



Engineering, Operations, & Technology Committee

Desert Microwave Tower Sites Upgrade

Item 7-1

February 10, 2025

Item 7-1

Desert Microwave Tower Sites Upgrade

Subject

Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the desert microwave communications system; award a \$1,531,044 procurement contract to Logicalis Inc. for communications sites network equipment; and amend two agreements for technical support

Purpose

Replace Metropolitan's desert region microwave communication system to enhance the reliability of the communication system, which serves the CRA facilities and power transmission protection systems

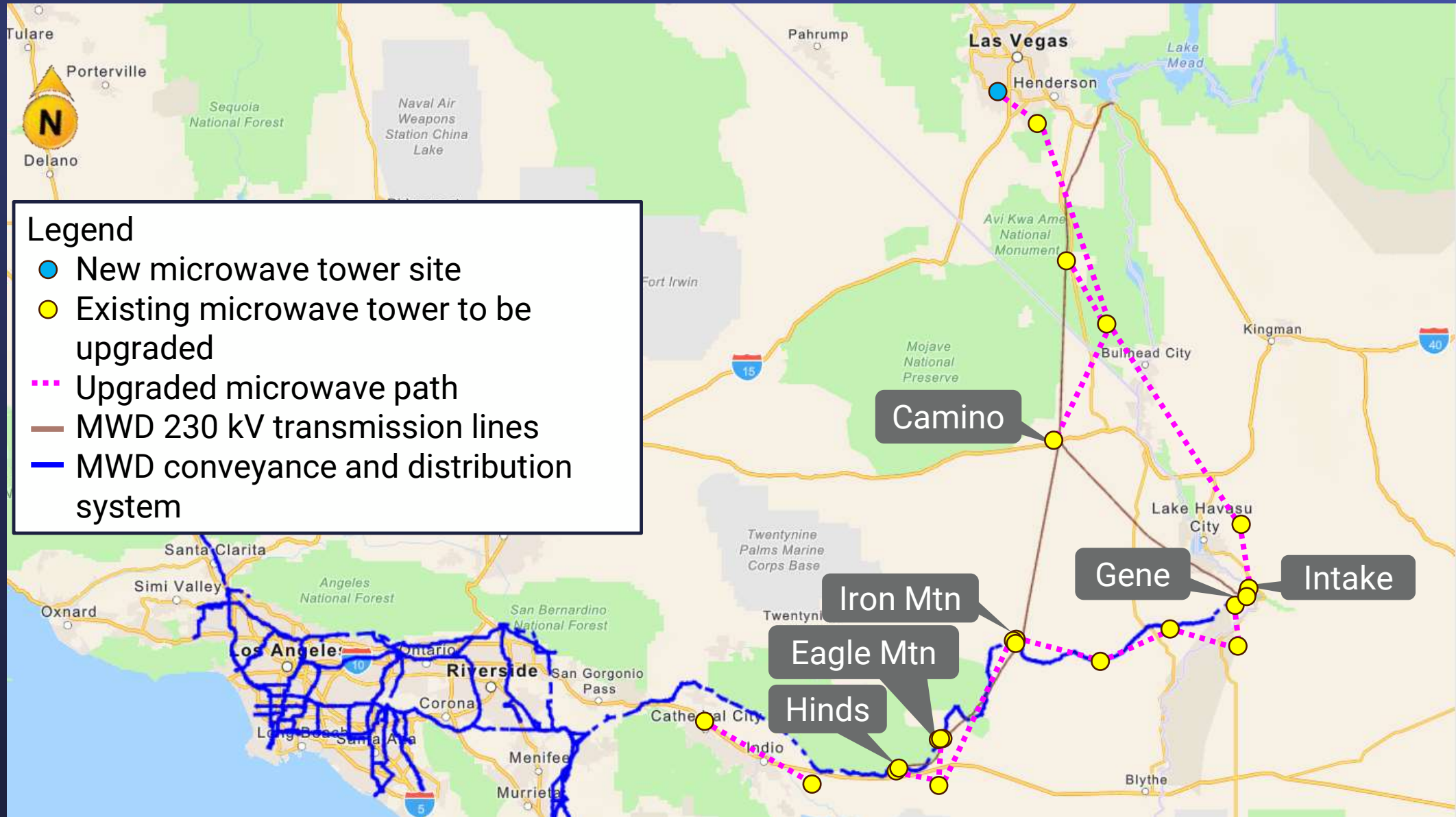
Recommendation and Fiscal Impact

Award the construction and procurement contracts, and amend the existing agreements

Fiscal Impact of \$8.3 M

Budgeted

Location Map



Background

- Microwave radio WAN in service for more than 17 years
 - Backbone for desert communication
 - Provides tele-protection for 230kV system
 - Equipment at end of useful life
- Design & procurement authorized in 2021
- System must be online by April 2026 to meet FCC requirements



Microwave Radio Equipment



Antennas

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Alternatives Considered

- Considered: Remove & replace individual components as they fail
 - Would need to maintain equipment from several manufacturers
 - Replacement parts no longer available
 - Higher risk of communication interruptions
- Selected Alternative: Full replacement
 - Standardizes microwave equipment
 - Simplifies maintenance & operations
 - Reduces risk of communication interruptions

Desert Microwave Tower Sites Upgrade

Scope of Work - Contractor

- Replace current microwave system with a high-capacity carrier-grade system at 22 sites
 - Install antennas, waveguides, & microwave radio equipment
 - Upgrade electrical & power systems as needed

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Scope of Work - Metropolitan

- Install microwave system at one new site and one existing site
- Install Cisco routers & switches, & batteries at 23 sites, & network management system
- Project & construction management
- Contract administration
- Construction support
- Quality assurance & submittal reviews



Cisco Router



Cisco Switch

Bid Results – Microwave Tower Upgrades

Specifications No. 2062

Bids Received	January 14, 2025
No. of Bidders	1
Lowest Responsible Bidder	MasTec Network Solutions LLC
Low Bid	\$2,556,478.19
Engineer's Estimate	\$3,160,000
SBE Participation*	20%

*SBE (Small Business Enterprise) participation level set at 20%

Bid Results – Business Network Equipment

NASPO Value Point Master Agreement No. AR3227

Bids Received	November 6, 2024
No. of Bidders	2
Lowest Responsible Bidder	Logicalis Inc.
Low Bid	\$1,531,044
Other Bid	\$1,745,264
Scope	Procure business network equipment including, routers & switches, for all 23 communication sites

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Nokia of America Corporation – Agreement Amendment

- Scope of Work
 - Waveguides, spare parts, & other ancillary materials
 - Manufacturer's field services
- Amendment amount: \$591,000
- New NTE amount: \$5,888,000

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Hatfield & Dawson Consulting Engineers LLC – Agreement Amendment

- Scope of Work
 - Assist in installation oversight
 - Review microwave performance tests
 - Perform quality assurance
- Amendment amount: \$680,000
- New NTE amount: \$1,410,000

Allocation of Funds

Desert Microwave Tower Sites Upgrade

Metropolitan Labor

Owner Costs (Proj. Mgmt., Contract Admin., Envir.)	\$	523,000
Construction Inspection & Support		451,000
Force Construction		1,049,000
Submittals Review, Tech. Support, Record Dwgs.		478,000

Incidentals

58,000

Contracts

MasTec Network Solutions LLC	2,556,478
Logicalis Inc.	1,531,044
Hatfield & Dawson Consulting Engineers LLC	680,000
Nokia of America Corporation	591,000
Lee & Ro Inc. and Environmental Consultant	300,000

Remaining Budget

82,478

Total \$ 8,300,000

Project Schedule



Board Options

- Option #1
 - a. Award a \$2,556,478.19 construction contract to MasTec Network Solutions LLC for upgrades to the desert microwave communication tower sites;
 - b. Award a \$1,531,044 procurement contract to Logicalis Inc. for communications site network equipment;
 - c. Authorize an increase of \$591,000 to the agreement with Nokia of America Corporation, for a new not-to-exceed amount of \$5,888,000 for network materials and manufacturer's field services; and
 - d. Authorize an increase of \$680,000 to the agreement with Hatfield & Dawson Consulting Engineers LLC for a new not-to-exceed amount of \$1,410,000 to provide specialized technical support during construction and commissioning.

Board Options

- Option #2
Do not proceed with this project at this time.

Staff Recommendation

- Option #1

