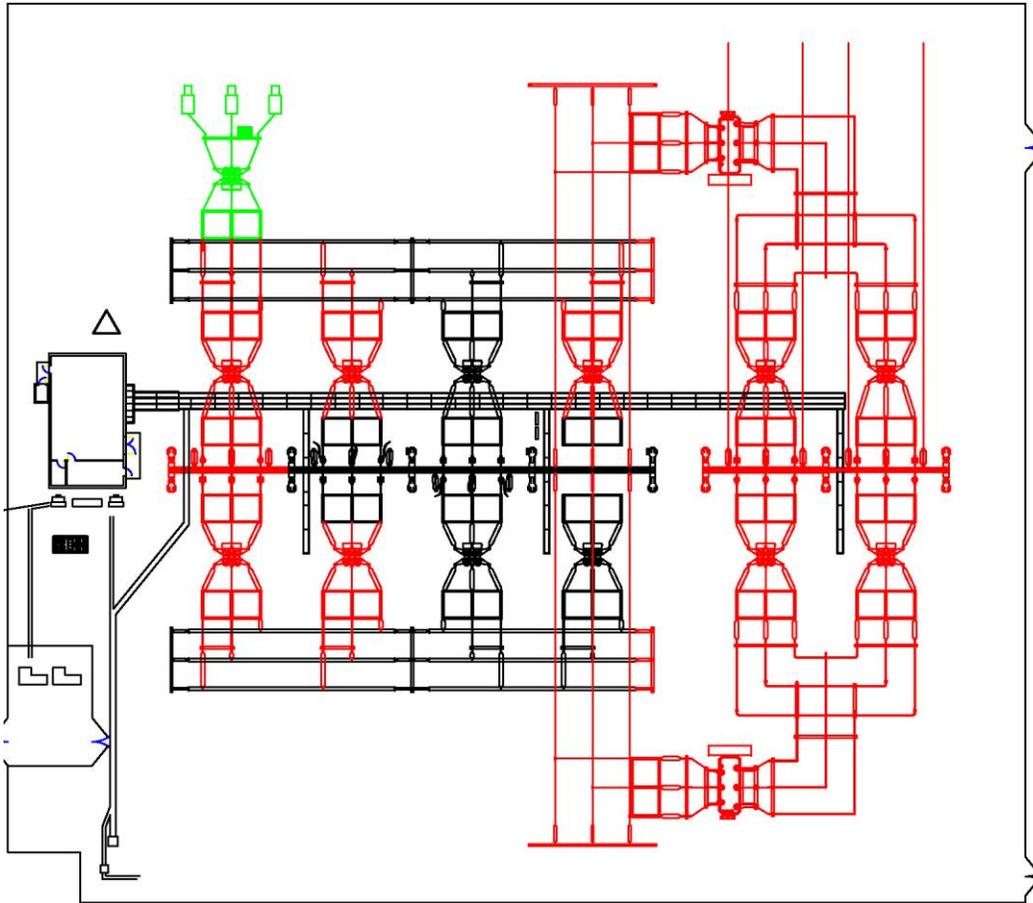


Figure 5: Proposed Site Layout

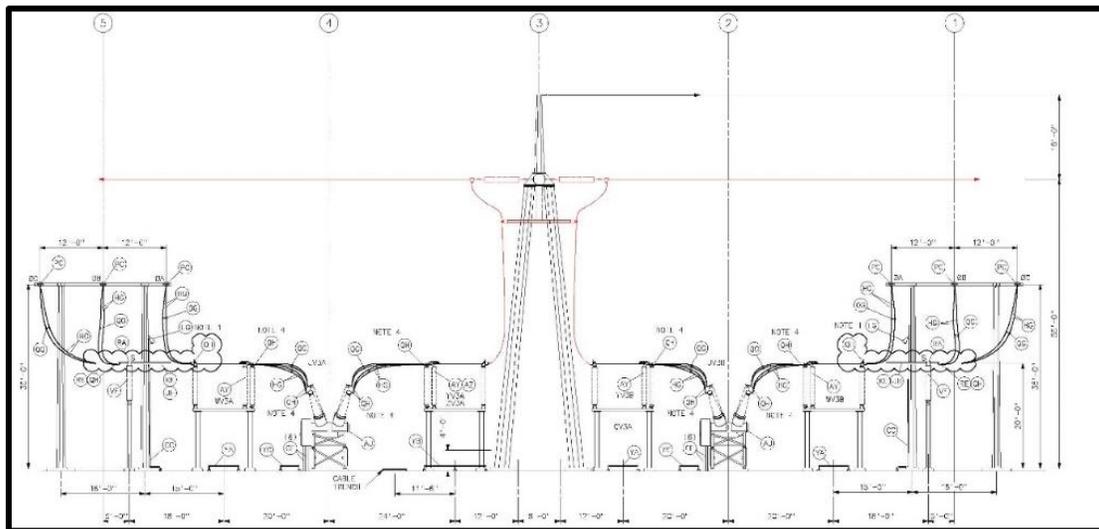


Figure 6: 161-kV Bay 4 Elevation View

Table 5: Part 2 – Non-Program Cost Estimate

PART #2	Estimated Contract	██████████
	Estimated GFE	██████████
	Part 2 – Non-Program Funds	██████████





Part 3 – Connect BSE to HDR using existing 161-kV transmission lines.

The PAD – BSE Transmission Line is a 161-kV WAPA asset, built in 1943, that runs through eastern California and Western Arizona near the Colorado River. The line runs through both mountainous low desert and urban terrain. It is a single circuit, with 18.7 miles of 300 kcmil copper phase conductors, and 3.9 miles of 477 kcmil ACSR phase conductors. A combination of wood and steel H-frame structures support the conductors and two overhead ground wires. It is part of the 161-kV system that provides power from the Parker Dam.

The PAD – HDR Transmission Line is a 161-kV WAPA asset, built in 1951 and runs through Eastern California and Western Arizona, near the Colorado River. This line passes through both urban and mountainous low desert terrain. The line utilizes 477 kcmil ACSR phase conductors supported by wood H-frame structures, and also carries two overhead ground wires. This line is part of the 161-kV system that provides power from the Parker and Headgate Rock Dams.



Figure 7: Part 3 – Aerial View for Jumper Location Options





Part 3 – Option 1

The first option for Part 3 ties the southern portions of the existing PAD – HDR and the PAD – BSE together at or near structure 9-4. This option would remove PAD – HDR Structure 9-4 from the property of the private landowner with Parcel 311-47-003G in La Paz County and would locate a new structure south onto an undeveloped portion of the same privately-owned land. From this position the new “jumper” would traverse southeast to PAD – BSE Structure 9-5, which is located adjacent to, and just west of Rio Vista Road.

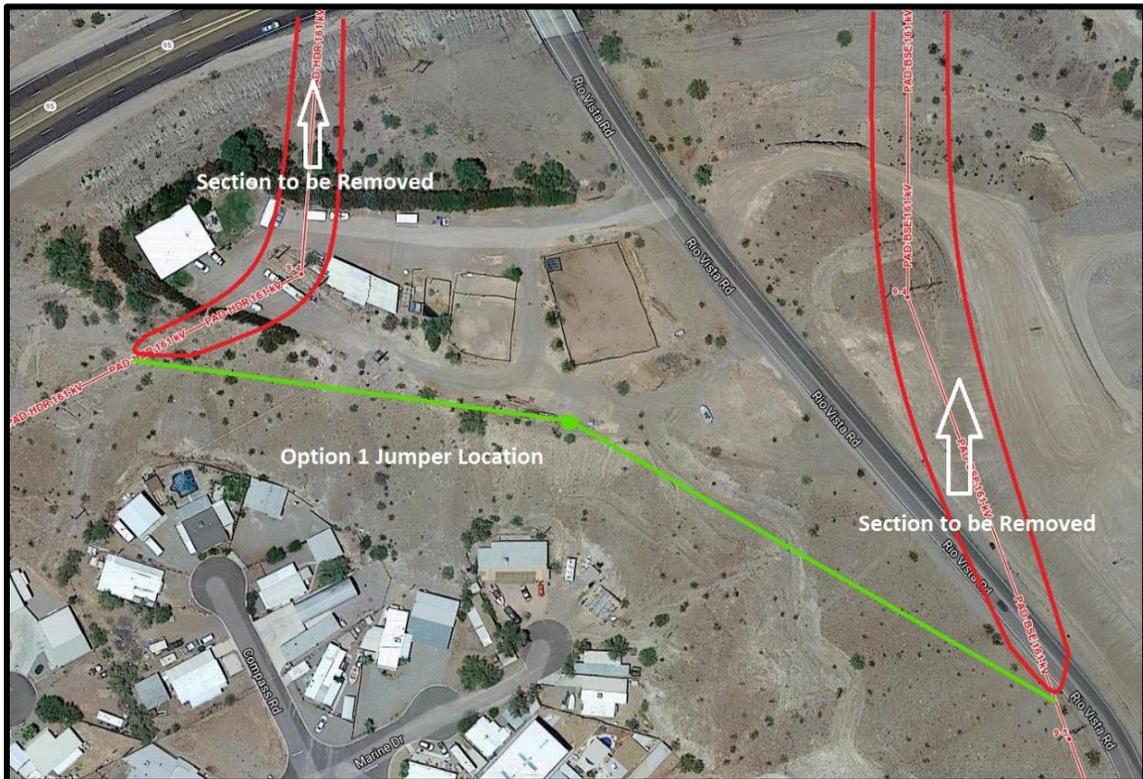


Figure 8: Part 3 – Option 1 Private Land Route

Advantages

- Land owner may favor removing the 3 pole structure from developed portion of property
- Requires less transmission line O&M than Option 2
- This option eliminates several road crossings.

Disadvantages

- Property has uneven land constraints that may pose difficulty in structure installation
- The southern portion of the Parker Strip will still contain WAPA power lines

Table 6: Part 3 – Non-Program Cost Estimate

PART #3	Estimated Contract	██████████
	Estimated GFE	██████████
	Part 3 – Non-Program Funds	██████████





Part 3 – Option 2

The second option for Part 3 ties the southern portions of the existing PAD – HDR and the PAD – BSE together using an area of the state land about ½ mile north of option 1. This option recommendation is based on the fact that the new “jumper” would be located on Public Land administered by the Arizona State Land Department (ASLD) as opposed to it being located on privately-owned land to the south (Option 1).

The option of working with the ASLD may result in less time and money spent when contrasted with obtaining additional easements from the private landowner in Option 1. The “friendly condemnation” process with the ASLD would save time and money, versus utilizing conventional condemnation (i.e. eminent domain) to obtain additional easements from private landowners.



Figure 9: Part 3 – Option 2 Arizona State Land

Advantages

- Uses state land and requires less time for ROW access (friendly condemnation)

Disadvantages

- Requires more transmission line O&M than Option 1
- The southern portion of the Parker Strip will still contain WAPA power lines
- Includes 5 more road crossings than option 1





PART 4 – Removal of Existing Lines

Part 4 will be the removal of the existing PAD-HDR and the PAD-BSE transmission lines north of the option chosen in part 3. The removal of the existing lines cannot occur until the new transmission lines and substation work have finished construction and undergone testing and commissioning. However, the WAPA lands group may start the process of abandoning the easements any time during the project. If WAPA (DSW) makes the decision to remove any transmission lines and no longer needs access, our agency can abandon the easement(s) to the current and correct private landowner(s) of record via a Quit Claim Deed (QCD). Federal Land Management Agencies like the BLM have different legal procedures that WAPA would be required to comply with prior to the ROW Grant(s) being cancelled, closed, and archived.

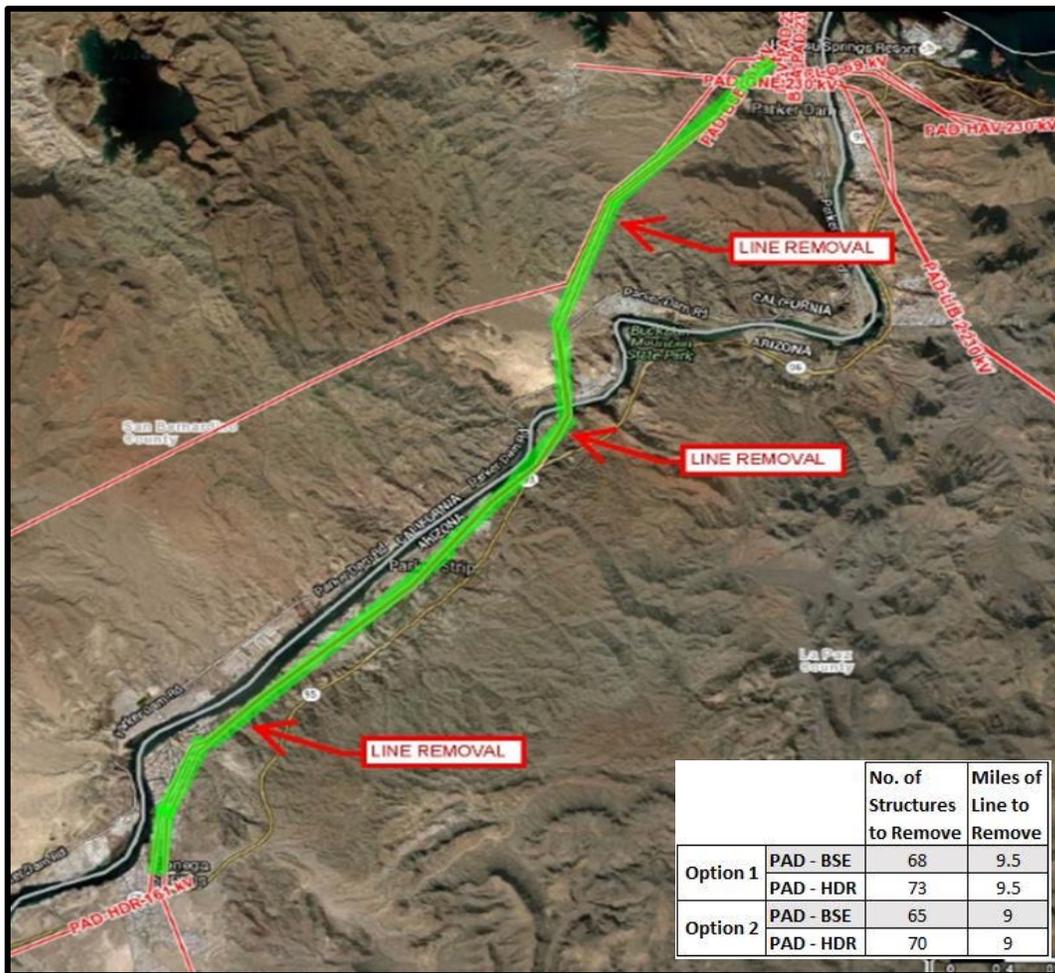


Figure 10: Part 4 Existing Line Removal

Table 7: Part 4 - 99 Cost Estimate

PART #4	Estimated Contract	██████████
	Estimated GFE	████
	Part 4 – Non-Program Funds	██████████





Business Need

The PAD – BSE Upgrade Project is the first step in any future upgrades that may be required for reconfiguring the 161-kV system south of Parker to a new 230-kV system allowing for future marketing of new generation projects in the area and load growth due to expansion. The Project will allow for the city requested removal of the PAD – BSE and PAD – HDR currently running through the Parker strip. The PAD – HDR and PAD – BSE 161-kV lines have exceeded normal service life, and were scheduled for replacement in 1999. The wood poles on these lines display symptoms of advanced external shell rot, along with weathering and large cracks. The DSW Asset Management Group has evaluated the condition of these lines and determined that mitigation measures be taken to avoid service disruption.

Since 1999, asset management has tracked work order costs for both the PAD-BLY and PAD-GLA lines. Work orders on the PAD-BLY line totaled \$6,411,957. The PAD-HDR portion of that line represents 20% of the overall length. For the 18 years of tracked work order costs on the PAD-HDR line there was an overall maintenance cost of \$1,282,391, an average of \$71,000 per year.

Work orders on the PAD-GLA line totaled \$2,042,437. The PAD-BSE portion of that line represents 20% of the overall length. For the 18 years of tracked work order costs on the PAD-BSE line there is an assumed overall maintenance cost of \$408,487 or an average of about \$23,000 per year.

Additionally, there are 5 structures on the PAD – BSE and PAD - HDR lines that are in dire shape that will require emergency replacement within the next 5 years, approximately. Due to deteriorated access to these structures, it is anticipated that they will cost roughly \$1M per structure according to the WAPA maintenance group. WAPA maintenance does caution that this estimate could be conservative if a catastrophic failure occurs, such as a downed line in the river.

Recommended Funding and Resources

Funds Available and recommended for this project are:

WCF – Appropriated Western Construction Funds

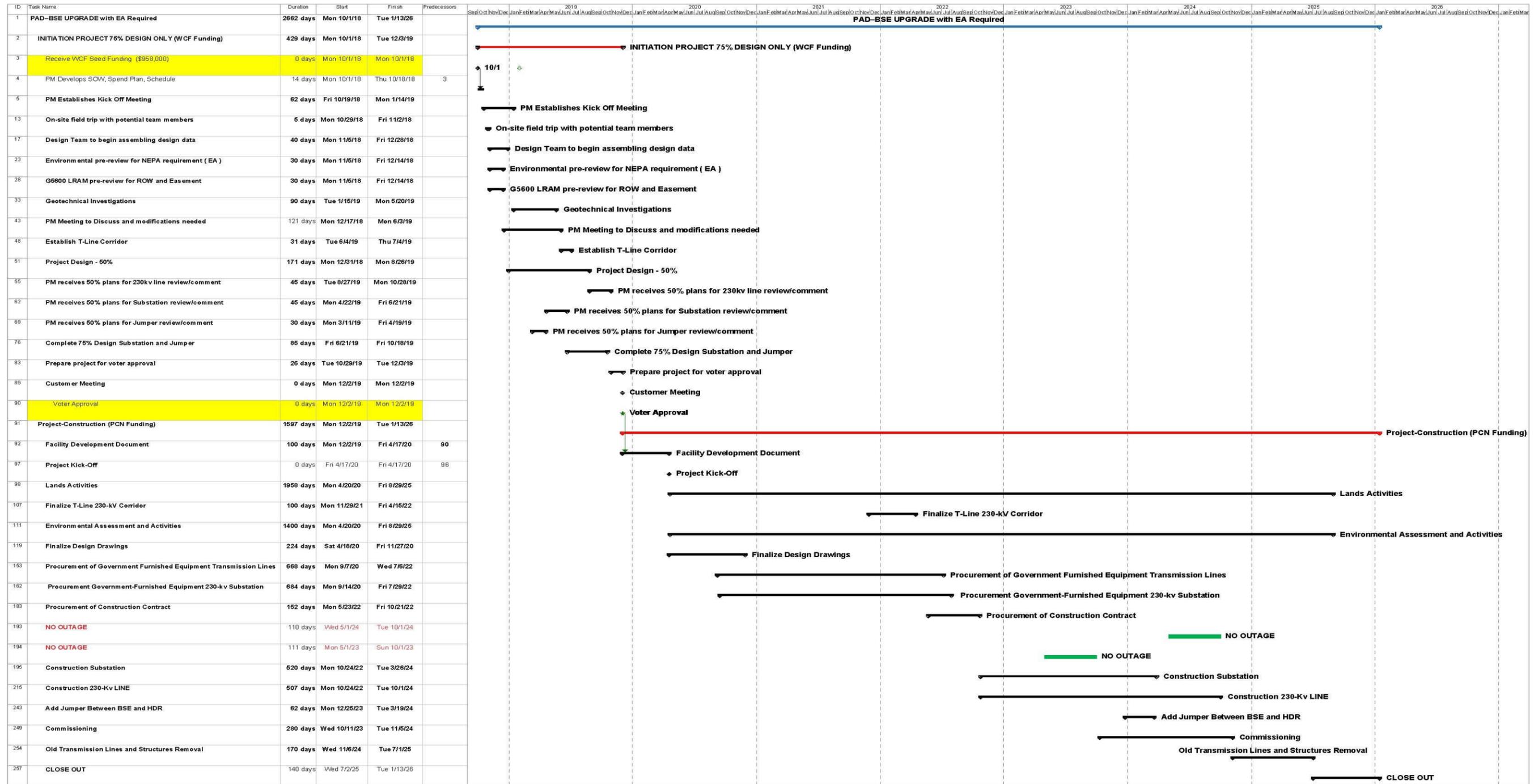
PCN – Prepaid Construction





Appendices

A: Conceptual Schedule



Project: PAD-BSE UPGRADE
Date: Tue 9/19/18

Critical: Critical Split, Critical Progress
 Task: Task, Split, Task Progress
 Baseline: Baseline, Baseline Split, Baseline Milestone
 Milestone: Milestone, Summary Progress, Summary
 Project Summary: Project Summary, External Tasks, External Milestone
 Inactive Task: Inactive Task, Inactive Milestone, Inactive Summary
 Manual Task: Manual Task, Duration-only, Manual Summary Rollup
 Manual Summary: Manual Summary, Start-only, Finish-only
 Deadline: Deadline

Page 1





B: Costs & Spend Plan

Budget vs. Execution Detail

BOUSE UPGRADE

Category	Task	Task Description	Original Project Budget	% of Original Budget
Administration	30001	General Engineering Supply Services	\$0	0%
Administration	30010	Construction Planning	\$20,091	0%
Administration	30012	Collection of Field Data	\$176,311	0%
Administration	30015	Procurement & Contract Admin	\$104,892	0%
Administration	30016	Safety Inspections	\$118,000	0%
Administration	30022	Project Management with EVMS	\$4,841,089	11%
Administration	30023	Finance Administration	\$29,000	0%
Administration			\$5,289,383	12%
Design	30013	Design and Specs	\$681,903	2%
Environmental	30011	Environmental Activities	\$937,073	2%
Environmental Contracts	30011	NEPA and Monitoring		
Right-of-Way	35000	Land & Land Rights		
Right-of-Way	35900	Roads & Road Structures		
Right-of-Way				
Government Furnished Equipment	35210	Structures & Improvements-Bldgs		
Government Furnished Equipment	35220	Structures & Improvements-Other		
Government Furnished Equipment	35300	Station Equipment		
Government Furnished Equipment	35400	Towers & Fixtures		
Government Furnished Equipment	35510	Wood Poles & Fixtures		
Government Furnished Equipment	35520	Steel Poles & Fixtures		
Government Furnished Equipment	35600	Overhead Conductors		
Government Furnished Equipment	35700	Underground Conduit		
Government Furnished Equipment	35800	Underground Conductor (15-35kV)		
Government Furnished Equipment	39710	SCADA Equipment		
Government Furnished Equipment	39720	Microwave Equipment		
Government Furnished Equipment	39760	Fixed Radio Equipment		
Government Furnished Equipment	39770	Fiber Optics Equipment		
Government Furnished Equipment				
Construction	30014	Construction Supervision		
Construction	30100	Principal Contracts		
Construction				
Commissioning Activity	30021	Commissioning Activity	\$942,697	2%
SUB-TOTAL			\$44,987,694	
MANAGEMENT RESERVE	N/A		\$0	0%
Total Project (Excluding IDC)			\$44,987,694	100%





Spend Plan

Conceptual Spend Plan: BOUSE UPGRADE			
	Program and Non-Program Funds		Total
Fiscal Year	11 & 15 (Program)	99 (Non-Program)	Total Obligations
FY 1- 2019	\$812,168	█	█
FY 2-2020	\$1,733,680	█	█
FY 3	\$989,255	█	█
FY 4	\$835,417	█	█
FY 5	\$2,163,000	█	█
FY 6	\$4,150,000	█	█
FY 7	\$1,802,000	█	█
FY 8	\$537,858	█	█
Total	\$13,023,000	\$31,964,000	\$44,988,000

C: General Assumptions

1. The Schedule located in the appendix uses the assumption that an EIS will not be required and that the BLM will only require an EA for this new newly proposed project of upgrading the PAD-BSE Transmission system.
2. No existing portions of PAD-BSE or PAD-HDR will be removed until new routing is complete.
3. No impacts to Waters of the United States, which assumes no permitting requirements.
4. Planning phase: a NEPA contractor will perform EA support (scoping, BA, meetings, document writing, etc.) and all Bio and Cultural surveys, reporting, and support
5. Travel is required 5 days per week for craft and engineering personnel.
6. Three Inspectors are assumed to be needed for this project.

Part 1 Assumptions:

1. The prices quoted do not account for the new ROW. Prices quoted do not account for Terrain or access factors, prices are quoted for flat terrain and normal access.
2. Prices assume 60 Type 221S - 60' steel structures, double circuit monopoles designed to 230-kV specifications.
3. Prices assume (6) 1272 kcmil "Bittern" conductors, one OPGW and one OGW.
4. A land survey crew will mark (stake) the potential ROW before Bio and Cultural surveys happen, 230-kV ROW width is 200'.
5. Implementation phase: Cultural Resource Contractor 15 miles of survey, archaeological excavations, archaeological and tribal monitors for entire project.
6. Implementation phase: Bio Contractor pre-construction surveys and monitoring during construction.
7. Assumes this 230-kV transmission line will not be connected and energized at BSE until part 2 is done.
8. Additional cost of fiber for the 12.5 mile section of transmission line from structure 12-1 back towards Parker at █ per mile.
9. Addition of fiber gear at PAD and BSE for this addition. █ per unit.
10. Schedule assumes 7 day work weeks.





Part 2 Assumptions:

1. The prices quoted assume the full two transformer design shown in Figure 4.
2. All equipment designed to 230-kV specifications.
3. New equipment will fit inside property boundary.
4. Addition of fiber gear and SCADA equipment at PAD and BSE for this addition not included in estimate. Estimated at [REDACTED] per unit.
5. PV7A Capacitor bank is 100% owned by Western per Contract #87-BCA-10031. This Capacitor bank may no longer be needed at this substation after the modifications, a study by J7200 will be required. Pricing does not reflect the cost of this study.
6. APS has OM&R responsibilities on some of the equipment at Bouse Substation, refer to Contract #87-BCA-10031 for equipment listing. Pricing does not reflect APS involvement.

Part 3 Assumptions:

1. The prices quoted do not account for the new right of way (ROW). Prices quoted do not account for Terrain or access factors, prices are quoted for flat terrain and normal access.
2. Prices assume 4 Type 121S - 60' steel structures, single circuit monopoles designed to 161-kV specifications.
3. Prices assume (3) 477 kcmil "Hawk" conductors, one OPGW and one OGW.





D: Photographs



Figure 11: Part 3 Option 1 Jumper Location Looking West



Figure 12: Part 3 Option 1 Jumper Location Looking North



Figure 13: East Side of BSE Substation



Figure 14: North Side of BSE Substation



E: Table of Acronyms

ACSR	ALUMINUM CONDUCTOR STEEL REINFORCED
ACSS.....	ALUMINUM CONDUCTOR STEEL SUPPORTED
APS.....	ARIZONA PUBLIC SERVICE
BLM.....	BUREAU OF LAND MANAGEMENT
BOR	BUREAU OF RECLAMATION
CAP	CENTRAL ARIZONA PROJECT
CX.....	CATEGORICAL EXCLUSION
CIP.....	CRITICAL INFRASTRUCTURE PROTECTION
CRIT	COLORADO RIVER INDIAN TRIBE
DOE.....	DEPARTMENT OF ENERGY
DSW.....	DESERT SOUTHWEST REGION
EA	ENVIRONMENTAL ASSESSMENT
GFE	GOVERNMENT FURNISHED EQUIPMENT
IDIQ.....	INDEFINITE DELIVERY INDEFINITE QUANTITY
IFB.....	INVITATION FOR BID
KCMIL.....	THOUSAND CIRCULAR MILS
MDCC	MANAGEMENT DESIGN CONSTRUCTION COMMITTEE
NEPA	NATIONAL ENVIRONMENTAL POLICY ACT
NERC.....	NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION
NESC	NATIONAL ELECTRICAL SAFETY CODE
NHPA.....	NATIONAL HISTORIC PRESERVATION ACT
NRHP.....	NATIONAL REGISTER OF HISTORIC PLACES
OGW.....	OVERHEAD GROUND WIRE
OPGW	FIBER OPTIC GROUND WIRE
PAD	PARKER POWER PLANT
PCB	POLYCHLORINATED BIPHENYL
RFP.....	REQUEST FOR PROPOSAL
ROW	RIGHT OF WAY
SCE.....	SOUTHERN CALIFORNIA EDISON
SF6.....	SULFUR HEXAFLUORIDE
TCP.....	TRADITIONAL CULTURAL PROPERTIES
USDA.....	UNITED STATES DEPARTMENT OF AGRICULTURE
WAPA	WESTERN AREA POWER ADMINISTRATION





F: Detailed Lands Group Activities

Part 1: New 230-kV Line off PAD – LIB2

Currently the lands group has reviewed both GIS and REIS and confirmed that this proposed (new) 230-kV double circuit line (~15 miles long) from Structure 12-1 of the PAD-LIB #2 230-kV line and going in a southwest direction towards the Bouse Substation is wholly-located on Public Land administered by the BLM's Lake Havasu Field Office. They concur that this proposed route on BLM land will have "less interferences" than other routes.

This new route of ~15 miles would require the submission of an application to the BLM in Lake Havasu City, AZ for a brand-new Right-of-Way (ROW) Grant, and that would necessitate the submission of an SF-299, a comprehensive Plan of Development (POD), an Application Processing Fee (that will be determined and assessed by the BLM), compliance with NEPA, FLPMA, NHPA, ESA, etc. along with an approved NEPA document (CX/EA/EIS) that will be determined by the BLM, not WAPA. Lands will require that they be start the job following the Survey and will continue through the life of the project.

HQ Design requested to know if changing the vertical support 12-1 on the PAD-LIB 230 line, to 2 horizontal structures on either side of 12-1 inside the ROW in order to do a flying tap to the new line will present any problems with the BLM? Refer to WAPA's ROW Grant No. PHX-0-082297 from the BLM that authorized the legal right to construct, operate, and maintain Structure 12-1 "on the PAD-LIB 230 line". This ROW Grant was amended several times during the 1980's after it was first notated by the BLM as a perpetual 4(P) land right on 02/02/1950. On 07/22/1987, it was amended to authorize the expansion of the width of the ROW from 100' to 140'. That 140' width may provide adequate space to change "the vertical support 12-1 on the PAD-LIB 230 line, to 2 horizontal structures", provided that we stay within our authorized footprint (i.e., the 140' width). When this BLM ROW Grant was amended on 11/30/1989, it was changed from a 4(P) land right and to a Title V ROW Grant under the authority of FLPMA.

For additional information, please review page 1 of the 18-page PDF document entitled "BLM ROW PHX-0-082297.pdf". As a result of it being a FLPMA ROW Grant, WAPA may be required to submit a complete application to the BLM in Lake Havasu City, AZ for another amended ROW Grant that would require an SF-299, a comprehensive Plan of Development (POD), an Application Processing Fee (that will be determined and assessed by the BLM), compliance with NEPA, FLPMA, NHPA, ESA, etc. along with an approved NEPA document (a CX? EA? EIS?) that would be determined by the BLM, not WAPA in order to change "the vertical support 12-1 on the PAD-LIB 230 line, to 2 horizontal structures on either side of 12-1 inside the ROW in order to do a flying tap to the new line". The BLM would determine whether or not this would be consistent with 43 CFR Subpart (§) 2807.20, which states in-part, "You must amend your application or seek an amendment of your grant when there is a proposed substantial deviation in location or use". The BLM will inform WAPA if we need to amend our ROW Grant "in order to do a flying tap to the new line".

Part 2: Bouse Substation Expansion

Bouse Substation is wholly-located within the 7.25 acres of land that WAPA purchased on 08/05/2009 for \$50,000 and owns it in fee. If the new design can fit inside the existing property boundary, then "no Lands work is anticipated". Current preliminary designs show the fence line growing but staying within our parcel and all work fitting within the new fence line.





Part 3: BSE to HGR 161-kV Jumper

The existing structures and associated ROW is anticipated to be used to provide a power path for 161-kV between Bouse and the Headgate Rock Substations. This ROW is predominantly on BLM land with some line sections on CRIT and State land. Please note that the BLM is mandated to conform to 43 Code of Federal Regulations (CFR), to include 43 CFR Subpart (§) 2807.20, which states in-part, “You must amend your application or seek an amendment of your grant when there is a proposed substantial deviation in location or use” as well as “If your grant was issued prior to October 21, 1976, and there is a proposed substantial deviation in the location or use or terms and conditions of your right-of-way grant, you must apply for a new grant consistent with the remainder of this section.”

Part 4 Removal of degrading transmission lines

Lands Group will follow WAPA procedures (*see below*) on what to do with our agency’s easements on privately-owned land that are no longer needed as a direct result of WAPA decommissioning a T-Line by removing its structures and conductors and remediating the sites.

1. Obtain copies of the last (*most current*) deeds of the correct landowners for each parcel of private land where WAPA’s easements are located and will be abandoned following the decommissioning of a given T-Line;
2. Draft the Quit Claims Deed (QCD) document/form that must be reviewed by HQ’s Lands Team Lead and approved by OGC;
3. After all of the relevant information has been collected on documented on the approved QCD form, the current Lands Team Lead at HQ must then review, approve, and sign each QCD;
4. Record every signed/executed QCD at their respective County Courthouse; and
5. Send copies of the recorded QCD to each of the current/correct private landowners in which WAPA has an easement but wants to terminate that land right.

Federal Land Management Agencies like the BLM have different legal procedures that WAPA would be required to comply with prior to the **ROW Grant(s)** being cancelled, closed, and archived.

