



1202 Musser Street
Muscatine, IA 52761-1645
(563) 263-2752
Fax (563) 263-3720

WATER POLLUTION CONTROL

MEMORANDUM

To: Gregg Mandsager, City Administrator
Cc: Nancy Lueck
From: Roger Kirby, Director WPCP
Date: May 25, 2010
Re: Laboratory TKN Digestion Unit

INTRODUCTION: Attached is a memo from Patti concerning our TKN Digester unit not functioning and costing more to repair than it is worth.

BACKGROUND: It was not included in the budget because we felt it would last a couple more years. Our lab budget is getting very low and the funds are not available to replace it at this time. Our overall WPCP budget is in good shape and this purchase of \$8,415 can be covered without any problems.

RECOMMENDATION/RATIONALE: Although it is not an emergency and we are able to send out samples for testing the cost will be about \$200 a week. We use this unit for our operational purposes and will be required under our new permit to test on a more frequent basis. We also use this to test some of our industries also. Is it possible to get this unit ordered without waiting for council approval on June 3rd? Again, it is not an emergency, but why pay \$200 a week for the next two to three weeks when we need this anyway? Let me know if you want me to wait or proceed with the purchase.

INTEROFFICE MEMORANDUM

TO: ROGER KIRBY
FROM: PATTI FULLER-BLOECHL
SUBJECT: TKN DIGESTION UNIT
DATE: 5/17/10

TOTAL KJELDAHL NITROGEN DIGESTION UNIT

The WPCP Laboratory's current Total Kjeldahl Nitrogen (TKN) Digestion unit is no longer functioning. Digestion blocks are used to break down laboratory samples in concentrated acid to allow further testing in the simplest forms.

The current unit had been working in fair condition. The cost to fix the TKN unit is more than what the unit is worth. The current TKN unit is a Lachat BD-26 that was purchased in 1995, for \$5700. The new proposed unit, a SCP Scientific Unit, can be purchased for using the funds that were intended for the laboratory fume hood. The laboratory fume hood project has been placed on hold, pending the plant construction.

The SCP TKN Unit has several features that make it a unit worth purchasing. These features are:

- The SCP 250 Digestion Unit has a manifold for scrubbing the harmful acid fumes.
 - This system will save laboratory fume hoods and equipment in the future.
- The SCP 250 Digestion Unit is a Graphite Heating block verses an aluminum heating block
 - The aluminum heating blocks are more likely to break down due to the acid fumes would deteriorate the aluminum heating block
- The Digestion Block can be used for TKN and Metals sample digestions.

The digestion blocks are used for testing influent, effluent, customer samples and digester biosolids. The need for analysis of Total Kjeldahl Nitrogen will increase as the Iowa DNR implements Nutrient Standards on municipal treatment plants in the coming years.