EXECUTIVE SUMMARY

Symons Frozen Foods (Symons) of Centralia processes fresh vegetables into frozen vegetables. The Technical Resources for Engineering Efficiency Team (TREE) worked with Symons in Centralia to help them reduce their discharge of brine to the spray fields and help identify other waste reduction opportunities. While a full in-depth project was initiated, resource constraints at Symons precluded TREE from obtaining the information needed to further develop and refine recommendations. TREE left open the possibility of continuing the project when Symons' staff resources allow.

TREE completed several visits to the facility during summer and fall of 2008 to observe, take measurements, and learn about Symons' process from their staff.

This report presents an abbreviated evaluation of this facility's opportunities to reduce water use, energy use, and solid waste generation. Ideas for addressing elevated total dissolved solids (TDS) in Symons' spray field wells are also presented. Below is a list of the recommendations for the company to consider. Where possible, TREE estimated the amount of savings. See Table 1 for Quantified Opportunities.

- Reduce well water use for cooling product
- Segregate brine tank water to reduce salt-loading of spray fields
- Re-evaluate spray field use patterns and equipment
- Actively manage cleaning water
- Reduce chilled water loss
- Recycle corn sizing water
- Segregate corn pressate water
- Actively manage solid waste and fluorescent light disposal

TABLE 1: QUANTIFIED OPPORTUNITIES

Opportunity	Total Annual Dollar Savings	Brine Sent to Spray Fields	Water / Wastewater		
		Pounds Reduced	*Water Gallons Reduced*	*Wastewater Gallons Reduced*	*Disposal Cost Savings*
Reduce Single Pass Cooling Water	24,700.		2,470,000.	2,470,000.	24,700.
Divert the Brine Spray Rinse		35,800.		145,000.	
Turn off Cleaning Water	10,000.		1,000,000.	1,000,000.	10,000.
Turn off Cleaning Water	10,000.		1,000,000.	1,000,000.	10,000.
Prevent Chiller Overflow	51,200.		3,200,000.	3,200,000.	51,200.
Recycle Overflow from Corn Sizing	64,300.		6,430,000.	6,430,000.	*64,300.
Total	**164,200.**	**35,800.**	**14,500,000.**	**14,645,000.**	**164,200.**

*Assumes 100% recycling as a placeholder. Actual cost savings will depend on level of recycling implemented by Symons.