



Meeting Date: November 21, 2016

Report No.: SUA-16-53

Agenda Item No. 5a

Status: General Orders

Purpose: Project Approval – Traffic Signal Uninterruptible Power Supply

Background Summary: The City of Stillwater currently has 65 electronic controlled traffic signals used to direct traffic at major intersections. During times of power outages, those traffic signals that are not equipped with a back-up power source lose functionality. When a power outage includes a traffic signal, a crew is dispatched to place temporary stop signs in the affected intersection. Placement of the temporary stop signs can take some time to accomplish, especially if it is after hours or on a weekend. Although a traffic signal that is not functioning should be treated as a 4-way stop, this does not always occur and traffic accidents happen.

Currently, 9 traffic signals are equipped with a back-up power source, so they should not lose functionality during times of power outages. The back-up power source is known as an uninterruptible power supply (UPS). UPS units supply power to the electronics in the traffic signal controller in the event that utility power is interrupted. The UPS can power the traffic signal for several hours. Each UPS can be equipped with a traffic signal monitoring device, which communicates its status to the centralized traffic center monitoring system.

To improve public safety during power outages, staff is proposing to equip the remaining 56 traffic signals with UPS devices. Several approaches were evaluated and it was determined that it would be best to prioritize intersections and add the units at a rate of 10 to 12 per year over the next 5 years. The units will be procured and installed in-house. Spreading the initial installation over a 5 year period will equalize the annual capital initial installation and replacement costs.

It is estimated that the total cost to purchase the UPS's and monitoring equipment will be approximately \$400,000. Over the proposed 5 year period, the annual cost will be approximately \$80,000. In the past, all traffic signal related items have been paid for out of the General Fund operations and/or transportation department budgets. However, since the need for the UPS devices can be considered part of the electric service, staff is proposing that this project be funded by the Electric Rate Stabilization Fund.

Budget Impact: There is no budget impact for the recommended action. Funding is available in the Rate Stabilization Fund for the project and would be appropriated annually upon award of bids, if the project is approved.

Prior Council Action or Part of an Approved Project: No

Related Items: None

Recommendation: It is recommended that the Trustees approve the traffic signal UPS project as proposed.

Prepared by: Loren Smith, Electric Utility Director

Reviewed by: Dan Blankenship, Deputy City Manager

Submitted by: Norman McNickle, City Manager