

Information Item: Industrial Pretreatment Incentive Program Update

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Environment Committee: June 9, 2020



Industrial Pretreatment Incentive Program (IPIP) Annual Report

Purpose of IPIP:

Provides financial incentives to assist high-strength industrial wastewater dischargers to:

- Additional pretreatment of wastewater at industrial site
- Reduce or eliminate high-strength discharge
- Reduce MCES' treatment cost
- Delay or reduce expansion of MCES' Wastewater Treatment Plants (WWTPs)



Purpose of Update:

To provide an IPIP status report and to project future program activities

IPIP Aligns with Council's Mission and Thrive Outcomes



Foster the orderly, economic growth of the region



Prosperity

Fosters economic growth and helps to create regional jobs



Stewardship

Uses financial resources from MCES' ratepayers wisely

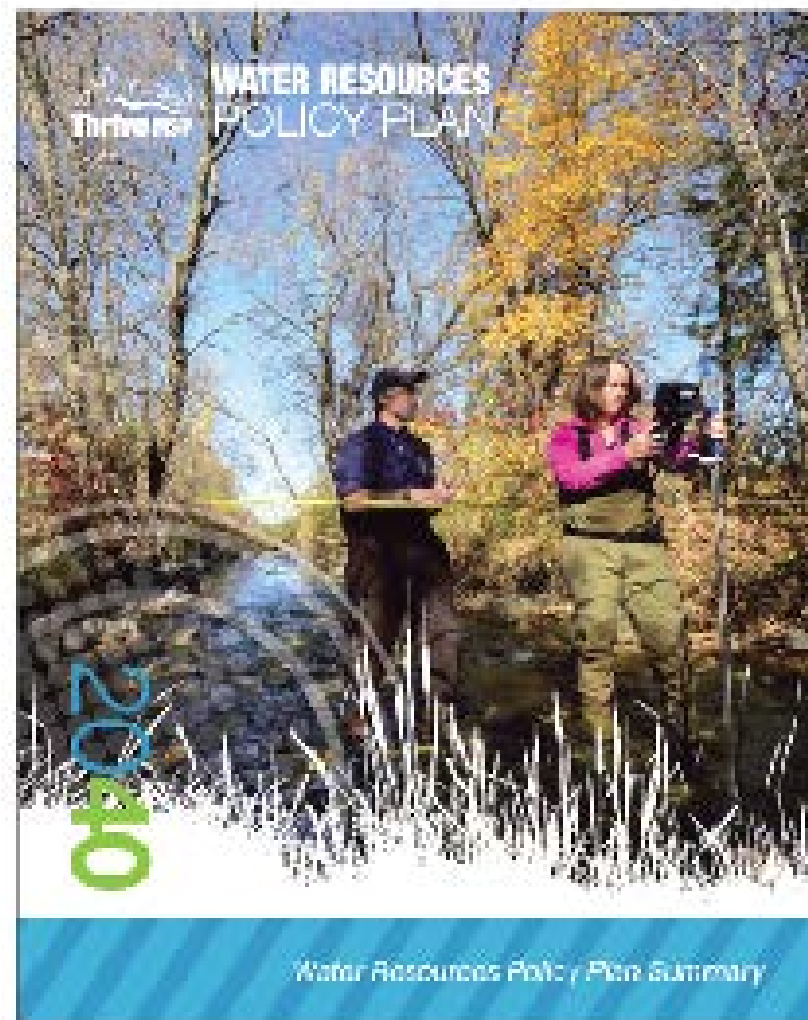
Defers capital investment by delaying or reducing expansion of MCES WWTPs



Sustainability

Reduces energy use and facilitates energy generation at MCES WWTPs

IPIP Aligns with *2040 Water Resources Policy Plan*



Council shall “provide industries with incentives to pretreat wastewater to reduce its strength and thus provide the most environmental and economical benefit for the region.”

High-Strength Waste Charge

- **Municipal wastewater charge**
 - Cost to treat average domestic waste strength
- **High-strength waste charge**
 - Some wastes, e.g., industrial waste, higher strength than domestic requiring higher treatment cost
 - High-strength waste charge covers additional treatment cost
 - Charge based on waste's chemical oxygen demand & total suspended solids
- **Range of high-strength waste charges: <\$100 to over \$1 Million**

IPIP Basic Steps

1. Council makes loan to qualified industry

- At Council's interest rate: lower than corporate market rate
- For additional pretreatment equipment at industry's site
- To reduce industry's high strength discharge to MCES

2. Industry leases equipment from Council

- Council owns equipment
- Industry operates & maintains
- Ten-year term
- After 10 years, industry owns equipment

3. Industry can qualify for discount on lease payments

- Depending on strength-reduction performance,
- Up to 30% discount

IPIP Activity

Date	Activity
November 18, 2014	Public Hearing on proposed IPIP
January 14, 2015	Council authorized IPIP
February 2015	MCES sent Request for Proposals to industries and consultants
March 2015	MCES held proposer meetings
May 31, 2015	Industries submitted initial applications
After May 2015	MCES reviewed initial applications and selected Kemps, Northern Star, Twin Cities Tanning, Twin Cities Hide, and Old Dutch
November 28, 2017	Council and Northern Star signed contract; \$11.3 M value
May 23, 2018	Council and Kemps signed contract; \$905,000 value

Northern Star (Michael Foods)



Potato processor in Blue Lake WWTP service area

- IPIP contract executed: \$11,297,185 on November 2017
- Loan status: \$8,394,181 (87%) lent as of mid-March 2020
- Debt service payments: \$2.7 million paid as of mid-March 2020
- Startup anticipated in June 2020

Parameter	Anticipated Load Reduction	MCES Treatment Impact
Total Suspended Solids	87 – 90%	Less solids produced
Chemical Oxygen Demand	71 – 80%	Less energy required
Phosphorus	56 – 71%	Less energy required
Nitrogen	55 – 69%	Less energy required

Kemps Foods

Dairy products producer in Empire WWTP service area



- IPIP contract: \$905,000 on May 23, 2018
- Loan status: \$905,000 (100%) lent as of mid-March 2020
- Debt service payments: \$145,048.72 paid as of mid-March 2020
- Discount: 30% debt service reduction due to 96% reduction in waste strength
- Construction: completed December 2018

Impact

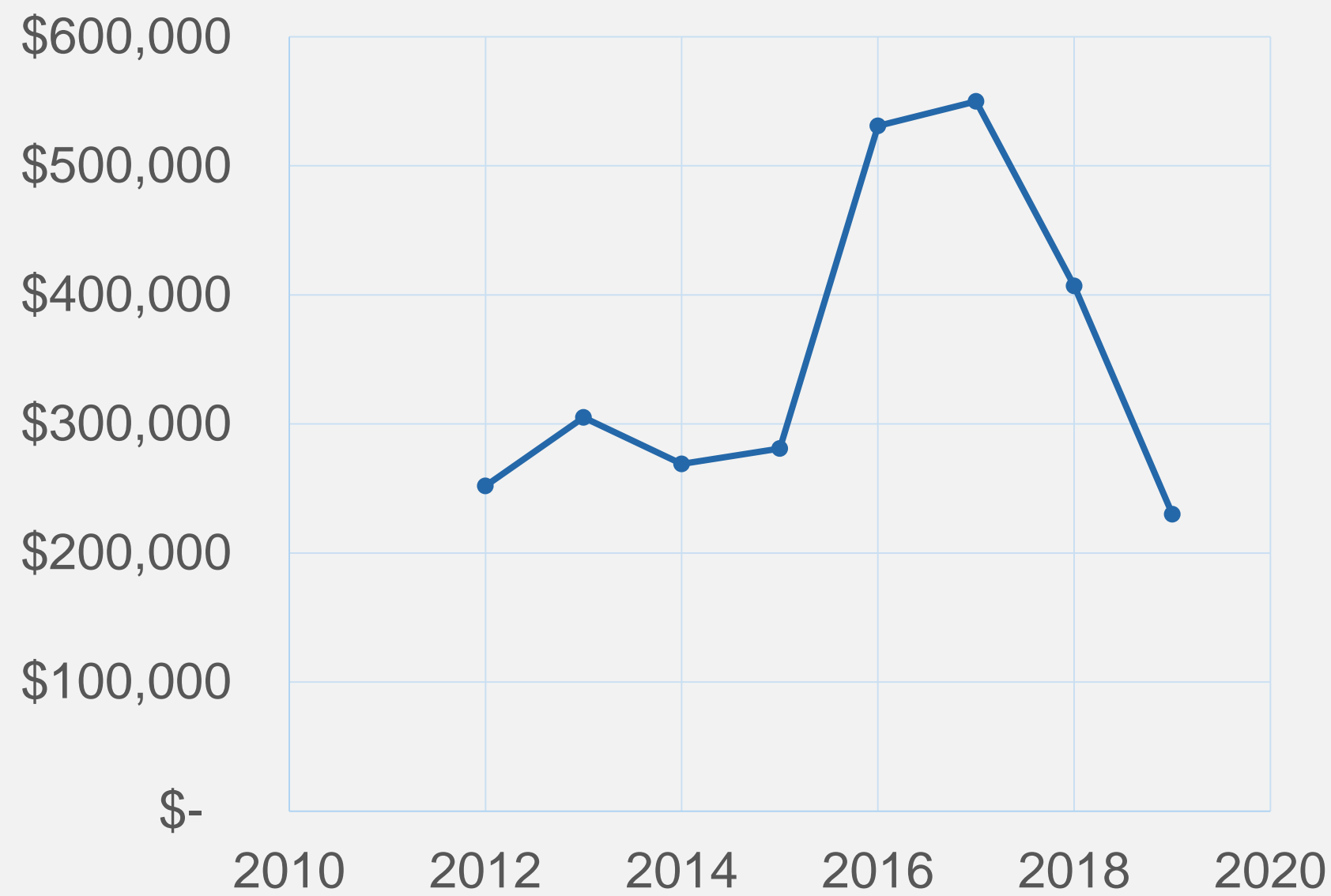
- Impact on Empire consistent with expectations: e.g., chemical oxygen demand loading, next slide
- Direct feed to digester will increase Empire's biogas production by 23% and decrease overall energy use by 3,690 MMBTU/year (equals 172 cars/year)

IPIP participant Kemp's cultured dairy products plant in Farmington, MN is realizing IPIP benefits

David Seefeldt, plant manager at Kemp's: *"We had been working on an approval to install a reverse osmosis (RO) system at our Farmington plant since 2012. When the opportunity came along to partner with MCES and apply for participation in IPIP, the project finally came together and has proven to be a win/win for both parties."*

Kemps Historical Strength Charge

Kemps Strength Charge (TSS + COD)



Year	Strength Charge (TSS + COD), \$	Excess COD Loading, lbs
2012	\$251,837	2,789,440
2013	\$304,626	2,924,610
2014	\$269,222	2,607,290
2015	\$280,854	2,623,220
2016	\$530,825	4,565,800
2017	\$549,844	4,632,220
2018	\$406,936	3,105,070
2019	\$230,282	1,729,820

Other Selected IPIP Industries

Twin City Tanning and Twin City Hide

- Process hides for use in leather products
- Metro WWTP service area
- 2/11/20 meeting to move ahead
- Pending due diligence financial analysis by 3rd party

Old Dutch Foods

- Makes snack products
- Metro WWTP service area
- No current contract negotiations; recent interest in moving ahead

Next Steps

IPIP Cost/Benefit Evaluation

- Has IPIP met objectives?
- Worth cost of program administration?

If Cost/Benefit Positive

- ESET/Council direction re: second round of proposals
- Consider wastewater system problems (e.g., chloride/total dissolved solids, soluble non-reactive phosphorus, fats/oils/grease) & how IPIP could reduce these problems

If Cost/Benefit Not Positive

- Don't pursue second round of proposals

Questions

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