Table 29

Proposed Fiscal Year 2016 **Chemicals Summary** ($s)				
Line Item/Description	*Final FY15*	*Proposed FY16*	*Δ ($s)*	*Δ (%)*
Soda Ash	$3,706,975	$3,847,851	$140,876	3.8%
Used primarily at the CWTP; some at Clinton WWTP.				
Sodium Hypochlorite	2,226,784	2,008,926	-217,858	-9.8%
Used for treatment at DITP ($1.15 million) and CWTP ($0.9 million). NPDES begins January 2013 and price increased.				
Hydrofluosilic Acid	541,145	596,237	55,092	10.2%
Fluoride control at CWTP.				
Liquid Oxygen	611,744	605,503	-6,241	-1.0%
Ozone generation at CWTP.				
Ferric/Ferrous Chloride	858,824	934,178	75,354	8.8%
For struvite control at DITP. Dramatic price increase due to increased global demand for new applications.				
Sodium Bisulfite	522,978	323,758	-199,220	-38.1%
For dechlorination of treated wastewater and water. Usage increased for new NPDES permit requirements.				
Activated Carbon	313,942	302,960	-10,982	-3.5%
For odor control at DITP.				
Carbon Dioxide	281,976	284,335	2,359	0.8%
To increase pH and alkalinity level of water supply at CWTP.				
Polymer	316,558	309,714	-6,844	-2.2%
Sludge thickening at DITP and Clinton. Expected reduction in Final FY14 due to new contract prices.				
All Other Chemicals	838,654	936,450	97,796	11.7%
For algae control; corrosion control in Framingham Relief Sewer and DITP.				
TOTAL CHEMICALS EXPENSES	**$10,219,580**	**$10,149,912**	**-$69,668**	**-0.7%**

Other Highlights

- Chemicals budget is 1.4% of all expens
  of all direct expenses.
- Water operations chemicals: $6.34 mi
  - Increase: +$0.93 million (+1.5
  - Assumes reduced fluoride re
    CWTP not in effect during FY1
- DITP chemicals: $3.09 million
  - Decrease of nearly $100 thou
  - Assumes no new NPDES perm
  - Ferric chloride increases
    thousand with startup of
    program
- Clinton wastewater treatment plant
  $0.36 million
  - Decrease of $24 thousand (6.
  - Assumes new NPDES permit f
  - Chemical expense has doubled since FY 2010
- Other wastewater facilities chemicals: $0.36 million

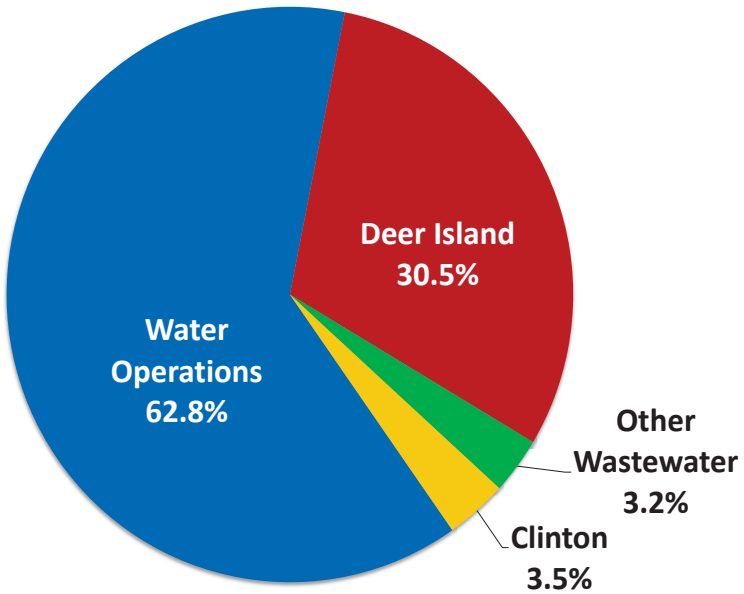

Figure 35

"DELTA REPORT"

Chemicals Spending Decreases Almost $70 Thousand

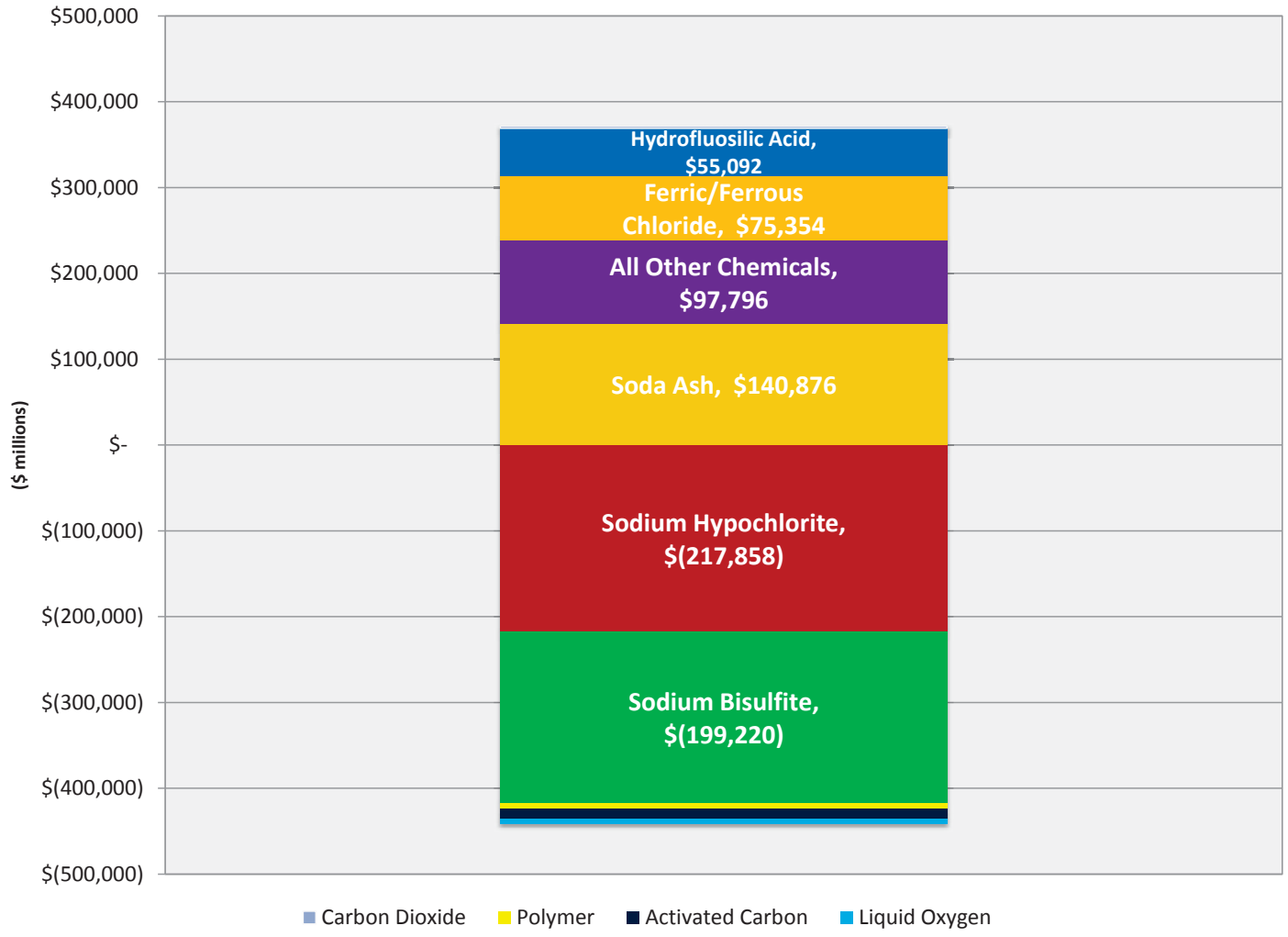

Figure 36

Table 30

Impact of Price versus Quantity in Dollars			
Chemical	**Price**	**Quantity**	**Net Change**
Soda Ash	$115,000	$26,000	$140,000
Nitrazyme	(13,600)	(83,900)	(2,913)
Hydrofluosilic Acid	(125,000)	180,000	55,000
Aqua Ammonia	12,956	5,042	17,998
Liquid Oxygen	34,810	41,051	(6,241)
Sodium Bisulfite	(15,000)	(185,000)	(199,000)
Sodium Hypochlorite	(186,000)	(33,000)	(218,000)
Total Change	**$(176,834)**	**$(49,807)**	**$(213,156)**

Regulatory Changes Impacts

- Assumes new DITP NPDES permit will not be in effect during FY16
  - FY15 budget assumed April 2015 start
  - Results in reduced sodium hypochlorite and sodium bisulfite budgets
- Assumes new Clinton NPDES permit will be in effect for full year
  - Costs of using increased amounts of ferric chloride to control phosphorus levels are more than offset by reduced quantities based on recent actual

- Assumes new fluoride regulations will not be in effect during FY16
    - Increased quantities to meet unchanged dosing levels of $180 thousand are partially offset by lower pricing of $125 thousand for a net increase of $55 thousand

Chemicals Changes by Location

- Deer Island decreases due to assumption of no new NPDES permit offset by increases in ferric chloride use and hydrogen per plus increased pricing for sodium hydrox
- Water operations chemicals spen increases due primarily to increase quantities and pricing
- Over half (56.8% or $6.1 million) c chemicals spending is for soda ash sodium hypochlorite (See Figure 37)
- ***The Advisory Board expects that chemicals budget will be revised to re updated pricing and usage assumpt including the reduction in fluoride de consistent with updated federal regulat The Advisory Board estimates this to reduction of $350,000.***

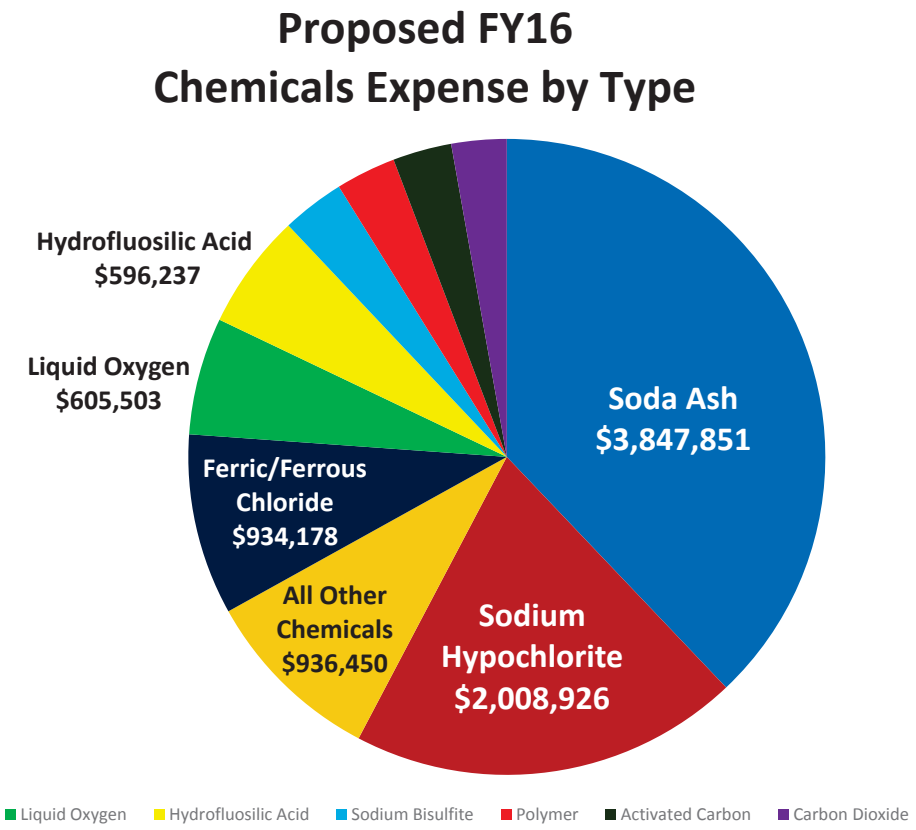

Figure 37