



Memorandum

June 2, 2010

To: Jim Dinley, Municipal Administrator
Via: David Wolff, Finance Director
From: Christopher Brewton, Utility Director, Electric Department
Subject: Medvejie Hatchery Transformer Replacement

Request

I request Assembly approval of a \$225,000 funds transfer from the Marine Street Substation Voltage Regulator Project No. 90627 to fund immediate purchase and replacement of the Medvejie Hatchery service transformer.

Background:

As noted in the attached technical memorandum from Mr. Robert Dryden PE, the Medvejie transformers are approaching the end of expected service life after nearly 30 years of service. Recent dissolved gas tests indicate continuing deterioration of the transformers. One transformer failed in 2008 and was replaced with the spare unit, with no remaining spares available.

The service transformer for Medvejie is actually 3 single-phase transformers that are connected to form a 3-phase bank. This is a bit unusual for such a small load but the only available power is directly from the Green Lake 69kV transmission line. Therefore, a larger distribution class transformer is required to provide service to the hatchery to step the high voltage down from 69kV to an appropriate service voltage level.

Impact:

Failure of any one of the three single-phase transformers would result in long-term loss of power to the hatchery. There is an existing emergency generator of unknown age and dependability. Loss of commercial power would create significant hardship and risk for critical hatchery operations.

After extensive work with various transformer manufacturers, Mr. Dryden has obtained a quote from Virginia Transformer that will construct a small 3-phase transformer at a very reasonable cost. In addition, as noted in the photos, there are extensive amounts of exposed high voltage conductors supplying the existing transformers. The installation of a modern dead-front transformer will eliminate the majority of exposed high voltage conductors and substantially reduce the risk of contact with the high voltage 69kV line.

Fiscal Note:

The Marine Street Substation Voltage Regulator project will be addressed in future year capital project funding requests. We have installed distribution voltage regulators on Halibut Point Road this year that have mitigated the low voltage problems from the Marine Street substation and will allow deferment of the Marine Street project for the short term.

Recommendation:

I recommend Assembly approval of a \$225,000 funds transfer from the Electric Department Marine Street Substation Voltage Regulator Capital Project No. 90627 to fund replacement of the Medvejie Hatchery service transformer.