



Los Angeles
Department of
Water & Power

RESOLUTION NO. _____

BOARD LETTER APPROVAL

Handwritten signature of Michael S. Webster in blue ink.

MICHAEL S. WEBSTER
Executive Director – Power System
Engineering and Technical Services

Handwritten signature of Marcie L. Edwards in blue ink.

MARCIE L. EDWARDS
General Manager

DATE: December 31, 2015

SUBJECT: 138-kV Underground Transmission Cables Replacement Project Ordinance Requesting the Los Angeles City Council to Establish Engineer-Procure-Construct Criteria Pursuant to §371(b) of the City Charter

SUMMARY

The proposed Ordinance will authorize LADWP to use an engineer-procure-construct contract pursuant to a competitive sealed bid proposal method permitting negotiations relating to the engineering, procurement, and construction of the 138-kV Underground Transmission Cable Replacement Project (Project) based on the criteria established by the Ordinance. The Ordinance will authorize a term not to exceed five years for the contract.

After the approval of this Ordinance, LADWP will advertise one Request for Proposal with one Agreement which will be awarded by the Board of Water and Power Commissioners (Board) at a later date. The proposed contract is to engineer, procure, and construct the Project, for a term of five years, for an estimated expenditure of \$118,248,545. The Project will replace 45 miles of 138-kV underground transmission cables.

City Council approval is required pursuant to §§371(a), 371(b), 373, and 674 of the Los Angeles City Charter (Charter).

RECOMMENDATION

It is requested that the Board adopt the attached Resolution recommending City Council approval of an Ordinance allowing use of the competitive, sealed bid proposal method in accordance with Charter §371(b), to allow a contract term not to exceed five years in accordance with Charter §373, and to grant the Board the power to authorize a contract assisting in the transmission of electric energy for the Project in accordance with Charter §674.

FINANCIAL INFORMATION

The total estimated cost for the Agreement is approximately \$118,248,545. The duration of the proposed contract will not exceed five years.

BACKGROUND

LADWP's Underground Transmission System originally contains approximately 70 circuit miles of underground 138-kV low-pressure, oil-filled (LPOF) cables. These cables are located throughout Los Angeles, from Wilmington to Brentwood. These cables were installed from 1943 to 1959. An increase in failure rates since 1986 indicates that these cables are deteriorating. The circuit lengths range from 0.1 to 5.9 miles. LADWP began replacing these circuits in 1999 due to failures beginning in 1986 and aging of the cables.

In 2007, LADWP prepared the Power System Integrated Resource Plan (IRP), an energy resource planning document, which provided a framework for ensuring the future electrical energy needs of LADWP. One of the goals to support the IRP is to replace one underground transmission circuit per year over the next 20 years, thus replacing all old cables by 2028.

Recently, four failures occurred in the 138-kV LPOF cables; two in 2012 and two in 2013. To prevent future failures, the Power System recommends accelerating the replacement of all 138-kV LPOF cables, since they are of similar age and pose a high risk.

The Project requires removing aging 138-kV LPOF cable systems and installing new cross-linked polyethylene (XLPE) cable systems.

As of today, 19 miles of these oil-filled cables have been replaced with XLPE cables.

The following 138-kV Circuits have been replaced:

| <u>In-Service Year</u> | <u>138-kV Circuits</u> | <u>Length, Circ. Miles</u> |
|----------------------------|----------------------------|----------------------------|
| 2000 | Toluca-Hollywood Line 2A | 2.2 |
| 2005 | Hollywood-Fairfax Cable A | 4.4 |
| 2008 | Hollywood-Fairfax Cable B | 4.4 |
| 2010 | Wilmington-Gramercy Line 1 | 1.6 |
| | Wilmington-Gramercy Line 2 | 1.6 |
| 2011 | Toluca-Hollywood Line 2B | 2.2 |
| 2012 | Harbor Generator Bank 5 | 0.1 |
| 2013 | Gramercy-Harbor Line 1 | 2.5 |
| | Harbor Generator Bank 1 | 0.1 |

The proposed 10 remaining 138-kV LPOF circuits to be replaced are well past their design life. As these circuits age, they are subject to higher rate of failures, and it is difficult to find replacement parts and accessories. Along with increasing rate of failures, there is also increasing maintenance requirement of the LPOF cables. When failures occur, customers can lose power, and there is potential for damage to property and personnel. The failures can take up to several months to repair and get the cables back in service.

The following are proposed 138-kV Circuits will be replaced by this RFP:

| In Service Year | 138-kV Circuits | Length, Circ. miles | Circuit Age at time of replacement |
|-----------------|------------------------------------|---------------------|------------------------------------|
| 2017 | Replace Fairfax-Olympic Cable A | 5.9 | 67 |
| 2017 | Replace Fairfax-Gramercy-Line 1 | 5.6 | 71 |
| 2018 | Replace Fairfax-Olympic Cable B | 5.9 | 66 |
| 2018 | Replace Fairfax-Gramercy-Line 2 | 5.6 | 70 |
| 2019 | Replace Fairfax-Airport Line 1 | 2.5 | 66 |
| 2019 | Replace Fairfax-Airport Line 2 | 2.5 | 68 |
| 2020 | Replace Scattergood-Airport Line 1 | 5.0 | 65 |
| 2020 | Replace Scattergood-Airport Line 2 | 5.0 | 66 |
| 2021 | Replace Tarzana-Olympic Line 1A | 3.2 | 64 |
| 2021 | Replace Tarzana-Olympic Line 1B | 3.2 | 64 |

The proposed Ordinance will require City Council approval in accordance with §§371(a), 371(b), 373, and 674 of the Charter. A copy of the City Administrative Officer (CAO) report dated December 24, 2015, is attached.

ENVIRONMENTAL DETERMINATION

In accordance with the California Environmental Quality Act (CEQA), replacing the 138-kV LPOF cables will have minimal impact on the environment as there will be no need for any excavation. The Project only replaces existing lines; therefore no change shall occur in daily load operations on these lines.

CITY ATTORNEY

The Office of the City Attorney reviewed and approved the Resolution and Ordinance as to form and legality.

ATTACHMENTS

- Resolution
- Ordinance
- CAO report dated December 24, 2015