

**BEFORE THE PUBLIC SERVICE
COMMISSION OF THE STATE OF MISSOURI**

In the Matter of The Empire District Electric)	
Company's 2019 Triennial Compliance)	File No. EO-2019-0049
Filing Pursuant to 4 CSR 240-22)	

JOINT AGREEMENT

COMES NOW The Empire District Electric Company, a Liberty Utilities company ("Liberty-Empire" or "Company"), and on behalf of itself, Commission Staff, the Missouri Division of Energy ("DE"), the Natural Resources Defense Council ("NRDC"), Renew Missouri, the Missouri Joint Municipal Electric Utility Commission ("MJMEUC"), the Midwest Energy Consumers Group ("MECG"), Sierra Club, and Dogwood Energy, LLC ("Dogwood")¹, respectfully submits this Joint Agreement.

1. Pursuant to Missouri Public Service Commission ("Commission") Rules 20 CSR 4240-22.010 – 20 CSR 4240-22.080, the Commission's *Order Granting Application for Variance*, and *Order Granting Extension to File*, Liberty-Empire submitted, on June 28, 2019, its Chapter 22 Electric Utility Resource Planning ("integrated resource plan" or "IRP") Triennial Report.

2. On February 28, 2020, the Staff Report was filed herein regarding Liberty-Empire's 2019 IRP Triennial Report. Comments were also submitted on said date by DE and the NRDC. The filings by the Staff, DE, and NRDC allege deficiencies and state concerns regarding Liberty-Empire's 2019 IRP Triennial Report.

3. Pursuant to Rule 20 CSR 4240-22.080(9), "(i)f the staff, public counsel, or any intervenor finds deficiencies in or concerns with a triennial compliance filing, it shall work with the electric utility and the other parties to reach, within sixty (60) days of the date that the report or comments were submitted, a joint agreement on a plan to remedy the identified deficiencies and

¹ The Office of the Public Counsel ("OPC") is also a party to this proceeding.

concerns.”

4. Since the submission of Staff’s Report and comments by DE and NRDC, Liberty-Empire has met with the parties to discuss and address all alleged deficiencies in and concerns with Liberty-Empire’s 2019 IRP Triennial Report, and agreement has been reached by the Company, Staff, DE, and NRDC regarding all items. In this regard, each alleged deficiency or concern is set forth below, along with the plan to remedy the identified deficiency or concern where applicable.

Staff’s Asserted Deficiencies and Concerns and the Joint Action Plans

5. **Alleged Deficiency 1: Rule 20 CSR 4240-22.050(3)(G)5B.** “Empire did not consider multiple levels of incentives paid by the utility for each end-use measure within a potential demand-side program, with corresponding adjustments to the maximum achievable potential and the realistic achievable potential of that potential demand-side program.”

6. The Company provided additional information, and Staff accepted Liberty-Empire’s reasoning and considers this issue resolved.

7. During post-filing discussions with stakeholders, Liberty-Empire clarified that it considered multiple levels of incentives in its Demand-Side Management (“DSM”) program screening for the 2019 IRP analysis in developing its final RAP and MAP scenario concepts. As defined in Appendix 5A of Volume 5, RAP and MAP each represent different levels of incentives offered to customers. MAP is defined as the maximum amount of savings that can be realized under ideal market, implementation, and customer preference conditions, and has higher incentives than RAP due to higher program participation. In other words, by definition, RAP and MAP implicitly consider different levels of incentives.

8. Based on the realistic achievable and maximum achievable potential scenario results from the DSM Potential Study, the Applied Energy Group (“AEG”) developed five portfolios

(RAP-, RAP, RAP+, MAP, and Aggressive Capacity) for consideration during the integration phase of Empire's IRP process. AEG developed three different incentive levels that were used within the five portfolios. RAP-, RAP and Aggressive Capacity used the same incentive level, which was distinct from the RAP+ and MAP incentive levels. Liberty-Empire will consider multiple levels of incentives during any future program design or program implementation, including a potential Missouri Energy Efficiency Investment Act ("MEEIA") filing.

9. **Alleged Deficiency 2: Rule 20 CSR 4240-22.050(4)(D)3.** "Empire did not provide an assessment of how the interactions between potential demand-side rates and potential demand-side programs would affect the impact estimates of the potential demand-side programs and potential demand-side rates."

10. Following post-filing discussions, and for the purpose of resolution of this deficiency in this case, Staff accepts Liberty-Empire's reasoning and considers this issue resolved for purposes of this case.

11. During post-filing discussions with stakeholders, Liberty-Empire clarified that it performed a qualitative assessment and concluded that there were no quantifiable interactive effects between potential demand-side rates and potential demand-side programs that could impact energy and demand savings estimates of the potential demand-side rates and potential demand-side programs.

12. For Liberty-Empire's 2019 IRP, the DSM and DR/DSR potential analyses were modeled separately and incorporated together in the AEG cost-effectiveness tool, BenCost, during the program design phase. During the program design phase, program level costs and participation were assigned and adjusted in the context of the other portfolio offerings and total portfolio budget.

13. Alleged Deficiency 3: Rule 20 CSR 4240-22.050(5)(A)1. “The methodology used to calculate Empire’s avoided demand cost is inconsistent with 20 CSR 4240-22.050(5)(A)1. Overstating these costs results in artificial inflation of DSM program cost-effectiveness. The end result is that the model assumes programs are cost-effective when in fact they may not be.”

14. Liberty-Empire believes that its use of an avoided demand cost greater than zero is reasonable and that using a capacity value of zero would understate the potential value of these DSM programs, and during post-filing discussions with stakeholders, Liberty-Empire reaffirmed its original position on the calculation of avoided demand cost.

15. Liberty-Empire does not agree that the methodology used to calculate its avoided demand cost is inconsistent with Rule 22.050(5)(A)1. For the purpose of resolution of this alleged deficiency, however, and for purposes of this triennial compliance filing only, Liberty-Empire commits to screen demand side resources using zero avoided capacity costs until such time that Liberty-Empire needs capacity to meet SPP resource adequacy requirements, at which time the avoided capacity costs will be assumed to be equal to the ABB projected capacity cost for SPP KSMO for years in which Liberty-Empire can defer supply-side resources. Liberty-Empire will calculate the TRC and other cost effectiveness tests for those DSM programs that pass the screening and provide a comparison of the DSM programs using each screening methodology. Liberty-Empire will also re-run the DSM portfolio analysis, incorporating the newly screened demand side resources using zero avoided capacity costs until such time that Liberty-Empire needs capacity to meet SPP resource adequacy requirements, at which time the avoided capacity costs will be assumed to be equal to the ABB projected capacity cost for SPP KSMO for years in which Liberty-Empire can defer supply-side resources. Liberty-Empire will file the results in this docket within 30 days of this Joint Agreement filing.

16. Alleged Deficiency 4: Rule 20 CSR 4240-22.060(2)(A)1. “Empire did not provide the present worth of utility revenue requirements with financial performance incentives for demand-side resources the utility is planning to request.”

17. To resolve this alleged deficiency, Liberty-Empire provided a table of PVRRs and the corresponding workpapers with links and formulas intact, including pre-tax financial incentives for demand-side resources, as part of the post-filing discussions with Staff. Staff accepted Liberty-Empire’s remedy, and this alleged deficiency is resolved. A copy of the table is attached as Exhibit A.

18. Alleged Deficiency 5: Rules 20 CSR 4240-22.060(2)(A)4, 20 CSR 4240-22.020(29), 20 CSR 4240-22.060(2)(B), and 20 CSR 4240-22.020(64). “Empire used the simple average of the 20-year estimate of the annual rates in determining the levelized annual average rate.”

19. Following post-filing discussions, Staff no longer considers this to be a deficiency. Liberty-Empire clarified that it did calculate the 20-year estimate of annual rates using a levelized average annual rate and directed Staff to the relevant workpaper calculation.

20. Alleged Deficiency 6: Rule 20 CSR 4240-22.060(2)(A)5. “Empire used the 2020 single year rate increase due to the Commission-approved Customer Savings Plan as the maximum single-year increase in annual average rates.”

21. As a result of post-filing discussions, Staff accepted Liberty-Empire’s remedy, and this issue is resolved. As required by Rule 20 CSR 4240-22.060(2)(A)5, Liberty-Empire provided the maximum single-year rate increase over the forecast period for each of the preferred plans. For each plan, that rate increase occurs in 2020, when 600 MW of new wind is added across each plan. Liberty-Empire, however, understood Staff’s desire to see the maximum single year rate increase absent the impact of new wind resources. Liberty-Empire is providing Staff the

maximum single year increase for each plan in 2022 onward in the table attached as Exhibit B. Liberty-Empire will provide Staff the corresponding workpapers with links and formulas intact within two days of this Joint Agreement filing.

22. Alleged Deficiency 7: Rule 20 CSR 4240-22.060(3)(A)1. “Empire did not provide a plan in its IRP filing that was minimally compliant with legal mandates for demand-side resources, renewable energy resources, and other mandated energy resources to constitute a compliance benchmark resource plan.”

23. Liberty-Empire addressed this alleged deficiency by providing an updated Plan 3A to Staff, which did not include any DSM. Liberty-Empire commits to including this minimally compliant plan in future triennial compliance filings. Staff accepted Liberty-Empire’s remedy, and this alleged deficiency is resolved.

24. Alleged Deficiency 8: 20 CSR 4240-22.060(4)(C). “Empire did not provide an analysis of economic impact of alternative resource plans, calculated with utility financial incentives for demand-side resources.”

25. To resolve this alleged deficiency, Liberty-Empire provided the economic impact of alternative resources and the corresponding workpapers with links and formulas intact, including pre-tax financial incentives for demand-side resources, as part of the post-filing discussions with Staff. Staff accepted Liberty-Empire’s remedy, and this alleged deficiency is resolved. A copy of the table is attached as Exhibit C.

26. Alleged Deficiency 9: Rule 20 CSR 4240-22.060(4)(D). “Empire did not provide a discussion of how the impacts of rate changes on future electric loads were modeled and how the appropriate estimates of price elasticity were obtained.”

27. As a result of post-filing discussions, this is no longer considered by Staff to be a

deficiency. Liberty-Empire clarified to Staff that it included price in the residential, commercial, and municipal models. These models employ the Statistically Adjusted End-Use (SAE) variables. The SAE models include the following price elasticities:

- In the residential model and municipal models, the price elasticity used is -0.10.
- In the commercial model, the price elasticity used is -0.15.

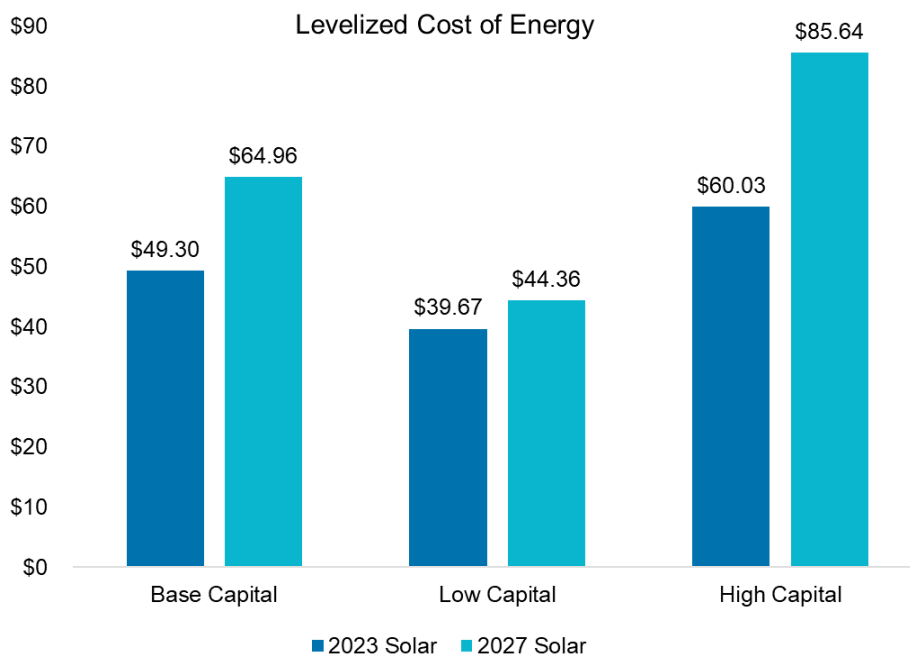
While these elasticities are not explicitly mentioned in the IRP, Liberty-Empire explained that price is included as a variable in these models in Sections 6.1.2.1 and 6.1.2.2, which detail the residential and commercial models. In Table 3-4, price is listed as a variable in the residential, commercial and municipal models, which is assumed to be “flat in real dollars.” Based on this assumption, prices and price elasticities help to explain historical sales, but do not impact the forecast. Liberty-Empire did not run any price scenarios in the IRP forecasts, but any price scenario impacts would naturally be subsumed in the submitted economic and weather scenarios.

28. Alleged Deficiency 10: “The absence of alternative resource plans which postpone the timing of significant utility scale solar and/or distributed solar plus storage resource additions in the 2022-2023 time frame for Plan 2, Plan 2B and Plan 4 until these resource additions are needed in 2027 to meet SPP resource adequacy requirements is not in compliance with 20 CSR 4240-22.060(3).”

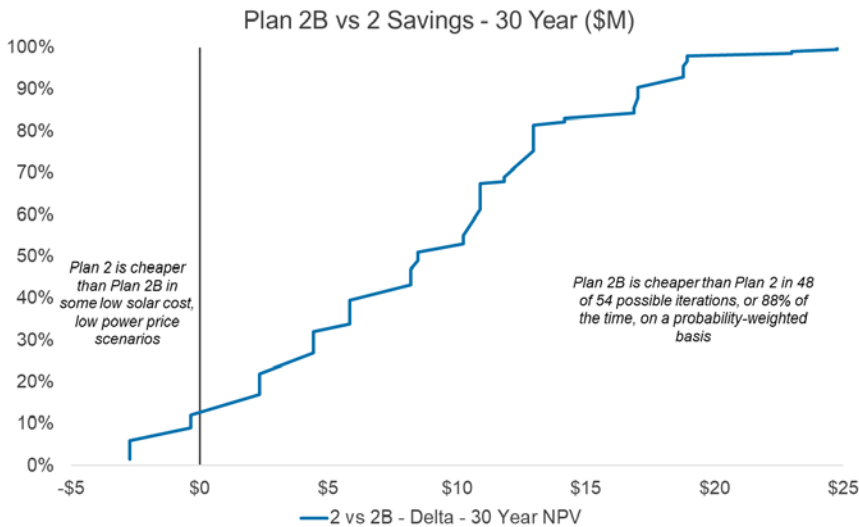
29. During post-filing discussions with Staff, Liberty-Empire clarified that additional resources are added to the portfolio in 2023 ahead of the 2027 capacity need because early procurement was found to be cost-effective in IRP modeling due to its ability to take advantage of federal ITC cost benefits for solar. Due to safe harboring guidelines from the IRS, the last date to place a solar project in service and utilize the full 30 percent investment tax credit is December 31, 2023. 26 I.R.C. §48(a)(6). All solar projects placed in service after that date receive only a ten percent investment tax credit. Since Liberty-Empire is projected to have a

capacity need a few years after 2023, Liberty-Empire believes it makes economic sense to invest in solar projects prior to said need actually arising.

30. The economics of 2023 versus 2027 solar projects were discussed with Staff and can be seen in the graphic below. Under all three capital cost scenarios, in-service 2023 solar projects are cheaper than in-service 2027 solar projects on a levelized cost of energy basis. This is primarily due to the ability to take advantage of full ITC in 2023.



31. Liberty-Empire conducted significant testing around the potential risk of this investment for customers through its stochastic modeling of renewable capital costs, load, power and fuel prices. During post-filing discussions with Staff, Liberty-Empire demonstrated its analysis of stochastic risk analysis by comparing Plan 2 and Plan 2B, which adds more 2023 solar than Plan 2 and avoided adding solar in 2027 and 2029. Liberty-Empire found that, in for most of the stochastic iterations, Plan 2B remains less expensive than Plan 2. Only in a few low capital cost and low power price scenarios is Plan 2 less expensive than Plan 2B.



32. To fully resolve this alleged deficiency, Liberty-Empire agrees to perform Staff’s suggested remedy to develop, analyze and document the performance of three new alternative resource plans which postpone all resource additions in the 2022 – 2023 time frame for Plan 2, Plan 2B and Plan 4 until 2027 when such resources are needed to meet SPP resource adequacy requirements within 30 days of this Joint Agreement filing and will file the results, including all workpapers with links and formulas intact, in this docket. Staff is satisfied with this remedy.

33. **Alleged Deficiency 11: Rule 20 CSR 4240-22.070(1).** “Empire did not include the relative weights given to the various performance measures in selecting a preferred resource plan from among the alternative resource plans.”

34. To resolve this alleged deficiency, Liberty-Empire will use a decision scorecard approach in the future that identifies the relative weights given to the various performance measures and the rationale used by the utility decision-makers to judge the appropriate trade-offs between competing planning objectives, performance, and risk.

35. **Alleged Deficiency 12: Rule 20 CSR 4240-22.070(6)(G).** “Empire did not provide a process for monitoring the progress made implementing the preferred resource plan in accordance with the schedules and milestones set out in the implementation plan and for

reporting significant deviations in a timely fashion to those managers or officers who have the authority to initiate corrective actions to ensure the resources are implemented as scheduled.”

36. During post-filing discussions with Staff, Liberty-Empire provided information on Liberty-Empire’s process for monitoring its implementation plan, as follows:

a. **Wind Projects.** Wind development activities are reported to the Company’s decision makers in monthly progress reports that are developed and filed with the Commission, to ensure that the resources are completed on track, on budget, and in accordance with implementation plans.

b. **Plant De-Designations.** Liberty-Empire reports updates and progress to the Company’s decision makers through regular meetings monitoring progress, issues, and deviations to ensure that the resources are completed on track, on budget, and in accordance with implementation plans.

c. **AMI Initiatives.** Liberty-Empire’s AMI deployment team meets weekly to review project progress and budgets. Variances from schedule and cost are identified and investigated, as appropriate.

d. **Community Solar Initiatives.** Liberty-Empire reports updates and progress to the Company’s decision makers through discussions with the Vice President – Electric Operations to ensure that the resources are completed on track, on budget, and in accordance with implementation plans. This initiative is in the early planning phase. Once construction commences and the tariff is approved, the Company will provide construction progress reports and hold regular meetings as needed with the Company’s decision makers.

e. **DSM Initiatives.** Liberty-Empire meets quarterly with its DSM Advisory Group (“DSMAG”), which consists of Staff, DE, OPC, National Housing Trust (“NHT”), and Renew Missouri. These meetings generally occur in person in Jefferson City and feature updates on highlights and challenges to the energy efficiency programs. Liberty-Empire reports estimated savings figures, participation in programs, and estimated demand impacts of the programs, as well as marketing efforts, plans, and results. The DSMAG also meets as needed to discuss items of special interest, such as regulatory filings, rate case stipulations, and new and/or experimental programs that have potential to help Liberty-Empire and its customers. Liberty-Empire also hosts an annual meeting at its headquarters in Joplin featuring local Community Action Agencies and the DSMAG, during which it discusses “Strengths, Weaknesses, Opportunities, and Threats to Empire’s low-income population.” These discussions have led to numerous improvements of Liberty-Empire’s low-income weatherization and energy efficiency programs. Liberty-Empire committed to hosting no fewer than five of these annual meetings in the Stipulation and Agreement in Commission Case No. EM-2016-0213, and the Company hosted the third annual meeting on November 8, 2019.

37. As a result of post-filing discussions, Staff accepted Liberty-Empire's remedy, and this issue is resolved. Liberty-Empire commits to providing more detail on its monitoring process in future triennial IRPs and IRP annual updates.

38. **Alleged Deficiency 13:** "Empire did not provide all workpapers with formulas intact."

39. During post-filing discussions with Staff, representatives of Liberty-Empire's consultant, Charles River Associates ("CRA"), provided a review of the workpapers with Staff. CRA explained how the model used to generate the IRP results outputs hard-wired values, rather than formulas, for the revenue requirement components and supporting data. Liberty-Empire commits to develop a document within 30 days of this Joint Agreement filing that provides a directory and description of each workpaper to aid in Staff's and other stakeholders' review. In addition, Liberty-Empire agrees to supplement the workpapers with line by line explanations of the calculations and formulas that run behind the key output within 30 days of this Joint Agreement filing. Liberty-Empire and representatives of Liberty-Empire's consultants for resource planning commit to continuing to work with Staff to improve the transparency of future integrated resource planning decision making and analyses.

40. As a result of post-filing discussions, Staff accepted Liberty-Empire's remedy, and this issue is resolved.

41. **Concern A:** "Because Empire has overstated avoided capacity cost benefits when calculating the total resource cost test (TRC) results for its demand-side programs and portfolio, the programs may not be cost-effective and may not comply with 393.1075.4., RSMo."

42. As discussed above with regard to Staff's third alleged deficiency, to resolve this concern, and for purposes of this triennial compliance filing only, Liberty-Empire will commit to screen demand side resources using zero avoided capacity costs until such time that Liberty-

Empire needs capacity to meet SPP resource adequacy requirements, at which time the avoided capacity costs will be assumed to be equal to the ABB projected capacity cost for SPP KSMO for years in which Liberty-Empire can defer supply-side resources.. Liberty-Empire will calculate the TRC and other cost effectiveness tests for those DSM programs that pass the screening and provide a comparison of the DSM programs using each screening methodology. Liberty-Empire also agrees to re-run the DSM portfolio analysis, incorporating the newly screened demand side resources using zero avoided capacity costs until such time that Liberty-Empire needs capacity to meet SPP resource adequacy requirements, at which time the avoided capacity costs will be assumed to be equal to the ABB projected capacity cost for SPP KSMO for years in which Liberty-Empire can defer supply-side resources. This analysis will be completed and filed in this docket within 30 days of this Joint Agreement filing.

43. **Concern B:** “In AEG’s market characterization analysis performed in Empire’s DSM market potential study, AEG removed the impacts from solar PV. By removing solar PV impacts, this increased Empire’s historical sales and projected forecast.”

44. As a result of post-filing discussions, and for the purpose of resolution of this concern in this case, Staff agrees this is no longer considered a concern for purposes of this case. During post-filing discussions with stakeholders, Liberty-Empire explained that removal of solar PV impacts is an appropriate step to represent electricity consumption. This is because the electricity market should be characterized in terms of consumption rather than utility sales to accurately estimate the potential for energy efficiency savings. Because having a solar PV unit does not impact a customer’s ability to participate in an energy efficiency measure, including the impacts from solar PV would artificially reduce the energy efficiency savings potential, and therefore alter the representation of energy efficiency as a resource during the IRP modeling process,

which is ultimately independent of solar PV. Staff is not accepting this justification as sufficient for future analyses, and reserves the right to raise this concern in the future.

45. **Concern C:** “Empire did not reduce annual retail kWh sales for alternative resource plans with RAP and MAP demand-side resources relative to the annual retail kWh sales for Plan 3A when calculating annual average rates as required for compliance with 20 CSR 4240-22.060(4)(C)1.B.”

46. During post-filing discussions with stakeholders, Liberty-Empire provided updated results incorporating the reduction in annual retail kWh for alternative resource plans with RAP and MAP demand-side resources for purposes of calculating annual average rates. As a result of post-filing discussions, Liberty-Empire accepts Staff’s remedy, and this concern is resolved. A copy of the table with corrected annual average rates is attached as Exhibit D.

47. **Concern D:** “Empire’s RAP portfolio may not provide benefits for all customers, regardless of whether the programs are utilized by all customers, as required by 393.1075.4.”

48. As a result of post-filing discussions with stakeholders, Staff accepted Liberty-Empire’s remedy to work with stakeholders prior to the filing of any MEEIA application to ensure that the Company’s application is compliant with MEEIA.

49. **Concern E:** “Because Empire’s RAP portfolio 1) does not postpone the need for any supply-side resources, 2) derives nearly all of its benefits from a decrease in the revenue requirement for purchases plus sales in the SPP energy market, and 3) because SPP energy market price is a critical uncertain factor, the RAP portfolio is a risky investment for Empire’s customers as a whole, especially those customers who do not participate in the programs, and may not be in compliance with Section 393.1075.4.”

50. As a result of post-filing discussions with stakeholders, Staff accepted Liberty-Empire’s

remedy to work with stakeholders prior to any MEEIA application to ensure that the Company's application complies with MEEIA.

DE's Concerns and the Joint Action Plans

51. Concern 1: Selection of Weather Data. The Company used weather data from the Springfield National Airport to develop its 2019 IRP demand and energy forecast. In response to this concern, Liberty-Empire will conduct a sensitivity analysis of its 2019 IRP demand and energy forecast by using Joplin weather data and a weighting of Joplin and Springfield weather data to test the impact of using different weather station data on the forecast's results. The findings of this analysis and a discussion of the weather stations' weather instruments and data quality will be presented to stakeholders at either the next IRP Annual Update or in a separate forum.

52. Concern 2: Advanced Metering Infrastructure ("AMI") Opportunities and Value. Liberty-Empire agrees with DE that the Company's AMI project will collect valuable data and has the potential to help with various planning studies. At this point, AMI is just beginning to be deployed, but the Company will continue to explore ways to maximize the benefit to customers.

53. Concern 3: Development of Demand-Side Management Programs. This concern involves the evaluation of DSM potential based on the inclusion of Joplin weather data (in some form) in the Company's demand and energy forecast, to see if this may provide increased energy efficiency opportunities. This concern is related to DE's first concern discussed above. The remedy to DE's first concern also remedies this concern.

NRDC's Concerns and the Joint Action Plans

54. Concern 1: Demand-Side Rates, Rule 22.050(4). Following discussions, Liberty-Empire and NRDC agreed that the Company's IRP is not deficient with respect to Rule

22.050(4). The Company, however, will conduct additional significant research and analysis for its 2021 annual update as to how demand-side rates may promote electric vehicle (“EV”) adoption and reduce overall system costs.

55. Concern 2: Decoupling for MEEIA, Rules 22.050(2) and 22.060(5). NRDC stated as follows:

In 2018 the legislature passed SB 564. Among its many provisions it amended §386.266.3, RSMo, to make revenue decoupling due to energy conservation available to electric, as well as gas, utilities. Empire should analyze the option of applying to uncouple sales from revenue for its MEEIA portfolio to remove the throughput disincentive and make its cost recovery indifferent to declines in energy use.

56. In its current rate case, Liberty-Empire is seeking a weather normalization adjustment mechanism, which would provide for partial decoupling. Additionally, the Company is considering the filing of a MEEIA application. No remedy is required to address this concern raised by NRDC.

57. Concern 3: All Cost-Effective DSM, Rules 22.050(1)(B) and 22.050(2), RSMo. §393.1075.4. In discussions with Liberty-Empire, NRDC indicated that its concern stems from an observation that other states have energy efficiency goals significantly larger than those described in Liberty-Empire’s MAP plan. Liberty-Empire agrees to research select programs identified by NRDC to determine the drivers of differences, prior to the 2021 annual update.

WHEREFORE, Liberty-Empire respectfully submits this Joint Agreement and requests such relief as is just and proper under the circumstances.

Respectfully submitted,

/s/ Diana C. Carter

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CERTIFICATE OF SERVICE

I hereby certify that the above document was filed in EFIS on this 28th day of April, 2020, with notification of the same being sent to all counsel of record.

/s/ Diana C. Carter

Annual Revenue Requirement with and without Utility Financial Incentive for DSM (20 Year NPVRR)

	NPVRR - No Incentives	NPVRR - With Incentives
Plan 0	\$7,415	\$7,418
Plan 1	\$7,398	\$7,401
Plan 2	\$7,325	\$7,328
Plan 2 MAP	\$7,327	\$7,332
Plan 2B	\$7,320	\$7,323
Plan 3	\$7,370	\$7,373
Plan 4	\$7,321	\$7,324
Plan 5	\$7,359	\$7,362
Plan 6	\$7,344	\$7,347
Plan 7	\$7,343	\$7,346
Plan 8	\$7,317	\$7,320
Plan 9	\$7,392	\$7,395
Plan 10	\$7,315	\$7,318
Plan 11	\$7,366	\$7,369
Plan 12	\$7,360	\$7,363
Plan 13	\$7,371	\$7,374

Max Rate Calculation (not including 2020-2021)

	Calculated	From Table 6-62
Plan 0	3.10%	13.62%
Plan 1	3.10%	13.62%
Plan 2	3.14%	10.35%
Plan 2 MAP	3.13%	10.46%
Plan 2B	3.17%	10.35%
Plan 3	3.31%	10.35%
Plan 4	3.18%	10.35%
Plan 5	3.11%	10.35%
Plan 6	3.45%	10.35%
Plan 7	3.47%	10.35%
Plan 8	2.97%	10.34%
Plan 9	2.89%	10.34%
Plan 10	3.02%	10.34%
Plan 11	2.97%	10.34%
Plan 12	2.95%	10.34%
Plan 13	2.93%	10.34%

Economic Impact of Plans with and without Utility Financial Incentive for DSM (20 Year NPVRR)
Estimated annual revenue requirements, estimated annual average rates, financial metrics

A. Estimated Annual Revenue Requirements

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Incentives	Plan 0	559	612	637	630	637	645	660	673	684	698	708	723	747	763	773	797	825	812	831	854
No Incentives	Plan 1	559	612	637	630	637	645	660	673	684	698	708	723	747	763	773	797	825	812	831	854
No Incentives	Plan 2	561	596	620	614	623	634	649	662	676	696	706	723	746	762	778	795	823	805	813	836
No Incentives	Plan 2 MAP	561	597	620	615	624	634	650	663	677	696	706	723	746	762	778	795	823	804	813	835
No Incentives	Plan 2B	561	596	620	614	624	638	654	666	679	695	704	719	742	757	773	791	819	801	809	832
No Incentives	Plan 3	561	596	620	615	623	631	647	661	674	694	705	715	729	753	768	785	809	821	830	853
No Incentives	Plan 4	561	596	620	615	624	635	651	664	676	694	705	719	743	759	776	794	822	804	814	837
No Incentives	Plan 5	561	596	620	614	623	632	648	661	674	694	706	716	730	753	769	785	804	829	812	844
No Incentives	Plan 6	561	596	620	614	623	634	649	662	681	701	711	725	749	764	780	798	829	811	819	841
No Incentives	Plan 7	561	596	620	615	624	635	651	664	681	698	709	723	747	763	780	798	829	811	819	842
No Incentives	Plan 8	561	596	619	617	629	639	654	666	678	691	702	719	742	757	773	790	815	797	806	828
No Incentives	Plan 9	561	596	619	619	629	637	652	671	687	701	717	735	758	774	790	808	833	816	824	848
No Incentives	Plan 10	561	596	619	617	630	637	652	665	677	692	703	717	740	756	773	791	816	798	808	831
No Incentives	Plan 11	561	596	619	619	629	637	653	671	688	702	712	726	750	765	782	800	826	808	818	841
No Incentives	Plan 12	561	596	619	622	638	647	661	673	685	698	708	722	745	760	776	793	818	800	808	831
No Incentives	Plan 13	561	596	619	622	639	648	663	674	686	699	709	723	746	761	778	795	819	801	810	832
With Incentives	Plan 0	559	612	637	630	637	645	661	673	684	698	708	723	747	763	780	798	825	812	831	854
With Incentives	Plan 1	559	612	637	630	637	645	661	673	684	698	708	723	747	763	780	798	825	792	812	834
With Incentives	Plan 2	561	596	620	614	623	634	649	662	676	696	706	723	746	762	778	795	823	805	813	836
With Incentives	Plan 2 MAP	561	597	621	615	624	635	650	663	677	696	707	724	747	762	778	795	823	805	813	835
With Incentives	Plan 2B	561	596	620	614	624	639	654	667	679	695	705	719	742	758	774	791	819	801	810	832
With Incentives	Plan 3	561	596	620	614	623	631	647	661	674	694	705	715	730	753	769	785	810	839	822	853
With Incentives	Plan 4	561	596	620	615	625	635	651	664	677	694	705	720	743	759	776	794	822	805	814	837
With Incentives	Plan 5	561	596	620	615	623	632	648	661	674	694	706	716	730	754	769	786	804	830	812	845
With Incentives	Plan 6	561	596	620	614	623	634	650	663	681	702	711	726	749	764	781	799	829	811	819	842
With Incentives	Plan 7	561	596	620	615	625	635	651	664	681	699	709	724	747	763	780	798	829	811	820	842
With Incentives	Plan 8	561	596	619	617	630	639	654	666	678	692	701	717	742	758	773	791	816	798	806	829
With Incentives	Plan 9	561	596	619	619	629	637	653	671	688	701	717	736	759	774	790	808	833	816	825	848
With Incentives	Plan 10	561	596	619	617	630	638	653	665	678	692	703	717	741	756	773	791	816	799	808	831
With Incentives	Plan 11	561	596	619	619	629	637	653	671	688	702	712	727	750	766	782	801	826	809	818	842
With Incentives	Plan 12	561	596	619	622	638	647	662	673	686	699	708	722	745	760	776	793	818	800	809	831
With Incentives	Plan 13	561	596	619	623	639	648	663	674	687	700	709	723	746	762	778	795	820	802	810	833

B. Estimated Annual Average Rates

		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	
No Incentives	Plan 0	Annual RR	559	612	637	630	637	645	660	673	684	698	708	723	747	763	779	797	825	812	831	854
No Incentives	Plan 0	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 0	Rate	10.20	11.59	12.35	12.16	12.25	12.33	12.57	12.76	12.92	13.13	13.26	13.51	13.92	14.18	14.45	14.74	15.19	14.51	15.20	15.57
No Incentives	Plan 0	% Change	0%	13.6%	6.6%	-1.5%	0.7%	0.7%	1.9%	1.5%	1.2%	1.6%	1.0%	1.8%	3.0%	1.9%	1.9%	2.0%	3.1%	-1.9%	2.0%	2.4%
No Incentives	Plan 1	Annual RR	559	612	637	630	637	645	660	673	684	698	708	723	747	763	779	797	825	792	811	834
No Incentives	Plan 1	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 1	Rate	10.20	11.59	12.35	12.16	12.25	12.33	12.57	12.76	12.92	13.13	13.26	13.51	13.92	14.18	14.45	14.74	15.19	14.51	15.20	15.57
No Incentives	Plan 1	% Change	0%	13.6%	6.6%	-1.5%	0.7%	0.7%	1.9%	1.5%	1.2%	1.6%	1.0%	1.8%	3.0%	1.9%	1.9%	2.0%	3.1%	-4.3%	2.1%	2.4%
No Incentives	Plan 2	Annual RR	561	596	620	614	623	634	649	662	676	696	706	723	746	762	778	795	823	805	813	836
No Incentives	Plan 2	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 2	Rate	10.23	11.29	12.02	11.86	11.98	12.12	12.36	12.57	12.78	13.09	13.26	13.51	13.92	14.18	14.45	14.74	15.19	14.51	15.20	15.57
No Incentives	Plan 2	% Change	0%	10.4%	6.5%	-1.3%	1.0%	1.1%	2.0%	1.6%	1.2%	2.4%	1.1%	2.1%	3.0%	1.8%	1.8%	2.0%	3.1%	2.5%	0.7%	2.4%
No Incentives	Plan 2 MAP	Annual RR	561	597	620	615	624	634	650	663	677	696	706	723	746	762	778	795	823	804	813	835
No Incentives	Plan 2 MAP	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 2 MAP	Rate	10.23	11.30	12.04	11.88	11.99	12.13	12.36	12.57	12.78	13.09	13.26	13.51	13.92	14.18	14.45	14.74	15.19	14.51	15.20	15.57
No Incentives	Plan 2 MAP	% Change	0%	10.5%	6.5%	-1.3%	1.0%	1.1%	2.0%	1.6%	1.2%	2.4%	1.1%	2.1%	3.0%	1.8%	1.8%	2.0%	3.1%	2.5%	0.7%	2.4%
No Incentives	Plan 2B	Annual RR	561	596	620	614	624	638	654	666	679	695	704	719	742	757	773	791	819	801	809	832
No Incentives	Plan 2B	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 2B	Rate	10.23	11.29	12.02	11.86	12.00	12.21	12.44	12.63	12.82	13.07	13.20	13.43	13.83	14.08	14.34	14.62	15.09	14.70	14.81	15.16
No Incentives	Plan 2B	% Change	0%	10.4%	6.5%	-1.3%	1.2%	1.7%	1.9%	1.6%	1.5%	2.0%	0.9%	1.7%	3.0%	1.8%	1.8%	2.0%	3.2%	2.5%	0.7%	2.4%
No Incentives	Plan 3	Annual RR	561	596	620	614	622	631	647	661	684	705	715	729	753	768	785	809	829	821	830	853
No Incentives	Plan 3	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 3	Rate	10.23	11.29	12.02	11.86	11.97	12.07	12.32	12.52	12.71	13.27	13.39	13.63	14.03	14.28	14.55	14.96	15.46	15.08	15.18	15.55
No Incentives	Plan 3	% Change	0%	10.4%	6.5%	-1.3%	0.9%	0.8%	2.0%	1.7%	3.1%	2.7%	1.0%	1.8%	3.0%	1.8%	1.9%	2.5%	3.3%	-2.4%	0.7%	2.4%
No Incentives	Plan 4	Annual RR	561	596	620	615	624	635	651	664	676	694	705	719	743	759	776	794	822	804	814	837
No Incentives	Plan 4	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 4	Rate	10.23	11.29	12.02	11.87	12.00	12.14	12.38	12.58	12.78	13.05	13.26	13.44	13.85	14.11	14.39	14.68	15.14	14.77	14.89	15.25
No Incentives	Plan 4	% Change	0%	10.4%	6.5%	-1.2%	1.1%	1.2%	2.0%	1.6%	1.6%	2.2%	1.1%	1.8%	3.0%	1.9%	2.0%	3.2%	2.5%	0.5%	0.8%	2.4%
No Incentives	Plan 5	Annual RR	561	596	620	616	623	632	648	661	684	706	716	734	759	769	786	804	829	812	821	845
No Incentives	Plan 5	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 5	Rate	10.23	11.29	12.02	11.86	11.98	12.08	12.32	12.53	12.92	13.27	13.41	13.64	14.04	14.29	14.56	14.86	15.28	14.90	15.02	15.39
No Incentives	Plan 5	% Change	0%	10.4%	6.5%	-1.3%	0.9%	0.8%	2.0%	1.7%	3.1%	2.7%	1.0%	1.8%	3.0%	1.8%	1.8%	2.0%	2.8%	-2.4%	0.8%	2.5%
No Incentives	Plan 6	Annual RR	561	596	620	616	623	634	649	662	676	694	705	719	743	759	776	794	822	804	814	837
No Incentives	Plan 6	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 6	Rate	10.23	11.29	12.02	11.86	11.98	12.12	12.36	12.56	12.86	13.19	13.32	13.55	13.95	14.20	14.47	14.76	15.27	14.88	14.98	15.35
No Incentives	Plan 6	% Change	0%	10.4%	6.5%	-1.3%	1.0%	1.1%	2.0%	1.6%	2.4%	2.0%	0.9%	1.8%	3.0%	1.8%	1.8%	2.0%	3.5%	-2.5%	0.7%	2.4%
No Incentives	Plan 7	Annual RR	561	596	620	616	623	634	649	662	676	694	705	719	743	759	776	794	822	804	814	837
No Incentives	Plan 7	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 7	Rate	10.23	11.29	12.02	11.87	12.00	12.14	12.38	12.58	12.86	13.14	13.28	13.51	13.92	14.18	14.46	14.75	15.26	14.88	14.99	15.35
No Incentives	Plan 7	% Change	0%	10.4%	6.5%	-1.2%	1.1%	1.1%	2.0%	1.6%	2.2%	2.2%	1.0%	1.8%	3.0%	1.9%	2.0%	3.5%	-2.5%	0.7%	2.4%	
No Incentives	Plan 8	Annual RR	561	596	619	617	629	639	666	678	691	702	715	729	753	770	787	807	837	806	815	838
No Incentives	Plan 8	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 8	Rate	10.22	11.28	12.01	11.99	12.20	12.21	12.44	12.62	12.81	13.01	13.15	13.43	13.83	14.08	14.33	14.61	15.02	14.64	14.74	15.17
No Incentives	Plan 8	% Change	0%	10.3%	6.5%	-0.8%	1.6%	0.9%	1.8%	1.5%	1.5%	1.6%	1.1%	2.1%	3.0%	1.8%	1.9%	2.8%	-2.5%	0.7%	2.4%	
No Incentives	Plan 9	Annual RR	561	596	619	618	629	639	667	672	687	701	717	735	758	774	790	808	835	816	824	848
No Incentives	Plan 9	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 9	Rate	10.22	11.28	12.01	11.95	12.09	12.18	12.41	12.67	12.98	13.14	13.34	13.74	14.14	14.38	14.64	14.93	15.35	14.97	15.08	15.45
No Incentives	Plan 9	% Change	0%	10.3%	6.5%	-0.5%	1.1%	0.7%	2.0%	2.4%	2.1%	1.6%	1.8%	2.3%	2.9%	1.7%	2.0%	2.8%	-2.4%	0.7%	2.4%	
No Incentives	Plan 10	Annual RR	561	596	619	617	630	637	662	665	677	692	703	717	740	756	773	791	816	798	808	831
No Incentives	Plan 10	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724
No Incentives	Plan 10	Rate	10.22	11.28	12.01	11.92	12.11	12.19	12.42	12.60	12.80	13.01	13.16	13.39	13.80	14.06	14.33	14.61	15.03	14.66	14.78	15.14
No Incentives	Plan 10	% Change	0%	10.3%	6.5%	-0.8%	1.6%	0.6%	1.9%	1.5%	1.5%	1.7%	1.1%	1.8%	3.0%	1.9%	2.0%	2.9%	-2.5%	0.8%	2.4%	
No Incentives	Plan 11	Annual RR	561	596	619	618	629	637	663	671	688	702	712	726	750	765	782	800	826	808	818	841
No Incentives	Plan 11	Rate	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446		

With Incentives	Plan 7	Load	5,484,466	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,993	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	
With Incentives	Plan 7	Rate	10.23	11.29	12.03	11.88	12.01	12.15	12.38	12.59	12.86	13.15	12.38	13.52	13.92	14.18	14.46	14.76	15.27	14.77	14.89	14.99	15.35
With Incentives	Plan 8	% Change	0%	10.4%	6.5%	-1.2%	1.1%	1.1%	2.0%	1.6%	2.2%	2.2%	1.0%	1.8%	3.0%	1.9%	2.0%	2.0%	8.5%	-2.5%	0.7%	2.4%	
With Incentives	Plan 8	Annual RR	561	596	619	617	630	639	651	666	678	692	702	719	742	758	773	791	816	798	806	829	
With Incentives	Plan 9	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,993	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	
With Incentives	Plan 9	Rate	10.22	11.28	12.02	11.96	12.09	12.18	12.42	12.72	12.99	13.20	13.44	13.75	14.14	14.39	14.65	14.94	15.35	14.98	15.09	15.45	
With Incentives	Plan 9	% Change	0%	10.4%	6.5%	-0.5%	1.1%	0.7%	2.0%	2.4%	2.1%	1.6%	1.8%	2.3%	2.9%	1.7%	1.8%	2.0%	2.8%	-2.4%	0.7%	2.4%	
With Incentives	Plan 10	Annual RR	561	596	619	617	630	638	653	665	678	692	703	717	741	756	773	791	816	799	808	831	
With Incentives	Plan 10	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,993	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	
With Incentives	Plan 10	Rate	10.22	11.28	12.02	11.92	12.10	12.41	12.81	13.21	13.59	13.84	14.13	14.50	14.80	14.96	15.17	15.40	15.73	14.85	14.77	15.14	
With Incentives	Plan 10	% Change	0%	10.4%	6.5%	-0.8%	1.6%	0.6%	1.9%	1.5%	1.5%	1.7%	1.1%	1.8%	3.0%	1.9%	1.9%	2.0%	2.9%	-2.5%	0.8%	2.4%	
With Incentives	Plan 11	Annual RR	561	596	619	619	629	637	653	671	688	702	712	727	750	766	782	801	826	809	818	842	
With Incentives	Plan 11	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,993	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	
With Incentives	Plan 11	Rate	10.22	11.28	12.02	11.92	12.10	12.41	12.81	13.21	13.59	13.84	14.13	14.50	14.80	14.96	15.17	15.40	15.73	14.85	14.77	15.14	
With Incentives	Plan 11	% Change	0%	10.4%	6.5%	-0.4%	1.2%	0.7%	2.0%	2.4%	2.1%	1.6%	1.0%	1.8%	3.0%	1.8%	1.9%	2.0%	2.8%	-2.4%	0.8%	2.5%	
With Incentives	Plan 12	Annual RR	561	596	619	622	638	647	662	673	686	699	708	722	745	760	776	793	818	800	809	831	
With Incentives	Plan 12	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,993	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	
With Incentives	Plan 12	Rate	10.21	11.26	12.01	11.92	12.10	12.37	12.77	13.15	13.52	13.78	14.09	14.39	14.65	14.94	15.35	14.98	15.09	15.45	14.77	15.14	
With Incentives	Plan 12	% Change	0%	10.4%	6.5%	0.0%	2.1%	0.9%	1.8%	1.4%	1.5%	0.9%	1.7%	2.9%	1.8%	1.9%	2.0%	2.8%	-2.5%	0.7%	2.4%		
With Incentives	Plan 13	Annual RR	561	596	619	623	639	648	663	674	687	700	709	723	746	762	778	795	820	802	810	833	
With Incentives	Plan 13	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594	5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,993	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	
With Incentives	Plan 13	Rate	10.22	11.28	12.02	12.03	12.29	12.40	12.61	12.79	12.97	13.16	13.29	13.51	13.91	14.16	14.43	14.70	15.10	14.72	14.82	15.18	
With Incentives	Plan 13	% Change	0%	10.4%	6.5%	0.1%	2.2%	0.9%	1.7%	1.4%	1.4%	1.5%	1.0%	1.7%	2.9%	1.8%	1.9%	1.9%	2.8%	-2.5%	0.7%	2.4%	
C. Financial Ratios																							
No Incentives	Plan 0	Pre-Tax Interest Coverage	3.56	3.67	3.69	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
No Incentives	Plan 1	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.69	3.70	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.78	3.79	3.80	3.81	3.82	3.83	3.83
No Incentives	Plan 1	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.69	3.70	3.70	3.71	3.72	3.73	3.73	3.74	3.75	3.76	3.77	3.78	3.79	3.80	3.81	3.82	3.83	3.83
No Incentives	Plan 2	MAP	3.56	3.67	3.69	3.69	3.70	3.70	3.71	3.72	3.73	3.73	3.75	3.76	3.77	3.78	3.79	3.79	3.80	3.81	3.82	3.82	3.83
No Incentives	Plan 28	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.69	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 3	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.69	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 3	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.69	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 5	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.78	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 6	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.78	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 6	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.78	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 7	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 7	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 9	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 10	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.71	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.78	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 10	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.70	3.70	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83
No Incentives	Plan 12	Pre-Tax Interest Coverage	3.56	3.67	3.69	3.71	3.72	3.73	3.74	3.75	3.76	3.77	3.77	3.78	3.79	3.79	3.80	3.81	3.81	3.82	3.82	3.83	3.83
No Incentives	Plan 0	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 1	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 1	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 2	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 2	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 2	MAP	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 28	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 3	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 4	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 5	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 6	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 7	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 8	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 9	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 10	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	
No Incentives	Plan 11	Total Debt to Capital	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%				

Exhibit D

Annual Rates with Retail kWh Sales Reduction

		2019	2020	2021	2022	2023	2024	2025	2026	2027
Plan										
Plan 0	Total Revenue Requirement	559,461,724	611,910,944	636,701,503	629,791,955	637,049,935	644,908,467	660,368,590	672,966,420	683,827,229
Plan 0	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 0	Rate (cent/kWh)	10.20	11.60	12.39	12.22	12.32	12.42	12.67	12.88	13.05
Plan 0	% Change	0.0%	13.7%	6.8%	-1.4%	0.8%	2.0%	1.7%	1.4%	1.4%
Plan 1	Total Revenue Requirement	559,461,724	611,910,944	636,701,503	629,791,955	637,049,935	644,908,467	660,368,590	672,966,420	683,827,229
Plan 1	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 1	Rate (cent/kWh)	10.20	11.60	12.39	12.22	12.32	12.42	12.67	12.88	13.05
Plan 1	% Change	0.0%	13.7%	6.8%	-1.4%	0.8%	2.0%	1.7%	1.4%	1.4%
Plan 2	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,136,639	622,977,993	633,503,043	649,366,893	662,419,991	676,359,103
Plan 2	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 2	Rate (cent/kWh)	10.23	11.30	12.06	11.92	12.05	12.20	12.46	12.68	12.91
Plan 2	% Change	0.0%	10.5%	6.7%	-1.2%	1.1%	1.3%	2.1%	1.8%	1.8%
Plan 2B	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,136,639	624,132,242	638,383,975	653,707,980	666,258,308	678,604,832
Plan 2B	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 2B	Rate (cent/kWh)	10.23	11.30	12.06	11.92	12.07	12.29	12.54	12.75	12.95
Plan 2B	% Change	0.0%	10.5%	6.7%	-1.2%	1.3%	1.8%	2.0%	1.7%	1.6%
Plan 2 MAP	Total Revenue Requirement	561,181,422	596,732,063	620,423,303	614,867,091	623,598,843	634,020,610	649,784,491	662,736,180	676,591,611
Plan 2 MAP	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	7,871	22,138	33,387	41,311	49,142	56,867	64,537	72,221
Plan 2 MAP	Rate (cent/kWh)	10.23	11.32	12.09	11.95	12.09	12.24	12.50	12.72	12.96
Plan 2 MAP	% Change	0.0%	10.6%	6.8%	-1.1%	1.1%	1.3%	2.1%	1.8%	1.9%
Plan 3	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,136,639	622,402,441	631,062,065	647,195,897	660,500,442	683,619,983
Plan 3	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 3	Rate (cent/kWh)	10.23	11.30	12.06	11.92	12.04	12.15	12.42	12.64	13.05
Plan 3	% Change	0.0%	10.5%	6.7%	-1.2%	1.0%	1.0%	2.2%	1.8%	3.2%
Plan 4	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,650,866	624,322,403	634,762,291	650,546,135	663,522,982	676,330,442
Plan 4	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 4	Rate (cent/kWh)	10.23	11.30	12.06	11.93	12.07	12.22	12.48	12.70	12.91
Plan 4	% Change	0.0%	10.5%	6.7%	-1.1%	1.2%	1.2%	2.1%	1.7%	1.7%
Plan 5	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,274,785	622,904,169	631,512,617	647,596,431	660,852,429	683,923,977
Plan 5	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 5	Rate (cent/kWh)	10.23	11.30	12.06	11.92	12.05	12.16	12.42	12.65	13.05
Plan 5	% Change	0.0%	10.5%	6.7%	-1.2%	1.1%	1.0%	2.1%	1.8%	3.2%
Plan 6	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,136,639	622,977,993	633,503,043	649,366,893	662,419,991	680,922,923
Plan 6	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 6	Rate (cent/kWh)	10.23	11.30	12.06	11.92	12.05	12.20	12.46	12.68	13.00
Plan 6	% Change	0.0%	10.5%	6.7%	-1.2%	1.1%	1.3%	2.1%	1.8%	2.5%
Plan 7	Total Revenue Requirement	561,181,422	596,129,878	619,709,358	614,650,866	624,322,403	634,762,291	650,546,135	663,522,982	680,674,771
Plan 7	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 7	Rate (cent/kWh)	10.23	11.30	12.06	11.93	12.07	12.22	12.48	12.70	12.99
Plan 7	% Change	0.0%	10.5%	6.7%	-1.1%	1.2%	1.2%	2.1%	1.7%	2.3%
Plan 8	Total Revenue Requirement	560,735,016	595,576,123	619,098,940	616,629,496	629,257,296	638,599,258	653,603,399	665,636,656	678,095,110
Plan 8	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 8	Rate (cent/kWh)	10.22	11.29	12.05	11.97	12.17	12.30	12.54	12.74	12.94
Plan 8	% Change	0.0%	10.5%	6.7%	-0.7%	1.7%	1.1%	2.0%	1.6%	1.6%
Plan 9	Total Revenue Requirement	560,735,016	595,576,123	619,098,940	618,887,149	628,578,988	636,625,812	652,401,469	670,696,254	687,286,987
Plan 9	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 9	Rate (cent/kWh)	10.22	11.29	12.05	12.01	12.16	12.26	12.52	12.83	13.12
Plan 9	% Change	0.0%	10.5%	6.7%	-0.3%	1.2%	0.9%	2.1%	2.6%	2.2%
Plan 10	Total Revenue Requirement	560,735,016	595,576,123	619,098,940	616,989,330	629,830,580	637,260,413	652,458,636	664,671,219	677,322,699
Plan 10	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 10	Rate (cent/kWh)	10.22	11.29	12.05	11.97	12.18	12.27	12.52	12.72	12.93
Plan 10	% Change	0.0%	10.5%	6.7%	-0.6%	1.7%	0.8%	2.0%	1.6%	1.6%
Plan 11	Total Revenue Requirement	560,735,016	595,576,123	619,098,940	619,025,661	629,080,654	637,076,305	652,801,964	671,048,290	687,590,752
Plan 11	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 11	Rate (cent/kWh)	10.22	11.29	12.05	12.01	12.17	12.27	12.52	12.84	13.12
Plan 11	% Change	0.0%	10.5%	6.7%	-0.3%	1.3%	0.8%	2.1%	2.5%	2.2%
Plan 12	Total Revenue Requirement	560,735,016	595,576,123	619,098,940	621,898,487	637,655,670	646,663,021	661,355,016	673,081,645	685,205,904
Plan 12	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 12	Rate (cent/kWh)	10.22	11.29	12.05	12.07	12.33	12.45	12.69	12.88	13.08
Plan 12	% Change	0.0%	10.5%	6.7%	0.2%	2.2%	1.0%	1.9%	1.5%	1.5%
Plan 13	Total Revenue Requirement	560,735,016	595,576,123	619,098,940	622,415,038	638,999,595	647,921,822	662,533,874	674,184,287	686,225,117
Plan 13	Load	5,484,666	5,279,664	5,154,776	5,177,329	5,200,850	5,228,959	5,255,300	5,274,230	5,293,594
	DSM	-	5,382	16,025	24,314	30,430	36,527	42,585	48,647	54,680
Plan 13	Rate (cent/kWh)	10.22	11.29	12.05	12.08	12.36	12.48	12.71	12.90	13.10
Plan 13	% Change	0.0%	10.5%	6.7%	0.3%	2.3%	1.0%	1.9%	1.5%	1.5%

2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
697,828,159	708,094,180	722,860,273	746,598,077	762,665,314	779,324,751	797,179,341	824,688,574	812,155,872	831,081,498	854,243,050	874,057,081
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.28	13.43	13.69	14.12	14.40	14.69	14.99	15.46	15.18	15.49	15.86	16.23
1.7%	1.1%	1.9%	3.1%	2.0%	2.0%	2.1%	3.2%	-1.8%	2.0%	2.4%	2.3%
697,828,159	708,094,180	722,860,273	746,598,077	762,665,314	779,324,751	797,179,341	824,688,574	791,966,319	811,263,554	833,954,558	853,480,732
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.28	13.43	13.69	14.12	14.40	14.69	14.99	15.46	14.80	15.12	15.49	15.85
1.7%	1.1%	1.9%	3.1%	2.0%	2.0%	2.1%	3.2%	-4.3%	2.1%	2.5%	2.3%
695,628,287	706,314,961	723,148,842	746,461,587	761,775,230	777,690,961	795,312,532	823,036,043	804,874,236	813,204,156	835,542,857	854,701,365
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.24	13.40	13.70	14.12	14.38	14.66	14.95	15.43	15.05	15.15	15.52	15.87
2.5%	1.2%	2.2%	3.1%	1.9%	1.9%	2.0%	3.2%	-2.5%	0.7%	2.4%	2.3%
694,852,200	704,495,311	718,592,787	742,001,018	757,407,946	773,420,216	791,143,895	818,964,080	800,896,740	809,321,167	831,757,588	851,010,346
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.22	13.36	13.61	14.03	14.30	14.58	14.88	15.36	14.97	15.08	15.45	15.80
2.1%	1.1%	1.9%	3.1%	1.9%	1.9%	2.1%	3.2%	-2.5%	0.7%	2.4%	2.3%
695,780,255	706,320,408	723,209,972	746,438,948	761,703,031	777,514,606	794,972,688	822,613,978	804,402,138	812,695,092	834,906,203	854,048,795
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
79,670	86,612	93,311	99,363	105,415	111,354	117,279	121,199	123,810	126,487	129,329	129,329
13.29	13.45	13.75	14.18	14.44	14.72	15.02	15.50	15.11	15.22	15.58	15.94
2.6%	1.2%	2.3%	3.1%	1.9%	1.9%	2.0%	3.2%	-2.5%	0.7%	2.4%	2.3%
705,114,394	714,978,707	729,429,057	752,917,056	768,306,878	784,739,502	809,453,233	839,083,529	821,378,810	830,016,702	853,033,724	872,660,475
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.42	13.56	13.82	14.24	14.51	14.79	15.22	15.73	15.35	15.47	15.84	16.21
2.8%	1.1%	1.9%	3.1%	1.9%	2.0%	2.9%	3.4%	-2.4%	0.7%	2.4%	2.3%
693,717,457	704,857,696	719,255,860	742,911,035	758,901,255	776,008,899	794,067,873	822,056,780	804,452,879	813,885,791	836,553,248	855,974,720
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.20	13.37	13.62	14.05	14.33	14.62	14.93	15.41	15.04	15.16	15.54	15.90
2.3%	1.3%	1.9%	3.1%	2.0%	2.1%	2.1%	3.2%	-2.4%	0.8%	2.4%	2.3%
705,514,376	715,734,384	730,080,982	753,463,681	768,848,023	785,469,805	803,673,020	829,182,879	811,835,090	821,081,137	844,322,680	864,127,402
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.43	13.58	13.83	14.25	14.52	14.80	15.11	15.55	15.18	15.30	15.68	16.05
2.9%	1.1%	1.9%	3.0%	1.9%	2.0%	2.1%	2.9%	-2.4%	0.8%	2.5%	2.3%
701,228,282	710,955,301	725,203,340	748,633,327	764,010,804	780,221,249	798,499,314	828,870,599	810,686,091	818,935,747	841,261,357	860,384,739
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.35	13.49	13.74	14.16	14.42	14.70	15.01	15.54	15.15	15.26	15.62	15.98
2.7%	1.1%	1.9%	3.1%	1.9%	1.9%	2.1%	3.5%	-2.5%	0.7%	2.4%	2.3%
698,453,618	708,792,409	723,192,813	746,732,988	762,580,037	779,697,330	798,105,527	828,568,419	810,569,293	819,213,502	841,596,087	860,748,036
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.29	13.44	13.70	14.12	14.40	14.69	15.01	15.54	15.15	15.26	15.63	15.99
2.3%	1.1%	1.9%	3.1%	2.0%	2.1%	2.1%	3.5%	-2.5%	0.7%	2.4%	2.3%
691,485,284	702,131,099	718,911,175	742,140,537	757,384,296	773,053,681	790,260,476	815,243,498	797,257,532	805,763,201	828,283,628	847,615,262
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.16	13.32	13.62	14.03	14.30	14.57	14.86	15.29	14.90	15.01	15.38	15.74
1.7%	1.2%	2.2%	3.1%	1.9%	1.9%	2.0%	2.9%	-2.5%	0.7%	2.5%	2.3%
701,189,859	717,059,679	735,313,263	758,472,789	773,513,617	789,531,094	807,693,606	833,058,618	815,520,723	824,330,076	847,548,460	867,383,427
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.34	13.60	13.93	14.34	14.60	14.88	15.19	15.62	15.24	15.36	15.74	16.11
1.7%	1.9%	2.4%	3.0%	1.8%	1.9%	2.1%	2.9%	-2.4%	0.8%	2.5%	2.3%
691,570,636	702,543,267	716,770,069	740,286,716	756,159,458	772,952,665	790,596,160	815,912,195	798,448,757	808,021,688	830,833,864	850,392,263
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.16	13.33	13.58	14.00	14.28	14.57	14.87	15.30	14.93	15.06	15.43	15.79
1.8%	1.3%	1.9%	3.1%	2.0%	2.0%	2.1%	2.9%	-2.4%	0.9%	2.5%	2.4%
701,589,989	711,927,998	726,373,834	749,839,066	765,288,144	781,844,793	800,184,437	825,767,231	808,491,958	817,833,830	841,218,027	861,187,676
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.35	13.50	13.76	14.18	14.45	14.73	15.05	15.48	15.11	15.24	15.62	15.99
1.7%	1.1%	1.9%	3.1%	1.9%	2.0%	2.1%	2.9%	-2.4%	0.8%	2.5%	2.4%
698,317,687	707,731,464	721,643,089	744,789,711	759,913,631	775,579,172	792,895,483	817,857,099	799,889,479	808,378,765	830,998,903	850,427,952
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.29	13.42	13.67	14.08	14.35	14.62	14.91	15.34	14.95	15.06	15.43	15.79
1.6%	1.0%	1.8%	3.0%	1.9%	1.9%	2.0%	2.9%	-2.5%	0.7%	2.5%	2.3%
699,394,254	709,142,342	722,927,787	745,956,392	761,338,593	777,632,070	794,705,707	819,456,066	801,397,513	809,998,886	832,343,372	851,522,906
5,315,112	5,338,457	5,351,785	5,365,235	5,378,566	5,392,933	5,409,638	5,427,973	5,446,828	5,466,469	5,486,724	5,486,724
60,671	66,581	72,142	77,042	81,907	86,663	91,522	95,086	97,323	99,592	102,168	102,168
13.31	13.45	13.69	14.11	14.37	14.65	14.94	15.37	14.98	15.09	15.46	15.81
1.6%	1.1%	1.8%	3.0%	1.9%	2.0%	2.0%	2.8%	-2.5%	0.7%	2.4%	2.3%

2040	2041	2042	2043	2044	2045	2046	2047	2048	
892,422,760	913,556,309	935,777,681	958,414,656	981,437,891	1,004,901,087	1,028,839,023	1,053,262,508	1,078,182,375	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.57	16.97	17.38	17.80	18.23	18.66	19.11	19.56	20.02	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.16%
871,494,042	892,215,099	913,977,425	936,130,559	958,655,208	981,604,005	1,005,011,275	1,028,887,425	1,053,242,877	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.19	16.57	16.97	17.39	17.80	18.23	18.66	19.11	19.56	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.16%
872,344,289	892,681,841	914,048,604	935,803,300	957,930,731	980,483,058	1,003,493,481	1,026,975,019	1,050,940,893	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.20	16.58	16.98	17.38	17.79	18.21	18.64	19.07	19.52	
2.1%	2.3%	2.4%	2.4%	2.4%	2.3%	2.3%	2.3%	2.3%	3.20%
868,747,623	889,179,645	910,640,984	932,492,409	954,720,776	977,376,202	1,000,489,846	1,024,073,605	1,048,139,580	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.13	16.51	16.91	17.32	17.73	18.15	18.58	19.02	19.47	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.23%
871,675,404	891,996,235	913,345,857	935,082,985	957,192,408	979,726,277	1,002,717,780	1,026,179,926	1,050,125,923	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
129,329	129,329	129,329	129,329	129,329	129,329	129,329	129,329	129,329	
16.27	16.65	17.05	17.45	17.87	18.29	18.72	19.15	19.60	
2.1%	2.3%	2.4%	2.4%	2.4%	2.4%	2.3%	2.3%	2.3%	3.20%
890,795,540	911,642,365	933,583,927	956,029,981	978,912,854	1,002,234,542	1,026,029,653	1,050,311,840	1,075,094,985	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.54	16.93	17.34	17.76	18.18	18.61	19.06	19.51	19.97	
2.1%	2.3%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.37%
873,883,139	894,488,769	916,126,240	938,154,396	960,558,159	983,389,769	1,006,682,505	1,030,448,336	1,054,699,491	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.23	16.61	17.01	17.42	17.84	18.26	18.70	19.14	19.59	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.24%
882,429,888	903,440,558	925,545,583	948,157,462	971,211,517	994,706,442	1,018,673,545	1,043,128,831	1,068,088,537	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.39	16.78	17.19	17.61	18.04	18.47	18.92	19.37	19.84	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.23%
877,995,555	898,303,989	919,670,207	941,478,563	963,687,977	986,324,891	1,009,422,571	1,032,994,155	1,057,053,032	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.31	16.68	17.08	17.48	17.90	18.32	18.75	19.18	19.63	
2.0%	2.3%	2.4%	2.4%	2.4%	2.3%	2.3%	2.3%	2.3%	3.52%
878,389,331	898,730,038	920,129,990	941,976,313	964,230,973	986,917,151	1,010,064,851	1,033,686,245	1,057,793,675	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.31	16.69	17.09	17.49	17.91	18.33	18.76	19.20	19.64	
2.0%	2.3%	2.4%	2.4%	2.4%	2.4%	2.3%	2.3%	2.3%	3.53%
865,428,800	885,935,088	907,473,338	929,405,450	951,712,213	974,443,152	997,632,251	1,021,290,037	1,045,427,807	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.07	16.45	16.85	17.26	17.67	18.10	18.53	18.97	19.42	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.06%
885,713,267	906,774,417	928,929,905	951,513,701	974,509,549	997,997,347	1,021,986,371	1,046,461,599	1,071,433,668	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.45	16.84	17.25	17.67	18.10	18.53	18.98	19.43	19.90	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.98%
868,434,923	889,172,775	910,945,146	933,113,077	955,656,461	978,625,926	1,002,056,557	1,025,958,957	1,050,344,556	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.13	16.51	16.92	17.33	17.75	18.17	18.61	19.05	19.51	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.11%
879,652,571	900,849,019	923,139,613	945,860,941	968,972,585	992,523,956	1,016,548,280	1,041,060,005	1,066,072,117	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.34	16.73	17.14	17.57	18.00	18.43	18.88	19.33	19.80	
2.1%	2.4%	2.5%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%	3.06%
868,341,299	888,949,850	910,593,935	932,636,614	955,057,789	977,906,063	1,001,215,493	1,024,996,685	1,049,261,016	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.13	16.51	16.91	17.32	17.74	18.16	18.59	19.04	19.49	
2.1%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	3.04%
869,185,634	889,542,245	910,932,694	932,722,750	954,895,282	977,495,533	1,000,554,210	1,024,081,846	1,048,089,744	
5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	5,486,724	
102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	102,168	
16.14	16.52	16.92	17.32	17.73	18.15	18.58	19.02	19.46	
2.1%	2.3%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.3%	3.02%