IMPACT FEE FACILITIES PLAN (IFFP) & IMPACT FEE ANALYSIS (IFA) PURSUANT TO 11-36A, UTAH CODE

ENERGY FACILITIES

NOVEMBER 2020

CITY OF ST. GEORGE, UTAH





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IMPACT FEE FACILITIES PLAN & ANALYSIS CERTIFICATION

IFFP CERTIFICATION

LYRB certifies that the attached impact fee facilities plan:

- 1. includes only the costs of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
- 2. does not include:
 - a. costs of operation and maintenance of public facilities;
 - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and,
- 3. complies in each and every relevant respect with the Impact Fees Act.

IFA CERTIFICATION

LYRB certifies that the attached impact fee analysis:

- 1. includes only the costs of public facilities that are:
 - a. allowed under the Impact Fees Act; and
 - b. actually incurred; or
 - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
- 2. does not include:
 - a. costs of operation and maintenance of public facilities;
 - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
 - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement;
- 3. offsets costs with grants or other alternate sources of payment; and,
- 4. complies in each and every relevant respect with the Impact Fees Act.

LYRB makes this certification with the following caveats:

- 1. All of the recommendations for implementations of the IFFP made in the IFFP documents or in the IFA documents are followed by City Staff and elected officials.
- 2. If all or a portion of the IFFP or IFA are modified or amended, this certification is no longer valid.
- 3. All information provided to LYRB is assumed to be correct, complete, and accurate. This includes information provided by the City as well as outside sources.

LEWIS YOUNG ROBERTSON & BURNINGHAM, INC.



SECTION 1: EXECUTIVE SUMMARY

The purpose of the Municipal Power Impact Fee Facilities Plan ("IFFP"), with supporting Impact Fee Analysis ("IFA"), is to fulfill the requirements established in Utah Code Title 11 Chapter 36a, the "Impact Fees Act", and assist the City of St. George (the "City") in financing and constructing necessary capital improvements for future growth. This document will address the future infrastructure needed to serve the City through the next ten years, as well as the appropriate impact fees the City may charge to new growth to maintain the level of service ("LOS"). The City provided much of the information utilized in this report.

- Impact Fee Service Area: The municipal power service area ("Service Area") covers a portion of the City and is defined in SECTION 3. The remaining portion of the City is served by the Dixie Power Cooperative. The City's electric system serves a majority of the commercial businesses within St. George.
- Demand Analysis: The proposed impact fees are based upon the costs of capital infrastructure that will be necessary to serve new development. A total of 26,330 additional kilowatts ("kWs") of demand will be generated within the current Service Area. See SECTION 3 for details regarding growth in kW and equivalent residential units ("ERUs").
- Level of Service: The power LOS, as defined by the City of St. George Energy Services Department, is based on the diversified kW for residential and non-residential development. Diversified kW is defined as the summed individual peak demand or coincidental peak, which is the average peak demand of a sample of customers. SECTION 3 provides the diversified kW by service description. New facilities are designed to maintain the diversified kW LOS.
- **Excess Capacity:** The City does not have excess capacity to generate energy during peak periods. Short-term market purchases are required to supply energy during peak periods. There is excess capacity within the Green Valley transmission line and substation that is available for growth, the actual cost of which is included in the impact fee calculation.¹
- Capital Facilities Analysis: The costs of future system improvements related to growth and funded with impact fees are estimated at \$20 million. This does not include the buy-in component, the impact fee fund balance or professional expense.
- **Funding of Future Facilities:** At the request of the City, no financing costs are included in this analysis and thus assumes all future facilities will be funded on a cash basis.

PROPOSED POWER IMPACT FEE

PLAN BASED (FEE BASED ON DEFINED CAPITAL IMPROVEMENT PLAN)

Impact fees can be calculated using a specific set of costs specified for future development. The improvements are identified in the IFFP, Capital Facilities Plan ("CFP") or Capital Improvement Plan ("CIP") as growth related projects. The total project costs are divided by the total demand units the projects are designed to serve. Under this methodology, it is important to identify the existing LOS and determine any excess capacity in existing facilities that could serve new growth.

POWER IMPACT FEE CALCULATION

Based on the growth-related projects, as well as the applicable buy-in fee, the cost per new kW is shown in **TABLE 1.1**. The fee per kW is then applied to the general usage statistics for residential and non-residential users, as shown in **TABLE 1.2** through **1.3**.

Power Projects	TOTAL COSTS WITHIN IFFP HORIZON	AVERAGE % GROWTH RELATED & IMPACT FEE FUNDED	GROWTH RELATED & IMPACT FEE FUNDED COSTS	GROWTH RELATED KW	Cost per New KW
Green Valley Buy-In ¹	\$11,680,125	35%	\$4,100,502	26,330	\$156
Future Generation Additions	\$7,420,293	-	-	26,330	-
Future Distribution and Transmission	\$31,164,141	64%	\$19,996,843	26,330	\$759
Professional Expense ²	\$9,675	100%	\$9,675	26,330	\$1
Total ³	\$50,274,234		\$24,107,021		\$916

TABLE 1.1: ILLUSTRATION OF COST PER NEW KW

¹ The Green Valley transmission and substation were built to serve the west side load and provide backup to the Skyline and River substations. Due to economies of scale and transformer size, a 75 MW transformer was installed with a future bay and additional transformer pad to the west side. The current remaining capacity of these facilities is 32,868 kW and a value of \$5,118,768. The capacity of this project will serve beyond the 10-year span of this study; therefore, the costs are apportioned accordingly.

² This is the actual cost to update the IFFP and IFA. The City can use this portion of the impact fee to reimburse itself for these expenses.

³ As of June 30, 2019 the electric utility impact fee fund balance was negative \$2,056,553. The negative balance is not included in this analysis.

TABLE 1.2: ILLUSTRATION OF RESIDENTIAL IMPACT FEE

SERVICE DESCRIPTION	Est. KW	COST PER KW	PROPOSED IMPACT FEE	2014 IMPACT FEE	% CHANGE	\$ CHANGE
100 Amp - 240/120 V	4.25	\$916	\$3,893	\$3,646	7%	\$247
200 Amp - 240/120 V	5.25	\$916	\$4,809	\$4,504	7%	\$305
400 Amp - 240/120 V	9.00	\$916	\$8,244	\$7,721	7%	\$523

TABLE 1.3: ILLUSTRATION OF NON-RESIDENTIAL (COMMERCIAL) IMPACT FEE

SERVICE DESCRIPTION	PANEL RATING	Est. Average Diversified KVA*	ESTIMATED DIVERSIFIED KW	Cost per KW	PROPOSED IMPACT FEE	2014 IMPACT Fee	% CHANGE	\$ CHANGE
Single Phase Service								
240/120 V	200	7.92	7.13	\$916.00	\$6,529	\$6,115	7%	\$414
240/120 V	400	15.84	14.26	\$916.00	\$13,058	\$12,230	7%	\$828
Three Phase Service								
	200	15.85	14.27	\$916.00	\$13,068	\$12,239	7%	\$829
	400	31.70	28.53	\$916.00	\$26,136	\$24,479	7%	\$1,657
208Y/120 V	800	63.41	57.07	\$916.00	\$52,273	\$48,958	7%	\$3,315
	1,200	95.11	85.60	\$916.00	\$78,409	\$73,437	7%	\$4,972
	2,000	158.52	142.67	\$916.00	\$130,682	\$122,395	7%	\$8,287
	200	36.58	32.92	\$916.00	\$30,157	\$28,245	7%	\$1,912
	400	73.16	65.85	\$916.00	\$60,315	\$56,490	7%	\$3,825
480Y/277 V	800	146.32	131.69	\$916.00	\$120,629	\$112,980	7%	\$7,649
	1,200	219.49	197.54	\$916.00	\$180,944	\$169,469	7%	\$11,475
	2,000	365.81	329.23	\$916.00	\$301,573	\$282,449	7%	\$19,124

NON-STANDARD IMPACT FEES

The proposed fees are based upon growth in kWs. The City reserves the right under the Impact Fees Act to assess an adjusted fee that more closely matches the true impact that the land use will have upon public facilities.⁴ A developer may submit studies and data for a particular development and request an adjustment. This adjustment could result in a higher or lower impact fee if the City determines that a particular user may create a different impact than what is standard for its land use.

Estimated kW Diversified Usage * \$916



The purpose of this study is to fulfill the requirements of the Impact Fees Act regarding the establishment of an IFA⁵. The IFFP is designed to identify the demands placed upon the City's existing facilities by future development and evaluate how these demands will be met by the City, as well as the future improvements required to maintain the existing LOS. The purpose of the IFA is to proportionately allocate the cost of the new facilities and any excess capacity to new development, while ensuring that all methods of financing are considered. The following elements are important considerations when completing an IFA.

DEMAND ANALYSIS

The demand analysis serves as the foundation for this analysis. This element focuses on a specific demand unit related to each public service – the existing demand on public facilities and the future demand as a result of new development that will impact system facilities.

LEVEL OF SERVICE ANALYSIS

The demand placed upon existing public facilities by existing development is known as the existing LOS. Through the inventory of existing facilities, combined with the growth assumptions, this analysis identifies the LOS which is provided to a community's existing residents and ensures that future facilities maintain these standards.

EXISTING FACILITY INVENTORY

In order to quantify the demands placed upon existing public facilities by new development activity, the IFFP provides an inventory of the City's existing system facilities. The inventory does not include project improvements. The inventory of existing facilities is important to properly determine the excess capacity of existing facilities and the utilization of excess capacity by new development. Any excess capacity identified within existing facilities can be apportioned to future new development.

FUTURE CAPITAL FACILITIES ANALYSIS

The demand analysis, existing facility inventory and LOS analysis allow for the development of a list of capital projects necessary to serve new growth and to maintain the existing system. This list includes any excess capacity of existing facilities, as well as future <u>system improvements</u> necessary to maintain the level of service. Any demand generated from new development that overburdens the existing system beyond the existing capacity justifies the construction of new facilities.

FINANCING STRATEGY

This analysis must also include a consideration of all revenue sources, including impact fees, debt issuance, alternative funding sources, and the dedication (aka donations) of system improvements, which may be used to finance system improvements.⁶ In conjunction with this revenue analysis, there must be a determination that impact fees are necessary to achieve an equitable allocation of the costs of the new facilities between the new and existing users.⁷

PROPORTIONATE SHARE ANALYSIS

The written impact fee analysis is required under the Impact Fees Act and must identify the impacts placed on the facilities by development activity and how these impacts are reasonably related to the new development. The written impact fee analysis must include a proportionate share analysis, clearly detailing each cost component and the methodology used to calculate each impact fee. A local political subdivision or private entity may only impose impact fees on development activities when its plan for financing system improvements establishes that impact fees are necessary to achieve an equitable allocation of the costs borne in the past and to be borne in the future (UCA 11-36a-302).

SYSTEM VS. PROJECT IMPROVEMENTS

System improvements are defined as existing and future public facilities designed and intended to provide

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FIGURE 2.1: IMPACT FEE METHODOLOGY



⁵ UC 11-36a-301,302,303,304

^{6 11-36}a-302(2)

⁷¹¹⁻³⁶a-302(3)



services to service areas within the community at large.⁸ Project improvements are improvements and facilities that are planned and designed to provide service for a specific development (resulting from a development activity) and considered necessary for the use and convenience of the occupants or users of that development.⁹ References to facilities, amenities, projects, etc. within this analysis are referring to System Improvements unless otherwise stated.

⁹ 11-36a102(13)

^{8 11-36}a-102(20)

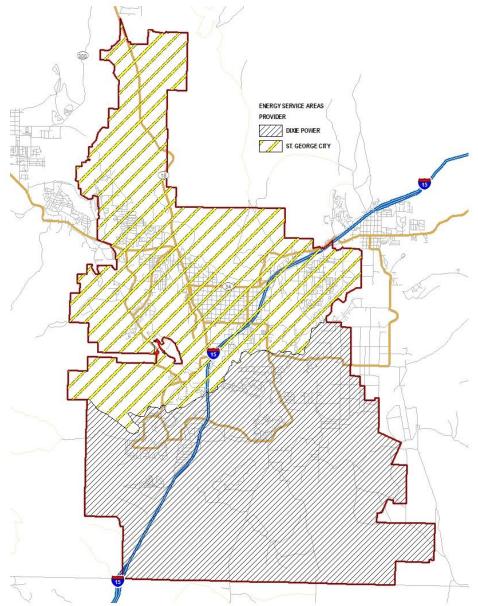


SECTION 3: OVERVIEW OF SERVICE AREA, DEMAND, AND LOS

SERVICE AREA

Utah Code requires the impact fee enactment to establish one or more service areas within which impact fees will be imposed.¹⁰ The City's electrical system serves properties located north of the Virgin River and is outlined in **FIGURE 3.1**. A portion of the City is served by the Dixie Power Cooperative. The City's electric system serves approximately 85.4 percent of residential customers and the majority of the commercial businesses within the City of St. George. The City of St. George Energy Service Department has determined the recommended capital projects that will maintain the established LOS. All information regarding the existing power LOS, projected system load growth, future power capital projects, and proposed power impact fee relates to the City of St. George Municipal Power and the area served by the City of St. George Municipal Energy Services Department.

FIGURE 3.1: ST. GEORGE MUNICIPAL POWER SERVICE AREA



10 UC 11-36a-402(a)

DEMAND UNITS

The City of St. George Municipal Power system is in need of expansion to perpetuate the LOS that the City has historically maintained as new growth and development activity continue to occur within the area served by the City of St. George Municipal Energy Services Department. Although the City-wide growth is anticipated to increase at an average annual rate of approximately 3.6 percent over the next ten years, a portion of the growth is anticipated to occur outside of the City of St. George Municipal Energy Services Department's Service Area and therefore the growth in kW reflects a lower annual percent change (See **TABLES 3.1** and **3.2**).

DEMAND UNITS

To accurately determine the portion of the costs of future capital infrastructure that should be included in the impact fees, this analysis projects the future growth in kilowatts (kW) and ERUs. The demand unit used in the calculation of the power impact fees is the estimated summer peak load, or power capacity, measured kW. The summer peak values are used because the City's power system is required by the Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC) to meet national reliability standards, which dictate the required design load levels. The City of St. George Energy Services Department has projected the existing and future kWs within the Service Area through 2029. **TABLE 3.2** summarizes the projected annual increase in kWs within the Service Area.

TABLE 3.1: PROJECTED GROWTH IN POPULATION (CITY-WIDE)					
YEAR	POPULATION	% CHANGE IN POPULATION			
2019	100,822				
2020	103,851	3.00%			
2021	107,600	3.61%			
2022	111,484	3.61%			
2023	115,509	3.61%			
2024	119,679	3.61%			
2025	123,999	3.61%			
2026	128,475	3.61%			
2027	133,113	3.61%			
2028	137,919	3.61%			
2029	142,898	3.61%			
10-Year Demand	42,076				

TABLE 3.2: PROJECTED GROWTH	I IN KILOWATTS IN SERVICE AREA
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YEAR	LOAD	CHANGE IN KW	PERCENT CHANGE IN KW
2019	191,020	-	-
2020	193,500	2,480	1.30%
2021	196,020	2,520	1.30%
2022	198,560	2,540	1.30%
2023	201,150	2,590	1.31%
2024	203,760	2,610	1.30%
2025	206,410	2,650	1.30%
2026	209,090	2,680	1.30%
2027	211,810	2,720	1.30%
2028	214,560	2,750	1.30%
2029	217,350	2,790	1.30%
10-Year Demand		26,330	1.30%

It is anticipated that the growth will impact the City's existing services. Power facilities will need to be expanded in order to maintain the existing LOS. The IFFP, in conjunction with the impact fee analysis, are designed to accurately assess the true impact of a particular user upon the City's infrastructure.

LEVEL OF SERVICE STANDARDS

Impact fees cannot be used to finance an increase in the LOS to current or future users of capital improvements. Therefore, it is important to identify the power LOS within the Service Area to ensure that the new capacities of projects financed through impact fees do not exceed the established standard. The power LOS, as defined by the City of St. George Energy Services Department, is based on the diversified kW for residential and non-residential development. Diversified kW is defined as the summed individual peak demand or coincidental peak, which is the average peak demand of a sample of customers. The tables below illustrate the diversified kW by service description. New facilities are designed to maintain the diversified kW LOS. A comparison of estimated demand for residential customers confirms the adopted LOS shown below. According to the City, residential classes account for approximately 140,984 kW and based upon 25,214 residential customers, which produces an average kW load of 5.59 per residential account.

SERVICE DESCRIPTION	Est. KW
100 Amp - 240/120 V	4.25
200 Amp - 240/120 V	5.25
400 Amp - 240/120 V	9.00

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TABLE 3.4: NON-RESIDENTIAL LEVEL OF SERVICE

SERVICE DESCRIPTION	PANEL RATING	100% PANEL KVA	AVG PANEL LOADING	AVG PEAK DEMAND @ PANEL (KVA)	EST. CUSTOMER CLASS DIVERSITY	EST. AVERAGE DIVERSIFIED KVA	ESTIMATED DIVERSIFIED KW (1)
Single Phase S	Service						
240/120 V	200	48	30%	14.40	55%	7.92	7.13
240/120 V	400	96	30%	28.80	55%	15.84	14.2
Three Phase S	ervice		·				
	200	72	40%	28.82	55%	15.85	14.2
	400	144	40%	57.64	55%	31.70	28.5
208Y/120 V	800	288	40%	115.29	55%	63.41	57.0
	1,200	432	40%	172.93	55%	95.11	85.6
-	2,000	721	40%	288.21	55%	158.52	142.6
	200	166	40%	66.51	55%	36.58	32.9
-	400	333	40%	133.02	55%	73.16	65.8
480Y/277 V	800	665	40%	266.04	55%	146.32	131.6
	1,200	998	40%	399.06	55%	219.49	197.5
	2,000	1,663	40%	665.11	55%	365.81	329.2

SECTION 4: EXISTING FACILTIES INVENTORY

This section is intended to summarize the existing public facilities related to power services. Generally, existing assets are separated into two areas: (1) Power Resources (aka Generation); and, (2) City Transmission and Distribution System Improvements.

VALUE OF EXISTING POWER INFRASTRUCTURE

Based upon the City's 2018 electric utility depreciation schedule, the existing power system is valued at approximately \$162 million, based on original cost, as shown in TABLE 4.1.

Ітем	ORIGINAL COST
Building	\$85,640,858
Equipment	\$8,100,546
Improvements	\$10,374,415
Land	\$351,726
System	\$57,809,597
Total	\$162,277,141

EXCESS CAPACITY

Power Resources

Careful management and planning of the City's power energy resources is critical to maintain a reliable electrical system and keep costs to a minimum. The cost of the power that the City must either purchase or generate is the largest component of the Energy Services budget. **TABLE 4.2** illustrates the existing resources available to the City, including market purchases.

GENERATION TYPE	Source	2018 MW
Coal	Deseret Generation and Transmission Base	50
Hydro	Western Area Power Authority - Colorado River Storage Project (CRSP)	15
Hydro	Jordanelle Hydro	4
Natural Gas	City of St. George Millcreek #1	40
Natural Gas	City of St. George Millcreek #2	40
Renewables	Solar - City of St. George SunSmart Program/Power Purchase Agreement (PPA)	4
Market	Western Area Power Authority Spot Market	5
Sub Total	Before Real Time Market	158
	Real Time	33
Grand Total	Total after Market	191
	2018 Peak Load	191
	Excess Capacity	-

TABLE 4.2: EXISTING POWER RESOURCES

The shape of an electrical system's load indicates the type of resources that are needed to supply the load. The City's system is summer peaking, which is caused by the heavy air conditioning load during hot summer days. This indicates that there is excess capacity in the system during the winter months but no excess capacity in the summer months. In fact, the City often has to go to the market to purchase power when demand peaks at a level higher than City sources are able to provide. In 2005 and 2008 the City added an additional 77 MW of capacity with Millcreek #1 and Millcreek #2. The City has historically followed a policy to purchase up to 25MW from the market, at which point an additional generation resource is constructed. Based on the 2018 Peak Load and available capacity, it is anticipated that additional generation resources will be required in the IFFP planning timeframe. Additional Sources include the Solar SunSmart Program Power Purchase Agreement and other Power Purchase Agreements. The City may need to construct additional power generation facilities near 2028 or 2029. Due to the uncertainty related to the timing of these facilities, they have been excluded from this analysis. The City should periodically review the IFFP and IFA to determine if additional generation resources will be needed.



CITY TRANSMISSION & DISTRIBUTION FACILITIES

The City maintains a network of transmission and distribution infrastructure. While segments of this infrastructure may have excess capacity, it is difficult to quantify the excess capacity within individual transmission and distribution lines or segments. The system operates as a whole and provides for reliability through a level of redundancy which allows one area to back up another in the event of an outage. The Green Valley Transmission Line and Substation is one exception and has been included as a buy-in component in the impact fee. The cost of the Green Valley infrastructure was approximately \$11,680,125 with a total capacity of 75 MW. In constructing substations and transmission lines, it is not practical to build only to meet current growth/load due to economies of scale. Thus, the Green Valley system was built at an optimal level related to cost. The substation only has one transformer with room to expand with the addition of a second transformer. The Green Valley area is an identified growth area and will be fed out of the new Green Valley system.

MANNER OF FINANCING EXISTING INFRASTRUCTURE

St. George Energy Services has funded its existing capital infrastructure through a combination of different revenue sources, including user fee revenues, service fees, impact fees, and bond issues. Therefore, the City's existing LOS standards have been funded by the City's existing residents. The City anticipates that it may receive some donations from new development to fund a specific improvement (project improvement), thus the cost of this improvement has been removed from the impact fees. Also, the City does not foresee receiving revenues from other entities (i.e. grants, federal or state funds, other contributions, etc.) to fund new facilities.

SECTION 5: CAPITAL FACILITY ANALYSIS

The City of St. George Energy Services Department has provided capital project and engineering data, planning analysis, and other information related to future capital needs. The accuracy and correctness of this plan is contingent upon the accuracy of the data and assumptions. Any deviations or changes in the assumptions due to changes in the economy or other relevant information used by the City for this study may cause this plan to be inaccurate and may require modifications.

SUMMARY OF FUTURE CAPITAL PROJECTS

Based upon the projected increase in kWs and demand on the system, the City has identified the future power capital projects that must be constructed over the next ten years to serve future development. The costs of these projects are summarized in **TABLE 5.1** and detailed in **TABLE 5.3** and **5.4**. The percentage of the total cost that is attributable to growth is based upon information provided by the City's Energy Services Department. All of the projects listed in the table below have a life expectancy of more than 10 years. In addition, projects listed as "additions" or "improvements" only include the cost of added capacity to serve new growth and does not include the cost to replace the existing improvement.

TABLE 5.1: SUMMARY OF FUTURE POWER CAPITAL PROJECT COSTS

SERVICE	COST OF FUTURE CAPITAL PROJECTS *	AVERAGE % OF TOTAL COSTS TO GROWTH & IMPACT FEES**	TOTAL COSTS TO GROWTH & IMPACT FEE						
Generation Additions	\$7,420,293	0%	\$0						
Distribution and Transmission	\$31,164,141	64%	\$19,996,843						

* The Cost of Future Capital Projects includes two percent annual construction inflation.

**Generation additions are being allocated at zero percent to growth. Based on the 2018 Peak Load and available capacity, it is anticipated that additional generation resources will be required in the IFFP planning timeframe. Additional Sources include the Solar SunSmart Program Power Purchase Agreement and other Power Purchase Agreements. The City may need to construct additional power generation facilities near 2028 or 2029. Due to the uncertainty related to the timing of these facilities, they have been excluded from this analysis. The City should periodically review the IFFP and IFA to determine if additional generation resources will be needed.

The projected resource needs for the next several years is detailed in the following paragraphs. The estimated costs of future capital projects are based on historical experience with the system and projected growth patterns for the system. The proposed capital projects are separated into three areas: (1) Power Resource Improvements (aka Generation), (2) City Transmission and Distribution System Improvements, and (3) Jointly Owned Main Transmission System Improvements.

POWER RESOURCE IMPROVEMENTS

The City anticipates the need for an additional 26 MW of power through 2029 as shown in **TABLE 5.2**. This is partly due to the elimination of the Deseret Generation and Transmission Base, as well as an increase in demand over time. Additional sources include the Solar SunSmart Program Power Purchase Agreement and other Power Purchase Agreements. The City may need to construct additional power generation facilities near 2028 or 2029. Due to the uncertainty related to the timing of these facilities, they have been excluded from this analysis. The City should periodically review the IFFP and IFA to determine if additional generation resources will be needed.

Туре	JULY	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Coal	Deseret Generation and Transmission Base	50	50	50	50	50	-	-	-	-	-	-
Coal	Base Product Purchase	-	-	-	-	-	30	30	30	30	30	30
Hydro	AHP - Colorado River Storage Project (CRSP)	15	15	15	15	15	15	15	15	15	15	15
Hydro	Jordanelle Hydro	4	4	4	4	4	4	4	5	6	7	7
Natural Gas	City of St. George Millcreek #1	40	40	40	40	40	40	40	40	40	40	40
Natural Gas	City of St. George Millcreek #2	40	40	40	40	40	40	40	40	40	40	40
Renewables	Solar (SunSmart Program/PPA)	4	4	4	34	34	34	34	34	34	34	34
Market	WRP	5	5	5	5	5	5	5	5	5	5	5
PPA	Additional as PPA (Summer Peak)	-	-	-	-	20	20	20	20	20	20	20
Sub Total	Before Real Time Market	158	158	158	188	208	188	188	189	190	191	191
	Peak Load	191	194	196	199	201	204	206	209	212	215	217
	Real Time Market Supply	33	36	38	11	(7)	16	18	20	22	24	26

TABLE 5.2: FUTURE GENERATION NEEDS OF MW



There are several additional generation improvements (shown in **TABLE 5.3**) identified by the City for repair and replacement of existing infrastructure. The Impact Fees Act allows for the inclusion of a time price differential to ensure that the future value of costs incurred at a later date are accurately calculated to include the costs of construction inflation. A two percent annual construction inflation adjustment is applied to projects completed after 2018 (the base year cost estimate). As stated above, due to the uncertainty related to the timing of these facilities, they have been excluded from this analysis.

Power Projects	CONSTRUCTION YEAR	ESTIMATED COST	CONSTRUCTION YEAR COSTS	% то Growth	Cost To GROWTH	% IMPACT FEE FUNDED	SUBTOTALS
Generation Additions*	2020	\$4,061,000	\$4,225,064	0%	\$0	0%	\$0
Generation Additions	2021	\$361,000	\$383,096	0%	\$0	0%	\$0
Generation Additions	2022	\$361,000	\$390,758	0%	\$0	0%	\$0
Generation Additions	2023	\$295,000	\$325,704	0%	\$0	0%	\$0
Generation Additions	2024	\$295,000	\$332,218	0%	\$0	0%	\$0
Generation Additions	2025	\$295,000	\$338,862	0%	\$0	0%	\$0
Generation Additions	2026	\$295,000	\$345,640	0%	\$0	0%	\$0
Generation Additions	2027	\$295,000	\$352,552	0%	\$0	0%	\$0
Generation Additions	2028	\$295,000	\$359,603	0%	\$0	0%	\$0
Generation Additions	2029	\$295,000	\$366,795	0%	\$0	0%	\$0
Total Resources		\$6,848,000	\$7,420,293	0%	\$0	0%	\$0

TABLE 5.3: FUTURE GENERATION ADDITIONS

*Estimated cost related to the overhaul of Millcreek I generator.

CITY TRANSMISSION & DISTRIBUTION IMPROVEMENTS

Due to the increasing system loads, improvements to the system will be required in order to maintain the LOS and deliver the increased load demand to the City's electrical customers, as shown in TABLE 5.4 below. Improvements to various components of the system will be required to meet all of the FERC/NERC reliability standards.

Power Projects	Const. Year	ESTIMATED COST	CONSTRUCTION YEAR COSTS	% то Growth	Cost To GROWTH	% IMPACT FEE FUNDED	SUBTOTALS
Meters	2020	\$245,550	\$255,470	100%	\$255,470	100%	\$255,470
Meters	2021	\$125,000	\$132,651	100%	\$132,651	100%	\$132,651
Meters	2022	\$125,000	\$135,304	100%	\$135,304	100%	\$135,304
Meters	2023	\$125,000	\$138,010	100%	\$138,010	100%	\$138,010
Meters	2024	\$125,000	\$140,770	100%	\$140,770	100%	\$140,770
Meters	2025	\$125,000	\$143,586	100%	\$143,586	100%	\$143,586
Meters	2026	\$125,000	\$146,457	100%	\$146,457	100%	\$146,457
Meters	2027	\$125,000	\$149,387	100%	\$149,387	100%	\$149,387
Meters	2028	\$125,000	\$152,374	100%	\$152,374	100%	\$152,374
Meters	2029	\$125,000	\$155,422	100%	\$155,422	100%	\$155,422
AMI Metering	2025	\$1,500,000	\$1,723,029	0%	\$0	0%	\$0
Distribution Upgrades	2020	\$316,800	\$329,599	50%	\$164,799	100%	\$164,799
Distribution Upgrades	2021	\$341,800	\$362,721	50%	\$181,360	100%	\$181,360
Distribution Upgrades	2022	\$416,800	\$451,158	50%	\$225,579	100%	\$225,579
Distribution Upgrades	2023	\$241,800	\$266,967	50%	\$133,483	100%	\$133,483
Distribution Upgrades	2024	\$316,800	\$356,768	50%	\$178,384	100%	\$178,384
Distribution Upgrades	2025	\$241,800	\$277,752	50%	\$138,876	100%	\$138,876
Distribution Upgrades	2026	\$316,800	\$371,182	50%	\$185,591	100%	\$185,591
Distribution Upgrades	2027	\$241,800	\$288,973	50%	\$144,487	100%	\$144,487
Distribution Upgrades	2028	\$316,800	\$386,177	50%	\$193,089	100%	\$193,089
Distribution Upgrades	2029	\$241,800	\$300,648	50%	\$150,324	100%	\$150,324
Misc. Equipment	2020	\$835,000	\$868,734	30%	\$260,620	100%	\$260,620
Misc. Equipment	2021	\$735,000	\$779,988	30%	\$233,996	100%	\$233,996
Misc. Equipment	2022	\$885,000	\$957,952	30%	\$287,386	100%	\$287,386
Misc. Equipment	2023	\$905,000	\$999,193	30%	\$299,758	100%	\$299,758

TABLE 5.4: FUTURE TRANSMISSION AND DISTRIBUTION IMPROVEMENTS



Power Projects	Const. Year	ESTIMATED COST	CONSTRUCTION YEAR COSTS	% to Growth	Cost To GROWTH	% IMPACT Fee Funded	SUBTOTALS
Misc. Equipment	2024	\$835,000	\$940,346	30%	\$282,104	100%	\$282,104
Misc. Equipment	2025	\$585,000	\$671,981	30%	\$201,594	100%	\$201,594
Misc. Equipment	2026	\$605,000	\$708,854	30%	\$212,656	100%	\$212,656
Misc. Equipment	2027	\$435,000	\$519,865	30%	\$155,960	100%	\$155,960
Misc. Equipment	2028	\$385,000	\$469,313	30%	\$140,794	100%	\$140,794
Misc. Equipment	2029	\$605,000	\$752,241	30%	\$225,672	100%	\$225,672
Transmission Upgrades and New	2020	\$3,575,000	\$3,719,430	100%	\$3,719,430	100%	\$3,719,430
Transmission Upgrades and New	2021	\$125,000	\$132,651	100%	\$132,651	100%	\$132,651
Transmission Upgrades and New	2022	\$125,000	\$135,304	100%	\$135,304	100%	\$135,304
Transmission Upgrades and New	2023	\$125,000	\$138,010	100%	\$138,010	100%	\$138,010
Transmission Upgrades and New	2024	\$625,000	\$703,852	100%	\$703,852	100%	\$703,852
Transmission Upgrades and New	2025	\$625,000	\$717,929	100%	\$717,929	100%	\$717,929
Transmission Upgrades and New	2026	\$125,000	\$146,457	100%	\$146,457	100%	\$146,457
Transmission Upgrades and New	2027	\$125,000	\$149,387	100%	\$149,387	100%	\$149,387
Transmission Upgrades and New	2028	\$125,000	\$152,374	100%	\$152,374	100%	\$152,374
Transmission Upgrades and New	2029	\$125,000	\$155,422	100%	\$155,422	100%	\$155,422
Substations -Upgrades and Additions	2020	\$103,500	\$107,681	95%	\$102,297	100%	\$102,297
Substations -Upgrades and Additions	2021	\$1,303,500	\$1,383,285	95%	\$1,314,120	100%	\$1,314,120
Substations -Upgrades and Additions	2022	\$103,500	\$112,032	95%	\$106,430	100%	\$106,430
Substations -Upgrades and Additions	2023	\$78,500	\$86,670	95%	\$82,337	100%	\$82,337
Substations -Upgrades and Additions	2024	\$1,278,500	\$1,439,799	95%	\$1,367,809	100%	\$1,367,809
Substations -Upgrades and Additions	2025	\$1,578,500	\$1,813,200	95%	\$1,722,540	100%	\$1,722,540
Substations -Upgrades and Additions	2026	\$78,500	\$91,975	95%	\$87,376	100%	\$87,376
Substations -Upgrades and Additions	2027	\$1,278,500	\$1,527,926	95%	\$1,451,530	100%	\$1,451,530
Substations -Upgrades and Additions	2028	\$1,278,500	\$1,558,484	95%	\$1,480,560	100%	\$1,480,560
Substations -Upgrades and Additions	2029	\$78,500	\$97,605	95%	\$92,725	100%	\$92,725
SCADA Misc.	2020	\$625,000	\$650,250	20%	\$130,050	100%	\$130,050
SCADA Misc.	2021	\$175,000	\$185,711	20%	\$37,142	100%	\$37,142
SCADA Misc.	2022	\$175,000	\$189,426	20%	\$37,885	100%	\$37,885
SCADA Misc.	2023	\$175,000	\$193,214	20%	\$38,643	100%	\$38,643
SCADA Misc.	2024	\$175,000	\$197,078	20%	\$39,416	100%	\$39,416
SCADA Misc.	2025	\$175,000	\$201,020	20%	\$40,204	100%	\$40,204
SCADA Misc.	2026	\$175,000	\$205,040	20%	\$41,008	100%	\$41,008
SCADA Misc.	2027	\$175,000	\$209,141	20%	\$41,828	100%	\$41,828
SCADA Misc.	2028	\$175,000	\$213,324	20%	\$42,665	100%	\$42,665
SCADA Misc.	2029	\$175,000	\$217,591	20%	\$43,518	100%	\$43,518
Total Distribution and Transmission		\$27,733,550	\$31,164,141	64%	\$19,996,843	100%	\$19,996,843

JOINTLY OWNDED MAIN TRANSMISSION SYSTEM IMPROVEMENTS

The main transmission system which supplies power to Washington County (the "County") is owned and operated by several utilities and organizations. Over the past several years, the utilities in the County have spent considerable time and effort to develop system plans to serve the increasing loads supplied by the various County utilities ("Joint Plan System"). The results of these cooperative efforts will be a more reliable electrical system, which also minimizes overall costs of the system by reducing the need for duplicate facilities. This cooperative effort has been referred to as the "one system plan-Joint System Plan", meaning that the planning and installation of main transmission infrastructure for the County will be developed similar to the approach as if a single utility served all of the loads in the County. The City receives its power supply from two transmission systems, UAMPS and PacifiCorp. Most of the joint transmission improvements are put into the rate base because they become an operating expense due to the City not having direct ownership or debt obligations. Thus, these improvements are not included in the capital requirements for the City.

SYSTEM VS. PROJECT IMPROVEMENTS

System improvements are defined as existing and future public facilities that are intended to provide services to service areas



within the community at large.¹¹ Project improvements are improvements and facilities that are planned and designed to provide service for a specific development (resulting from a development activity) and considered necessary for the use and convenience of the occupants or users of that development.¹² The Impact Fee Analysis may only include the costs of impacts on system improvements related to new growth within the proportionate share analysis. One example of a project improvement is The Ledges transmission line which has not been included in the calculation of the impact fee. However, impact fees will be used for the substations, etc. since these are considered system improvements.

FUNDING OF FUTURE FACILITIES

Future facilities are generally funded using the following resources:

UTILITY RATE REVENUES

Utility rate revenues serve as the primary funding mechanism within enterprise funds. Rates are established to ensure appropriate coverage of all operations and maintenance expenses, debt service coverage, and capital project needs not related to growth.

GRANTS AND DONATIONS

The City does not anticipate receiving grants or donations to fund improvements currently contemplated in this IFFP. However, the impact fees will be adjusted if grants become available to reflect the grant monies received. A donor may be entitled to a reimbursement for the value of the system improvements funded through impact fees if donations are made by new development. **SECTION 6** further addresses proposed credits available to development.

IMPACT FEE REVENUES

Impact fees are charged to ensure that new growth pays its proportionate share of the costs for the development of public infrastructure. Impact fee revenues can also be attributed to the future expansion of public infrastructure if the revenues are used to maintain an existing level of service. Increases to an existing level of service cannot be funded with impact fee revenues. Impact fee revenues are generally considered non-operating revenues and help offset future capital costs.

DEBT FINANCING

In the event the City has not accumulated sufficient impact fees to pay for the construction of time sensitive or urgent capital projects needed to accommodate new growth, the City must look to revenue sources other than impact fees for funding. The Impact Fees Act allows for the costs related to the financing of future capital projects to be legally included in the impact fee. This allows the City to finance and quickly construct infrastructure for new development and reimburse itself later from impact fee revenues for the costs of issuing debt. However, the City does not anticipate utilizing debt financing for this plan and therefore no financing costs are included in this analysis.

EQUITY OF IMPACT FEES

Impact fees are intended to recover the costs of system improvements (infrastructure) that relate to future growth. The impact fee calculations are structured for impact fees to fund 100 percent of the growth-related facilities identified in the proportionate share analysis as presented in the impact fee analysis. Even so, there may be years that actual impact fee revenues cannot cover the annual growth-related expenses. In those years, growth-related projects may be delayed, or other revenues such as general utility rate revenues may be borrowed to make up any annual deficits. Any borrowed funds are to be repaid in their entirety through subsequent impact fees.

NECESSITY OF IMPACT FEES

An entity may only impose impact fees on development activity if the entity's plan for financing system improvements establishes that impact fees are necessary to achieve parity between existing and new development. This analysis has identified the improvements to public facilities and the funding mechanisms to complete the suggested improvements. Impact fees are identified as a necessary funding mechanism to help offset the costs of new capital improvements related to new growth. In addition, alternative funding mechanisms are identified to help offset the cost of future capital improvements.

¹¹ 11-36a-102(20) ¹² 11-36a102(13)



SECTION 6: POWER IMPACT FEE CALCULATION

PROPOSED POWER IMPACT FEES

The calculation of impact fees relies upon the information contained in this analysis. Impact fees are calculated based on many variables centered on proportionality and LOS. The following paragraph briefly discusses the methodology for calculating impact fees.

PLAN BASED (FEE BASED ON DEFINED CIP)

Impact fees can be calculated using a specific set of costs specified for future development. The improvements are identified in the IFFP, CFP or CIP as growth related projects. The total project costs are divided by the total demand units the projects are designed to serve. Under this methodology, it is important to identify the existing LOS and determine any excess capacity in existing facilities that could serve new growth.

POWER IMPACT FEE CALCULATION

Based on the growth-related projects, as well as the applicable buy-in fee, the cost per new kW is estimated at \$916, as shown in **TABLE 6.1**.

TABLE 6.1: ILLUSTRATION OF COST PER NEW KW

Power Projects	TOTAL COSTS WITHIN IFFP HORIZON	AVERAGE % GROWTH RELATED & IMPACT FEE FUNDED	GROWTH RELATED & IMPACT FEE FUNDED COSTS	GROWTH RELATED KW	Cost per New KW
Green Valley Buy-In ¹	\$11,680,125	35%	\$4,100,502	26,330	\$156
Future Generation Additions	\$7,420,293	-	-	26,330	-
Future Distribution and Transmission	\$31,164,141	64%	\$19,996,843	26,330	\$759
Professional Expense ¹³	\$9,675	100%	\$9,675	26,330	\$1
Total ¹⁴	\$50,274,234		\$24,107,021		\$916

The fee per kW is then applied to the general usage statistics for residential and commercial users, as shown in the TABLE 6.2 and TABLE 6.3 below.

TABLE 6.2: ILLUSTRATION OF RESIDENTIAL IMPACT FEE

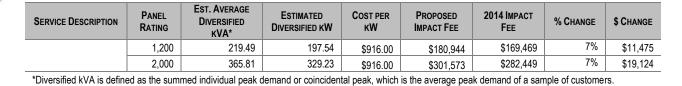
SERVICE DESCRIPTION	Est. KW	COST PER KW	PROPOSED IMPACT FEE	2014 IMPACT FEE	% CHANGE	\$ CHANGE
100 Amp - 240/120 V	4.25	\$916	\$3,893	\$3,646	7%	\$247
200 Amp - 240/120 V	5.25	\$916	\$4,809	\$4,504	7%	\$305
400 Amp - 240/120 V	9.00	\$916	\$8,244	\$7,721	7%	\$523

TABLE 6.3: ILLUSTRATION OF COMMERCIAL IMPACT FEE

SERVICE DESCRIPTION	PANEL RATING	EST. AVERAGE DIVERSIFIED KVA*	ESTIMATED DIVERSIFIED KW	Cost per KW	PROPOSED IMPACT FEE	2014 IMPACT Fee	% CHANGE	\$ CHANGE
Single Phase Service								
240/120 V	200	7.92	7.13	\$916.00	\$6,529	\$6,115	7%	\$414
240/120 V	400	15.84	14.26	\$916.00	\$13,058	\$12,230	7%	\$828
Three Phase Service								
	200	15.85	14.27	\$916.00	\$13,068	\$12,239	7%	\$829
	400	31.70	28.53	\$916.00	\$26,136	\$24,479	7%	\$1,657
208Y/120 V	800	63.41	57.07	\$916.00	\$52,273	\$48,958	7%	\$3,315
	1,200	95.11	85.60	\$916.00	\$78,409	\$73,437	7%	\$4,972
	2,000	158.52	142.67	\$916.00	\$130,682	\$122,395	7%	\$8,287
	200	36.58	32.92	\$916.00	\$30,157	\$28,245	7%	\$1,912
480Y/277 V	400	73.16	65.85	\$916.00	\$60,315	\$56,490	7%	\$3,825
	800	146.32	131.69	\$916.00	\$120,629	\$112,980	7%	\$7,649

¹³ This is the actual cost to update the IFFP and IFA. The City can use this portion of the impact fee to reimburse itself for these expenses.

¹⁴ As of June 30, 2019 the electric utility impact fee fund balance was negative \$2,056,553. The negative balance is not included in this analysis.



NON-STANDARD IMPACT FEES

The proposed fees are based upon growth in kWs. The City reserves the right under the Impact Fees Act to assess an adjusted fee that more closely matches the true impact that the land use will have upon public facilities.¹⁵ A developer may submit studies and data for a particular development and request an adjustment. This adjustment could result in a higher or lower impact fee if the City determines that a particular user may create a different impact than what is standard for its land use.

Estimated kW Diversified Usage * \$916

CONSIDERATION OF ALL REVENUE SOURCES

The Impact Fees Act requires the proportionate share analysis to demonstrate that impact fees paid by new development are the most equitable method of funding growth-related infrastructure. See **SECTION 5** for further discussion regarding the consideration of revenue sources.

EXPENDITURE OF IMPACT FEES

Legislation requires that impact fees should be spent or encumbered with six years after each impact fee is paid. Impact fees collected in the next five to six years should be spent or encumbered on only those projects outlined in the IFFP as growth related costs to maintain the LOS or to reimburse existing development for excess capacity used.

PROPOSED CREDITS OWED TO DEVELOPMENT

Credits may be applied to developers who have constructed and donated system facilities to the City that are included in the IFFP in-lieu of impact fees. Credits for system improvements may be available to developers up to, but not exceeding, the amount commensurate with the LOS identified within this IFA. Credits will not be given for the amount by which system improvements exceed the LOS identified within this IFA. This situation does not apply to developer exactions or improvements required to offset density or as a condition of development. Any project that a developer funds must be included in the IFFP if a credit is to be issued.

In the situation that a developer chooses to construct system facilities found in the IFFP in-lieu of impact fees, the decision must be made through negotiation with the developer and the City on a case-by-case basis.

GROWTH-DRIVEN EXTRAORDINARY COSTS

The City does not anticipate any extraordinary costs necessary to provide services to future development.

SUMMARY OF TIME PRICE DIFFERENTIAL

The Impact Fees Act allows for the inclusion of a time price differential to ensure that the future value of costs incurred at a later date are accurately calculated to include the costs of construction inflation. A two percent annual construction inflation adjustment is applied to projects completed after 2019 (the base year cost estimate).

15 UC 11-36a-402(1)(c)