

SPRING CITY
Electric Power
Impact Fee Analysis

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EXECUTIVE SUMMARY

General:

This report documents the study performed by Active Power Engineering, LLC, for Spring City Power to update the Spring City Power Electric Impact Fee Analysis.

The Utah impact fee statute Title 11 Chapter 36a "Impact Fee Act" requires the city imposing impact fees to (1) prepare an Impact Fee Facilities Plan, (2) perform an Impact Fee Analysis, (3) calculate the Impact Fee(s), and (4) certify the Impact Fee Facilities Plan and Impact Fee Analysis.

This report includes an Impact Fee Facilities Plan, Impact Fee Analysis, calculated Impact Fees and certification of the Impact Fee Facilities Plan and Impact Fee Analysis.

This report provides the background, requirements, basis, projects and analysis for new customer electric impact fees that must be collected for new electric service to be connected. The impact fee applies to new services and upgraded services. The 5-year period 2021 to 2025 was used in this impact fee analysis.

Impact Fee Facilities Plan (IFFP):

According to the Statute, the "Impact Fee Facilities Plan ("IFFP") shall identify (a) demands placed upon existing public facilities by new development activity; and (b) the proposed means by which the political subdivision will meet those demands."

The Impact Fee Facilities Plan (IFFP) in this analysis references and is consistent with prior work performed by Intermountain Consumer Professional Engineers, Inc., on a Spring City Capital Facilities Plan (June 2020). The projected demand placed upon the Spring City electric power system is directly tied to the forecasted population growth. Historic growth in population has averaged about 3.7% to 5.5%. Power demand growth rate has averaged about 5.4% and is projected continue to be between 3.9% to 5.2% per year going forward. Spring City power system load was 1,180 kilo-watts (kW) in 2020. Spring City is forecast to add 326 kW of new development power demand between 2021 and 2025, reaching about 1,425 kW in 2025.

To serve the projected power demand Spring City Power plans to complete the conversion of the 4.16 kilovolts (kV) distribution system to operate at 12.47 kV. The IFFP includes the remaining distribution system voltage conversion, replacement of a 4.16 kV recloser with a 12.47 kV recloser, and installation of a three-phase 12.47 kV switch at the new normally open point between the two circuit branches. These facilities achieve the level of service for customers of the Spring City Power system. The total estimated cost of these projects is about \$187,000. The projects add about 1,430 kilo-volt-amperes (kVA) of system capacity.

Impact Fee Analysis (IFA):

The Impact Fee Analysis ("IFA") portion of the Statute states that (1) "each local political subdivision or private entity intending to impose an impact fee shall prepare a written analysis of each impact fee:" and (2) "shall also prepare a summary of the impact fee analysis designed to be understood by a lay person."

Electric impact fees in Spring City are calculated using incremental costs. This method determines what new developments pay for improvements or a portion of the improvements needed to serve them. This is a "capacity-based" fee structure. In this way existing customers are not burdened by the new growth.

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The Impact Fee Analysis involves three basic steps or sub-analyses: (1) determining an Impact Fee rate that applies a cost per each kVA of new power demand from development ; (2) determining the kVA power demand for the typical customer types and service levels; and (3) calculating the proposed Impact Fee.

The Impact Fee rate was calculated by dividing the IFFP total project cost (adjusted for construction cost escalation, and interest earned on collected impact fees) by the added system capacity. The Impact Fee rate has been calculated to be \$144.30/kVA.

The kVA power demand for residential customers was determined from the typical kW demand experienced by Spring City on 100-amp to 200-amp, and 225-amp to 400-amp services and the typical power factor. The kVA power demand for commercial customers was calculated using the service panel size, type (i.e., single phase or three phase), voltage, power factor and the panel utilization factor typical for commercial customers.

Sample recommended Impact Fees calculated using the Impact Fee rate and typical customer power demand are shown below. Complete tables of recommended Impact Fees are included in the Appendix.

Residential Service Level	Typical Power Demand (kW Impact)	Power Factor	Est. kVA Impact	Recommended Impact Fee
100-200 Amp	5	95.0%	5.3	\$759
225-400 Amp	9	95.0%	9.5	\$1,367
Type of Commercial Service	Typical Power Demand (kW Impact)	Power Factor	Est. kVA Impact	Recommended Impact Fee
Single Phase 120/240 V 200 Amp Panel	17.3	90.0%	19.2	\$2,771
Three Phase 120/208 V 200 Amp Panel	25.9	90.0%	28.8	\$4,159

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Conclusions: The analysis documented in this report satisfies the Impact Fee Act requirements. The Electric Power Impact Fee can be implemented upon Spring City council approval and completion of the other appropriate steps outlined in the Utah Impact Fee Act.

1 IMPACT FEE STUDY--GENERAL

1.1 INTRODUCTION

The purpose of this study is to update the Spring City Electric Power Impact Fee Analysis. This will help the city determine an impact fee for new electrical customers. This document provides the background, requirements, basis, projects and analysis for new customer impact fees that must be collected for new electric service to be connected. The impact fee applies to new services and upgraded services.

This analysis was performed using publicly available information, information supplied by Spring City, and spreadsheets developed for conducting this analysis. Certain assumptions about areas of development, growth rates, and needed projects were used in the analysis in arriving at the recommended impact fee. These assumptions are believed to be appropriate and reasonable for the impact fee analysis. The 5-year period 2021 to 2025 was considered in this impact fee analysis.

This analysis complies with all the requirements of the Utah "Impact Fees Act", Utah Statute U.C.A 11-36a.

The Electric Power Impact Fee can be implemented upon Spring City council approval and completing the other appropriate steps outlined in the Impact Fees Act.

1.2 IMPACT FEE STATUTE REQUIREMENTS

The Utah impact fee statute requires the city imposing impact fees to (1) prepare an Impact Fee Facilities Plan, (2) perform an Impact Fee Analysis, (3) calculate the Impact Fee(s), and (4) certify the Impact Fee Facilities Plan and Impact Fee Analysis. This report documents the completion of all four of these requirements.

According to the statute, the "Impact Fee Facilities Plan ("IFFP") shall identify (a) demands placed upon existing public facilities by new development activity; and (b) the proposed means by which the political subdivision will meet those demands."

The Impact Fee Analysis ("IFA") portion of the Statute states that (1) "each local political subdivision or private entity intending to impose an impact fee shall prepare a written analysis of each impact fee:" and (2) "shall also prepare a summary of the impact fee analysis designed to be understood by a lay person." The requirements of the IFA include identifying the estimated impacts on existing capacity and system improvements caused by the anticipated development activity. The political subdivision must also estimate the proportionate share of:

(i) the costs of existing capacity that will be recouped and (ii) the costs of the impacts on system improvements that are reasonably related to the new development activity.

The calculation of the Impact Fee may include the following:

- (a) The construction contract price;
- (b) The cost of acquiring land, improvements, materials, and fixtures;
- (c) The cost for planning, surveying, and engineering fees for services provided for and directly related to the construction of the system improvements; and
- (d) For a political subdivision, debt service charges, if the political subdivision might use impact fees as a revenue stream to pay the principal and interest on bonds, notes or other obligations issued to finance the costs of the system improvements.

Also, the calculation of the Impact Fee must be based on realistic estimates and the assumptions underlying such estimates must be disclosed in the impact fee analysis.

2 IMPACT FEE FACILITIES PLAN (IFFP) FOR SPRING CITY POWER SYSTEM

2.1 GENERAL

Spring City Power, is a municipal electric utility serving approximately 592 customers in Spring City, and the nearby adjacent area in Sanpete County, Utah. The Spring City Power system coincident peak demand was 1,180 kilo-watts (kW) in summer 2020. The utility's service area is about 10.8 square miles including all of Spring City limits (1.4 square miles) and an additional adjacent area of Sanpete County served by Spring City utilities. Spring City owns and operates one hydroelectric generator that is rated 300 kW. The power system consists of a source from the Rocky Mountain Power Pine Creek substation at 12.47 kilo-volts (kV) that feeds one 12.47 kV recloser and one 1000 kilo-volt-amp (kVA) 12.47 kV to 4.16 kV transformer. A map of the city and power system is shown in Figure 1.

The Impact Fee Facilities Plan (IFFP) in this analysis references and is consistent with prior work performed by Intermountain Consumer Professional Engineers, Inc., on a Spring City Capital Facilities Plan (June 2020)¹, that was provided by Spring City for use in this analysis.

¹ *Spring City – Capital Facilities Plan Electrical 2020. Intermountain Consumer Professional Engineers, Inc.*

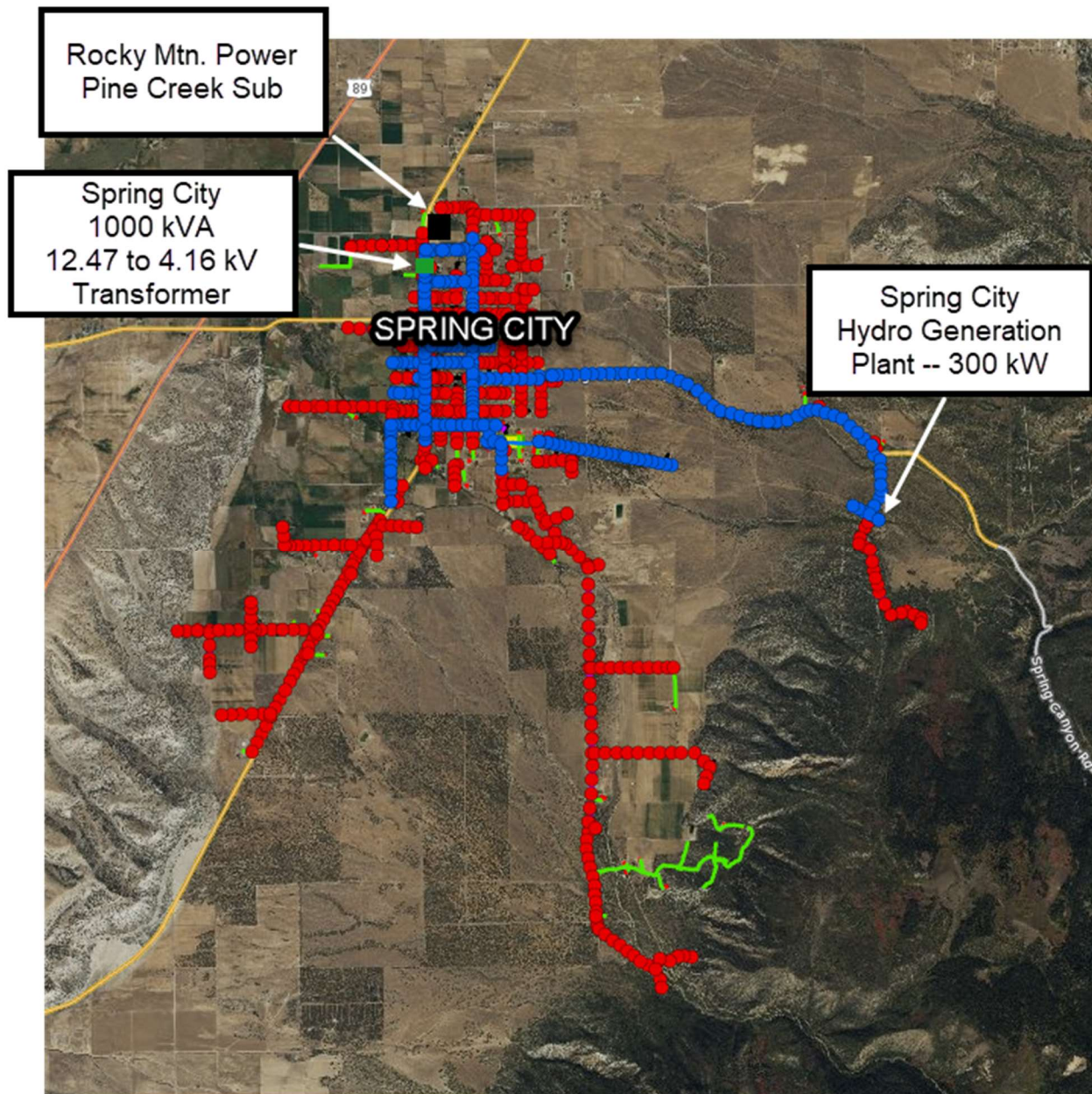


Figure 1-Spring City Power System Map

Spring City is a member of the Utah Associated Municipal Power Systems (UAMPS) organization. UAMPS is a member organization that provides wholesale electric-energy, transmission, and other energy services, on a nonprofit basis, to municipal-owned power systems. Spring City is able to participate along with other municipalities in projects including wind, natural gas, hydroelectric and coal-fired generation.

2.2 POPULATION AND GROWTH

The population of Spring City in 2019 was estimated by the Utah Governor’s Office to be 1,178. The estimated population provided by Spring City for 2020 is 1,200. Population growth rate averaged over 2016-2020 is 3.7% to 5.5%, and the most recent year growth was about 1.9%.

2.2.1 POPULATION FORECAST

A population growth rate of 3.5% was applied over the 5-year period, 2021 to 2025, in this impact fee analysis. The estimated historic and projected future population of Spring City is shown in Figure 2.

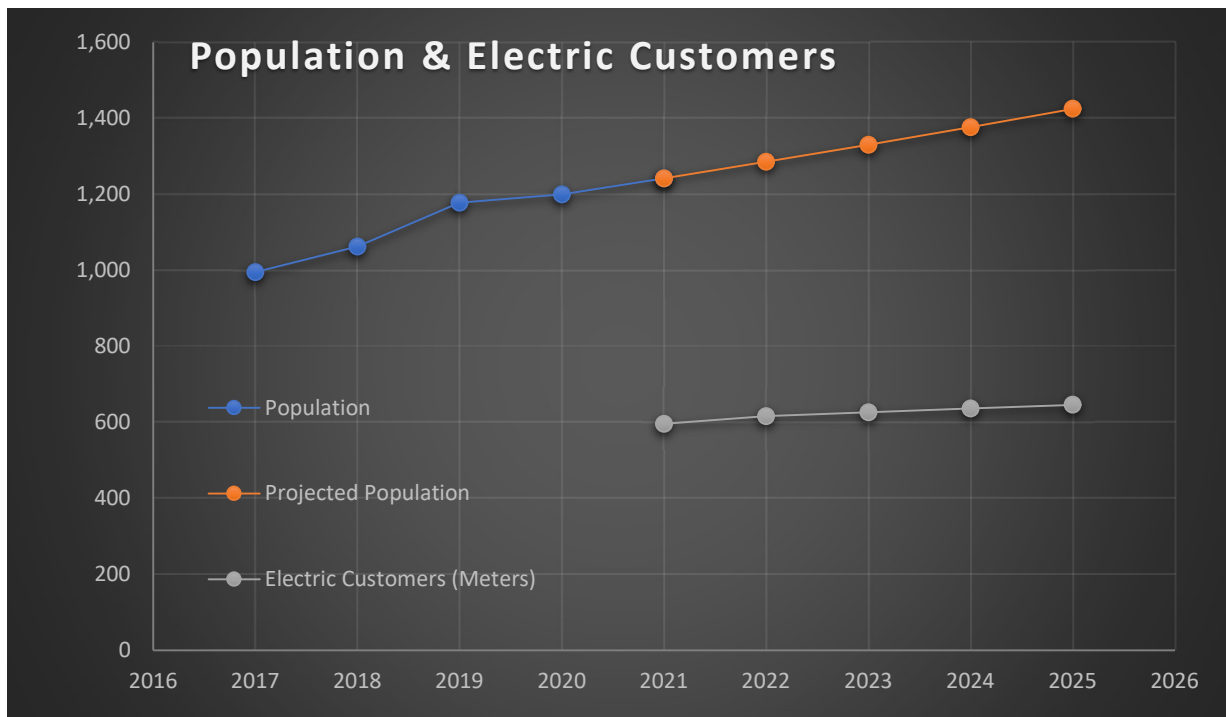


Figure 2 – Spring City Population and Electric Customers

2.2.2 ELECTRIC CUSTOMERS

Spring City has about 580 electric meters installed as of 2020. Each meter is considered a customer, so the ratio of customers to population is 580:1,200 or 1 meter per 2.1 people. An estimated projection of new meters or customers can be made from the population projection and the meters per population ratio. The projected number of total electric customers, or meters, is shown in Figure 2.

2.2.3 CUSTOMER FORECAST

The estimate for new meters is an average of 13 per year, some years might be less and some years might be more. Based on 2020 data, 95% of the meters are for residential customers, 5%