



**State Apprenticeship  
Agency- Business Case  
Evaluation**

**August 2019**

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## EXECUTIVE SUMMARY

“The power and utilities industry is on the cusp of transformation driven by technological advances, decreasing energy intensity, heightened environmental awareness, and evolving customer expectations.” (Deloitte, 2017) Streetlight technology is no exception.

Advancements in light emitting diode technology (LEDs), and their application in street light fixtures, offer a variety of advantages to utilities and their customers alike. Those advantages include: reduced maintenance, improved lighting, reduced energy consumption, less vehicle emissions, a shift from universal waste to a recyclable product - and they don't attract bugs.

All of this is occurring while more and more utility customers are asking for an LED option. Our peer utilities (Avista, Rocky Mountain Power, Northwestern Energy, PacifiCorp, NV Energy) offer company-owned and maintained streetlights to their customers. All our peer utilities except Northwestern currently offer LED lights as an option and some are moving forward with mass changeout programs, converting existing HPS infrastructure to LED fixtures. Idaho Power customers like City of Blackfoot, City of Hailey, and many others have inquired about this option, asking that LEDs be made available. Those customers, like those across the nation, recognize the benefits offered by LED's and are eager to capitalize on those benefits.

With the advancement of LED manufacturing and increased product offerings by vendors, current technology such as high pressure sodium and mercury vapor bulbs (HPS and MV) are becoming obsolete. IPC has been informed, though informally, that some of the HPS bulbs we currently purchase will not be available in the near future as manufactures shift to LED lighting production.

In 2017, a cross-functional team was assembled as part of IPC's Business Cohort Program to evaluate our street light programs and the potential for an LED offering. The team had two objectives:

1. Determine if IPC should continue to engage in the business of owning and maintaining streetlights for its customers.
2. Evaluate and recommend leveraging technology advancements related to our current lighting offerings.

The team reviewed and documented the current state of our lighting programs. This review included all options available through our Idaho tariffs, the number of customers participating in each of these programs, the revenue generated and costs associated with maintenance and repair of Company owned streetlights.

Looking forward, an evaluation was completed that compared the revenue requirement of LED vs HPS fixtures over the life of the product, finding the LEDs to be more cost effective. With assistance from Finance, we built P-worth models, each of which indicate an LED offering would reduce the revenue requirement as compared to HPS. While revenue is expected to reduce, largely due to a reduction in maintenance activities, rate base is expected to increase yielding an increased net income.

It is our strong recommendation that we:

- Continue to offer IPC owned and maintained streetlights
- Create tariff offerings for new and existing customers taking service under IPC owned and maintained lighting (Schedules 15 and 41A) who wish to convert or install LED streetlights

- Implement a mass changeout of existing Schedules 15 and 41A HPS streetlights to LED fixtures over a 4-year period

We believe offering and converting to an LED lighting option provides sound and enduring financial impacts, displays IPC's environmental and social stewardship, and enhances Idaho Power's brand. *This is a true virtuous cycle project.*

**Commented [RA1]:** Just a sample of how we might structure the executive summary. This is from another business case I just finished and not relevant at all. Just a place holder. 😊

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## INTRODUCTION

Today, 27 U.S. States have elected to run their own State Apprenticeship agency. At the direction of the Idaho Workforce Development Council’s Executive Committee, a team was formed to evaluate the benefits, disadvantages and cost of creating and sustaining an apprenticeship agency in Idaho.

1. **Project Team ‘team’** : John Russ, Matt Thomsen, Angelique Rood
2. **SME’s:**

The team was tasked with answering the following questions:

- What support structure to other states use for Apprenticeship?
- What are the benefits disadvantages of a state apprenticeship agency?
- What costs would be associated with a state agency?

## CURRENT STATE OF APPRENTICESHIP SUPPORT

To determine how best to move forward with apprenticeship support, the team reviewed and documented the current state of apprenticeship support in Idaho. This review included support provided by the US DOL OA, IDOL, apprenticeship sponsors, and education.

The summary of the current state of apprenticeship support is shown in Table 1.

**Table 1**  
Current Support Structure PLACEHOLDER ONLY

Process	Current Support	Annual Time Spent (approx.)	Cost (if applicable)
Development of new program	UDOL		
	IDOL		
Completion Certificate Issuance	UDOL		

## FINDINGS (PLACEHOLDER WITH EXAMPLE BELOW FOR REF)

Our current practices and procedures for the request, installation, and maintenance of Idaho Power owned streetlights could be improved. Many processes are manual and vary by region, causing inefficiencies. Additionally, the pricing established for streetlight services is based on the 2011 cost of service estimates.

All our peer utilities (Avista, Rocky Mountain Power, Northwestern Energy, PacifiCorp, NV Energy) offer company-owned and maintained streetlights to their customers. Most offer LED lights and some are moving toward a mass changeout of HPS bulbs to more efficient LED fixtures.

As a primary objective of our project, we evaluated the benefits and disadvantages of light-emitting diode (LED) streetlights as compared to our current High-Pressure Sodium (HPS) bulbs. We compared the cost of installation and maintenance, energy consumption, the cost of salvage, environmental impacts, and other factors. These findings are detailed below.

We evaluated the estimated costs of a mass conversion from HPS to LED and the potential savings a changeout would provide. A mass change out to LED's would result in an approximate energy consumption decrease of 8,000 MWh. A change out would significantly reduce required maintenance leading to substantial O&M savings. Finance completed a P-worth model comparing several scenarios of LED offering, each of which indicate an LED offering would reduce the revenue requirement as compared to HPS. While revenue is expected to reduce, largely due to a reduction in maintenance activities, rate base is expected to increase yielding an increase in net income.

## DRIVERS

The team considered the following five drivers when evaluating options for Apprenticeship support:

1. **Cost Benefit:** Ensure program structure is in the best interest of Idaho from a cost benefit perspective.
2. **Sustainment of Existing Programs:** Provide programs and apprentices with timely and knowledgeable support for daily care and feeding and more robust requests like modification of program guidelines.
3. **Increase the Number of Apprenticeship Opportunities:** Support the growth of apprenticeship in Idaho through promotion apprenticeship, knowledgeable support of program creation, and .....
4. **Competitiveness:** Ensure the support of Idaho Apprenticeship remains competitive to recruit companies and apprentices who desire to participate in apprenticeship programs.

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Details on each driver and how it impacts our recommendations can be found below.

## Cost-Benefit

Balance the interest of apprenticeship participants and the general public by evaluating and controlling expenditures while offering sustainable support for apprenticeship either via federal or state funds. Considerations included:

- Current support at no cost via USDOL
- Declining IDOL funding
- Etc

SAMPLE PLACEHOLDER ONLY BELOW

### Revenue Requirement- State Apprenticeship Support (Current)

<i>Annual Revenue- Pworth Model</i>					
Year	2020	2021	2022	2023	2024
Labor with OH	\$200,000	\$225,000	\$250,000	\$300,000	\$325,000
Materials	\$50,000	\$51,000	\$55,000	\$60,000	\$65,000
OTHER	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Grant Funding	(\$500,000)	(\$250,000)	(\$250,000)	(\$250,000)	(\$250,000)
Revenue Requirement	(\$225,000)	\$51,000	\$80,000	\$135,000	\$165,000

### Revenue Requirement- State Apprenticeship Support (Via State Agency)

<i>Annual Revenue- Pworth Model</i>					
Year	2020	2021	2022	2023	2024
Labor with OH	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
Materials	\$50,000	\$51,000	\$55,000	\$60,000	\$65,000
Office Expedetures	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
OTHER	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Revenue Requirement	\$575,000	\$576,000	\$580,000	\$585,000	\$590,000

### Revenue Requirement- State Apprenticeship Support (Blended Model)

<i>Annual Revenue- Pworth Model</i>					
Year	2020	2021	2022	2023	2024
Labor with OH	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Materials	\$50,000	\$51,000	\$55,000	\$60,000	\$65,000
Office Expedetures	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
OTHER	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Revenue Requirement	\$275,000	\$276,000	\$280,000	\$285,000	\$290,000



## Sustainment

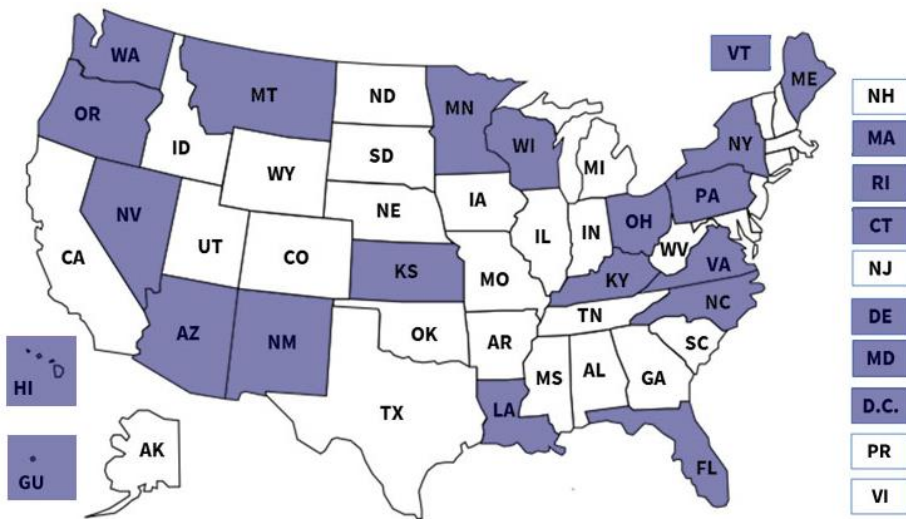
## Growth

## Competitiveness

## State Trends

Add paragraph summarizing other states and their models

Type of State:  State  Federal



State	State/Federal	Established (Year)	Funding Mechanism	Structure


\*Data accurate as of

### RECOMMENDATIONS

It is Team’s recommendation Idaho xxxx for the following reasons:

- Reason with data supporting
- Reason with data supporting
- Reason with data supporting
- Reason with data supporting
- Reason with data supporting

Paragraph summarizing

**Recommendation 1:**

**Overview-**

**Proposed Timeline**

**2018:**

- 202X: Planning phase
- 202X – 202X: Implementation phase
- DATE/Deliverable

**Benefits**

- List with data
- List with data
- List with data

**Resource Requirements**

**WHO:** What

**WHO:** What

**WHO:** What

**WHO:** What

**Recommendation 2:**

**Overview-**

**Proposed Timeline**

- 202X: Planning phase
- 202X – 202X: Implementation phase

**Benefits**

**Resource Requirements**

**WHO:** What

**WHO:** What

**WHO:** What

**WHO:** What

**WHO:** What

## Alternatives Considered

1. **Make no change.**
  - Why/Not
2. **Other**
  - Why/Not
3. **Other**
  - Why/Not
  - .
4. **Other**
  - Why/Not

## Conclusions and Next Steps

Summary.

Next steps are as follows:

1. What
2. What
3. What

**APPENDIX**

**P-Worth Model and Net Income Data**

**Revenue Requirement Comparison and Net Income Analysis**

**NPSE Impact Analysis**

**Financial Analysis Assumptions**