



***City of Salina Downtown
Decorative Lighting Project
2011 in partnership with
Johnson Controls and Philips
Lighting***

December 5, 2011



Steps in Performance Contract Process

- ❖ Utility Bill Analysis - **Completed**
- ❖ Preliminary Energy Audit - **Completed**
- ❖ Needs assessment with City of Salina and Salina Downtown Inc.- **Completed**
- ❖ Competitive Procurement - **Satisfied via State FCIP Process**
- ❖ Investment Grade Audit– **Finalizes all scope, guaranteed fixed price, and guaranteed savings (30-45 days)**
- ❖ Contract and Financing Development- **Performed in Parallel with IGA**
- ❖ Implementation- **120 days**
- ❖ Ongoing Measurement and Verification- **15 years**



Needs Assessment

Began in March



Preliminary Development

Complete

Procurement Satisfied via FCIP

Complete by February 1, 2011

City Obligation: Contingent Fee

JCI Obligation: Develop project scope & savings



Investment Grade Audit

Contract Review & Approval

**Construction Completed
May 31, 2012**

*Authorizes construction ,
measurement & verification,
savings guarantee for term
financing.*

Implementation



Existing System Maintenance Costs

- EISA is a federal law (2007), that is aimed at reducing energy consumption. A portion of this law mandates the efficiency of metal halide ballasts, preventing the sale of 150W through 500W probe start metal halide luminaires. The existing City of Salina Downtown Streetlighting utilizes 175W probe start lamps and ballasts. While retrofitting of existing probe start ballasts was not required by EISA, the future availability of replacement probe start lamps is unclear. At this time, there are no government mandates to discontinue the probe start lamps and ballasts for use in existing systems. Since we are unsure on what will happen, we will look at the following three scenarios (these are ONLY “what-if” scenarios”):
 - Scenario 1: Probe Start Ballast and Lamps will be available for the life of the existing system. This was our original assumption and we used a normal 4% increase in cost per year for these replacement parts. We assumed a cost of \$80.60 for the ballast and a cost of \$20.80 for the lamp in year 1.
 - Scenario 2: Probe Start Ballasts and Lamps will continue to be available for the life of the system, but the cost to replace will increase at a higher rate (8-10%) per year starting in year 2015. Again, you could assume a cost of \$80.60 for the ballast and a cost of \$20.80 for the lamp in year 1. Cost would increase 4% per year to year 2014 and 8-10% after year 2014.
 - Scenario 3: Probe Start Ballasts and Lamps will continue to be available until 2014 (increasing at a cost of 8-10% per year until 2014), and then the ballasts and lamps will need to be replaced with the new pulse start ballast, lamp, and socket. Estimated cost in year 2015 for the new pulse start ballast, lamp, and socket is \$195.00. You could assume a cost of \$80.60 for the ballast and a cost of \$20.80 for the lamp in year 1. Cost would increase 8-10% to year 2014 and then the cost would go to \$195.00 in year 2015. This cost would then increase 4% per year after year 2015.



Preliminary Energy & O&M Savings Over the Life of the Project Based on Generation 2

- ❖ **Preliminary Annual Budget Electrical Savings:**
- ❖ \$35,013 total annual electrical savings in Year 1
- ❖ \$55,743 average over 23 years with 4% inflation

- ❖ **Preliminary Annual Budget O&M savings:**
- ❖ \$7,685 in Operations and Maintenance cost in Year 1
- ❖ \$12,236 average O&M savings over 23 years with 4% inflation

**Average Estimated Savings
Per Year.....\$67,979**

❖ *O&M Savings Does Not Include Labor Costs



Generation 2 Financial Model

1	Project	Downtown Lighting	First Pay:	2013								
2	Principal Amount		\$ 1,198,000.00					Energy Savings	O&M Savings, Baseline*	Total Savings	Net City-at-Large Cost	Present Value of Cost (2012)
3	Interest Rate		3.50%									
4	Term		15 Years									
5			Total Payment	Principal	Interest	Balance						
6						\$1,198,000						
7	1	2013	\$104,016	\$62,086	\$41,930	\$1,135,914	\$35,013	\$7,685	\$42,698	\$61,319	\$59,245	
8	2	2014	\$104,016	\$64,259	\$39,757	\$1,071,654	\$36,413	\$7,992	\$44,406	\$59,611	\$55,647	
9	3	2015	\$104,016	\$66,509	\$37,508	\$1,005,146	\$37,870	\$8,312	\$46,182	\$57,835	\$52,164	
10	4	2016	\$104,016	\$68,836	\$35,180	\$936,309	\$39,384	\$8,645	\$48,029	\$55,987	\$48,790	
11	5	2017	\$104,016	\$71,246	\$32,771	\$865,064	\$40,960	\$8,990	\$49,950	\$54,066	\$45,522	
12	6	2018	\$104,016	\$73,739	\$30,277	\$791,324	\$42,598	\$9,350	\$51,948	\$52,068	\$42,358	
13	7	2019	\$104,016	\$76,320	\$27,696	\$715,004	\$44,302	\$9,724	\$54,026	\$49,990	\$39,292	
14	8	2020	\$104,016	\$78,991	\$25,025	\$636,013	\$46,074	\$10,113	\$56,187	\$47,829	\$36,322	
15	9	2021	\$104,016	\$81,756	\$22,260	\$554,257	\$47,917	\$10,517	\$58,435	\$45,582	\$33,445	
16	10	2022	\$104,016	\$84,617	\$19,399	\$469,640	\$49,834	\$10,938	\$60,772	\$43,244	\$30,657	
17	11	2023	\$104,016	\$87,579	\$16,437	\$382,061	\$51,827	\$11,376	\$63,203	\$40,813	\$27,955	
18	12	2024	\$104,016	\$90,644	\$13,372	\$291,416	\$53,900	\$11,831	\$65,731	\$38,285	\$25,337	
19	13	2025	\$104,016	\$93,817	\$10,200	\$197,599	\$56,056	\$12,304	\$68,360	\$35,656	\$22,799	
20	14	2026	\$104,016	\$97,100	\$6,916	\$100,499	\$58,299	\$12,796	\$71,095	\$32,922	\$20,338	
21	15	2027	\$104,016	\$100,499	\$3,517	(\$0)	\$60,631	\$13,308	\$73,938	\$30,078	\$17,953	
22	16	2028					\$63,056	\$13,840	\$76,896	(\$76,896)	(\$44,346)	
23	17	2029					\$65,578	\$14,394	\$79,972	(\$79,972)	(\$44,561)	
24	18	2030					\$68,201	\$14,970	\$83,171	(\$83,171)	(\$44,776)	
25	19	2031					\$70,929	\$15,568	\$86,498	(\$86,498)	(\$44,992)	
26	20	2032					\$73,766	\$16,191	\$89,957	(\$89,957)	(\$45,210)	
27	21	2033					\$76,717	\$16,839	\$93,556	(\$93,556)	(\$45,428)	
28	22	2034					\$79,786	\$17,512	\$97,298	(\$97,298)	(\$45,647)	
29	23	2035					\$82,977	\$18,213	\$101,190	(\$101,190)	(\$45,868)	
30												
31	Totals		\$1,560,246	\$1,198,000	\$362,246		\$1,282,089	\$281,408	\$1,563,497	(\$3,251)	\$196,995	
32												
33												
34												

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Savings assume a 23 year life before replacement of LED Panels is necessary
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