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AGENDA
CITY OF LAKE WORTH
CITY COMMISSION WORK SESSION
TUESDAY, FEBRUARY 09, 2016 - 6:00 PM

1. **ROLL CALL:**

2. **PLEDGE OF ALLEGIANCE:** Led by Vice Mayor Scott Maxwell

3. **UPDATES/FUTURE ACTION/DIRECTION:**

   A. MPO Draft Complete Streets Policy - estimated time 30 minutes

   B. Discuss City advisory board attendance policy - estimated time 30 minutes

   C. 26.4 kV distribution and sub-transmission system upgrade - estimated time 1.5 hours

4. **ADJOURNMENT:**

If a person decides to appeal any decision made by the board, agency or commission with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. (F.S. 286.0105)

NOTE:ONE OR MORE MEMBERS OF ANY BOARD, AUTHORITY OR COMMISSION MAY ATTEND AND SPEAK AT ANY MEETING OF ANOTHER CITY BOARD, AUTHORITY OR COMMISSION.

AGENDA DATE: February 9, 2016, Work Session **DEPARTMENT:** City Commission

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EXECUTIVE BRIEF

TITLE:
Discussion of City advisory board attendance policy

SUMMARY:
This item is to discuss specific types of absenteeism and if changes are needed to the policy.

BACKGROUND AND JUSTIFICATION:
In the last two years there has been vacancies on the City advisory boards due to excess of absenteeism. The most common reason for absenteeism is illness of the board member or illness of a board member's loved one, spouse, partner, or direct relative, sometimes requiring the board member to travel out of the state or out of the country. Currently, the attendance policy of all city advisory board has no provision for any absence due to illness or death of a direct relative. Staff is looking for discussion on reviewing the absentee policy for all City advisory boards.

Currently, the City's attendance policy for 11 advisory boards state that if any member is absent for three consecutive regularly scheduled meetings or 20% of a regularly scheduled meeting held within any 12-month period, the member's office shall be declared vacant.

Additionally, the City's attendance policy for the Planning and Zoning and Historic Resource Preservation Board's state that if any member is absent for three consecutive regularly scheduled meetings or 25% of their public meetings held within any 12-month period, the member's office shall be declared vacant.

Staff researched attendance policies in neighboring municipalities and found that some of them do not stipulate an attendance percentage, instead they estipulate that a board member cannot exceed three consecutive meetings on any 12-month period.

Staff is suggesting the advisory boards' attendance policy more closely mimic the Florida Attorney General's Opinion and City Commission's policy allowing for an absent member to participate by telephone due to extraordinary circumstances as defined as a serious illness, receiving medical treatment, or unable to attend due to being physically disabled or amend the City advisory boards' attendance policy to allow board members to have one (1) excused absence in any 12-month period due to board member's illness requiring his/her hospitalization or due to the loss of a loved one, spouse, partner, or direct relative, requiring the board member to travel out of state or out of the country.

DIRECTION:
Based on the decision of the Commission.

ATTACHMENT(S):

Fiscal Impact Analysis - not applicable
City of Lake Worth absentee policy
Town of Lantana absentee policy
City of Boynton Beach absentee policy

AGENDA DATE: February 9, 2016, Work Session **DEPARTMENT:** Electric Utility

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EXECUTIVE BRIEF

TITLE:
26.4 kV distribution and sub-transmission system upgrade

SUMMARY:
Review the proposed design aspects of the Long Range Plan to upgrade the City of Lake Worth Utilities distribution voltage class.

BACKGROUND AND JUSTIFICATION:
The City of Lake Worth Electric Utility's current 4.16 kV distribution system is in dire need of an upgrade. This outdated system has surpassed its intended function for decades, thereby reducing system flexibility, reliability, and dependability. The Electric Utility staff has explored a number of options and their direct financial and empirical impacts to the electric grid. After much review and analysis, it was determined that most efficient and correct option is to move to a 26.4 kV transmission system. The Electric Utility will work with an independent and experienced engineering consultant to furnish a performance study to serve as a peer review resulting in a complete design.

The long range improvement plan for the Electric Utility primarily focuses on a system configuration that affords maximum reliability while utilizing components from the already upgraded system. When complete, the system will be comprised of one 138 kV tie line, a 26.4 kV sub-transmission system, and a 26.4 kV distribution system. This particular plan does not address power supply or generation. The plan design includes a 26.4 kV sub-transmission system that ties switch stations in a looped system; affording each switch station (a substation without a transformer) with an alternate power source. This system will not be used to directly serve customer load, rather it will be a fail-safe method of reliability. By looping switch stations together and properly sizing station equipment to serve design and emergency load, it will be possible to quickly, safely, and reliably take switch stations out of service during storm events, natural disasters, and preventive maintenance and testing functions. These operations can be done seamlessly without prolonged interruption to customers' service.

There are two stages to the long range improvement plan for the electric utility. Stage one includes projects associated with design and construction of the 26.4 kV distribution system, including optimizations to the existing 26.4 kV feeders. Stage two encompasses the design and construction of the 26.4 kV sub-transmission system loop.

Stage One - 26.4 kV Distribution Circuits Upgrade

In an attempt to streamline conversion process, two of the substations (11th Ave North and 15th Ave South) will be eliminated. In addition, 7th Ave North substation will be replaced with a new switch station construction at the Elizabeth switch station location. Since the project scope calls for 26.4 kV

distribution, the need for substation transformers at each switch yard location is eliminated. Instead, single-phase regulators will be installed to regulate outgoing customer voltage.

New bus structures have been implemented in this design to accommodate for the higher distribution voltage. At 26.4 kV (phase – phase), ANSI C37.32-2002 Table 5 dictates that the phase spacing for the rated maximum voltage shall maintain a 36 inch centerline to centerline phase spacing. Current 4.16 kV bus structures phase spacing is 18 inches, hence, not suitable for any voltage higher than 8.3 kV.

Stage Two - Design and Construction of the 26.4 kV Sub-Transmission System Loop.

Once completed, the proposed electric grid will be in a standby looped configuration to increase reliability and switching capabilities. The sub-transmission and distribution systems will only require three substation transformers; A 55 MVA and a 50 MVA at Main Yard Substation and a 60 MVA at Canal Substation. This will greatly reduce maintenance, repairs, electric losses, and number of spare transformers in the event of emergencies.

As part of a looped configuration, each switch yard will have an alternate sub-transmission tie. This will facilitate switching due to load accommodations as well as for emergency and disaster recovery. Sub-transmission circuits will be dedicated as such:

a. Transfer all existing sub-transmission circuit load to feeder circuits
b. Strategically place gang-operated switches and reclosers for sectionalizing purposes

Currently, transmission voltage is stepped down from 138 kV to 26.4 kV at the Main and Canal Substations. The 26.4 kV system is used to serve customer load as well as serve as sub-transmission to the 26.4/4.16 kV substations. The existing distribution system is nearly equally divided between 26.4 kV and 4.16 kV. To date, the 4.16 kV electric system is primarily located east of the I-95 and is comprised of nine 26.4/4.16 kV substations. The 26.4 kV distribution circuits are mainly located west of the I-95 and are served from Canal Substations. There are also a number of 26.4 kV distribution pockets scattered between neighboring 4.16 kV distribution circuits East of I95.

The mechanics of the sub-transmission build out will take advantage of the fact that approximately one half of the distribution system was initially built to 26.4 kV. Previous installations will be moved and reused. By separating the 26.4 kV sub-transmission from the distribution system and developing a separate sub-transmission system, local 26.4 kV distribution faults that currently cause outages and equipment damage will be greatly minimized. The remainder of the long range improvement plan is focused on serving customer load. The 4.16 kV portion of the distribution system will be converted to 26.4 kV.

Some of the 4.16 kV system is configured such that it can be easily converted to 26.4 kV, since previous reinsulating projects were upgraded up to 35 kV specification. When designs are in the final stages, coordination with customers, home owner associations, and construction teams will provide valuable decision making information.

The construction of the plan will be accomplished primarily with outside contractor(s). This will allow the City to move forward with this project/upgrade at a reasonable and concise rate.

On December 2, 2015, this agenda item was recommended by the Electric Utility Advisory Board.

ATTACHMENT(S):

1. 26.4 kV Distribution Voltage report

FISCAL IMPACT ANALYSIS

Budgetary cost associated with the 26.4 kV distribution and sub-transmission system upgrade

Description	Budgetary Cost
Switch Station Construction	$7.6M
T&D Materials	$3.5M
T&D contracted labor	$2.9M
Sub-transmission Construction	$0.75M
Total Budgetary Cost	**$14.75M**

A. Department Fiscal Review: John Borsch, Electric Utility Director