

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Case No. 18-0974-TF

Tariff filing of Green Mountain Power requesting a)
5.45% increase in its base rates effective with bills)
rendered January 1, 2019, to be fully offset by bill)
credits through September 30, 2019)

GLOBALFOUNDRIES U.S. 2 LLC'S POST-HEARING BRIEF

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INTRODUCTION

Pursuant to Vermont Public Utility Commission Rule 2.222 and 2.223, GLOBALFOUNDRIES U.S. 2 LLC (“GLOBALFOUNDRIES”) submits the following proposed findings of fact and conclusions of law.

In a separate docket, Green Mountain Power (“GMP”) and GLOBALFOUNDRIES have jointly petitioned the Vermont Public Utility Commission to approve a contract governing the provision of electric service to GLOBALFOUNDRIES for a term beginning January 1, 2019 and ending September 30, 2022 (the “Term Contract”). *See* Docket No. 18-3160-PET. The Term Contract, which is supported by the Department of Public Service, addresses a critical need: stabilizing electric costs for Vermont’s largest for-profit employer and manufacturer. For years, GLOBALFOUNDRIES and its predecessor IBM have warned that rising electricity costs threatened the ability of GLOBALFOUNDRIES’ Vermont plant to remain in the State and compete with semiconductor manufacturing plants elsewhere in the country and around the world. The Term Contract provides much-needed incentives for GLOBALFOUNDRIES to maintain its operations in Vermont, keeping high-quality jobs and a reliable base load that lowers the overall costs borne by GMP’s other customers, and incentivizes GLOBALFOUNDRIES to create new and curtailable loads at its properties in the State.

While the Term Contract is not directly before the Commission here, it bears on the issues in this docket.¹ Thus, to the extent that the Commission considers the Term Contract in connection with this docket, GLOBALFOUNDRIES submits this brief to explain why the

¹ Due to the overlapping issues, the Commission has indicated it will be issuing rulings concurrently in this docket, the Term Contract docket, and GMP’s pending rate design docket (No. 18-2850-TF). In addition, GMP has filed supplemental testimony explaining the effects of the Term Contract on its pending multi-year regulation plan (Case No. 18-1633-PET).

governing legal standards, the express policy goals enunciated by the Legislature, and the interests of ratepayers and Vermonters strongly favor approval of the Term Contract.

I. PROPOSED FINDINGS OF FACT

A. GLOBALFOUNDRIES' Economic Benefit to Vermont

1. GLOBALFOUNDRIES is a semiconductor design, development, fabrication, and innovation company headquartered in Santa Clara, California, with approximately 18,000 employees worldwide. GLOBALFOUNDRIES designs and manufactures integrated circuits in high volume at fabrication plants around the world, including six in Singapore, one in Germany, two in New York, one in China, and one in Vermont. Prefiled Surrebuttal Testimony of Patrick Flaherty, Exh. GF-PF-1 (“Flaherty Prefiled”), 3:14-18.

2. The GLOBALFOUNDRIES facility in Vermont develops and manufactures semiconductor products including logic, microprocessor, and custom microchips. These devices are used in products such as cell phones, routers, and other electronics produced by technology companies worldwide. *Id.* 4:1-4.

3. The GLOBALFOUNDRIES campus in Essex Junction, Vermont has 30 buildings on 725 acres totaling more than 3.5 million square feet, including over half a million square feet of high tech clean room space. GLOBALFOUNDRIES also has buildings across the river in Williston, Vermont. *Id.* 4:14-17.

4. GLOBALFOUNDRIES is the largest for-profit employer in Chittenden County, accounting for 2.5% of total Chittenden County employment, and, with 2,536 employees in 2017, it is the largest for-profit employer in the state of Vermont (employing 0.7% of the 309,000 people on the payrolls of all state employers). *Id.* 4:10; Prefiled Surrebuttal Testimony of Arthur Woolf, Ph.D., Exh. GF-AW-1 (“Woolf Prefiled”), 3:15-20.

5. GLOBALFOUNDRIES provides jobs that pay significantly above the average for the region: GLOBALFOUNDRIES' Vermont workers earned \$195.5 million in wages in 2017, with an average of \$77,100 per worker at the site, compared to an average annual wage in Chittenden County of \$52,400 and an average for the state of \$46,200. Flaherty Prefiled 4:10-11; Woolf Prefiled 4:4-7.

6. GLOBALFOUNDRIES also provides benefits to its employees averaging \$34,400 per worker, for a total of \$87.1 million. The total compensation package per worker, which includes wages and fringe benefits, is \$111,400, for a total of \$282.6 million for all Vermont workers. Flaherty Prefiled 4:11-13; Woolf Prefiled 4:11-16.

7. GLOBALFOUNDRIES' Vermont employees had \$8.2 million withheld from their paychecks for state income taxes in 2017. Woolf Prefiled 5:7-16.

8. GLOBALFOUNDRIES also pays local property taxes to Williston and Essex, the two towns in which it has a physical presence, with \$1.9 million paid to Essex and roughly \$450,000 to the Town of Williston, for a total of \$2.35 million in annual property taxes. *Id.* 5:17-20.

9. GLOBALFOUNDRIES also has a sizable impact on the Vermont economy through its purchases and use of local vendors and suppliers. In the past year, GLOBALFOUNDRIES has spent \$70.2 million for goods and services provided by Vermont vendors. Of this amount, GLOBALFOUNDRIES paid \$39.1 million to Green Mountain Power for electricity. These payments represent over six percent of GMP's revenues. Flaherty Prefiled 5:3-5; Woolf Prefiled 6:3-8.

10. Since 2015, GLOBALFOUNDRIES has spent an average \$92.8 million annually on capital improvements, using local contractors as well as equipment purchased locally, nationally, and internationally. Flaherty Prefiled 5:6-8; Woolf Prefiled 6:8-11.

11. These local expenditures, together with expenditures by GLOBALFOUNDRIES' workers on locally provided goods and services, lead to the creation of jobs in other parts of the Vermont economy. Economist Art Woolf has estimated that the 2,536 jobs at GLOBALFOUNDRIES lead to another 6,340 jobs elsewhere in the economy, for a total of 8,876 jobs. Woolf Prefiled 6:12-21.

12. GLOBALFOUNDRIES is both the largest manufacturer in Vermont and largest single exporter in the State, responsible for over \$900 million of the reported \$2.776 billion of goods exported by Vermont firms in 2017. *Id.* 3:14-15, 7:1-14.

B. Impact of Rising Electricity Costs on GLOBALFOUNDRIES

13. As Vermont's largest manufacturer, GLOBALFOUNDRIES consumes more electricity than any other single GMP customer, and the cost of electricity for the company's Vermont site represents nearly 50 percent of the operational cost of the site to support manufacturing. Flaherty Prefiled 6:6-8, 6:20-21.

14. The electricity consumption for GLOBALFOUNDRIES' Vermont facility totaled approximately 407 million kilowatt-hours (kWh) in 2014, 409 million kWh in 2015, 403 million kWh in 2016, and 404 million kWh in 2017. *Id.* 6:14-16.

15. Production at GLOBALFOUNDRIES occurs 24 hours per day, 365 days per year, which results in a relatively high energy demand that is very stable. *Id.* 6:12-14.

16. GLOBALFOUNDRIES is the only electricity consumer in Vermont that takes service at 115 kV, directly from the state transmission grid. *Id.* 7:1-3.

17. GLOBALFOUNDRIES owns and pays to maintain the step-down transformers to which its transmission service is connected as well as its internal on-site distribution system, and, as such, it does not use GMP's distribution system. *Id.* 7:3-6.

18. In 2018, GLOBALFOUNDRIES will pay approximately \$38 million for electricity from GMP (compared to \$35.5 million in 2017). That translates into a unit cost paid to GMP of around \$0.094 per kWh in 2018. *Id.* 7:9-11.

19. That figure does not fully capture GLOBALFOUNDRIES' electricity costs: GLOBALFOUNDRIES will incur \$3.5 million in costs in 2018 to operate and maintain its distribution system and transformers, as well as \$1 million in 2018 on investments in efficiency through the Self-Managed Energy Efficiency Program. Taking into account all of these costs, GLOBALFOUNDRIES' effective rate for electricity in 2018 is expected to amount to approximately \$0.1052 per kWh. *Id.* 7:11-19.

20. Energy costs are a primary determinant of the competitiveness of GLOBALFOUNDRIES' operations in Vermont, as they are a primary driver of the facility's costs. GLOBALFOUNDRIES competes on a national and an international level and faces stiff competition from facilities that pay significantly less for electricity than GLOBALFOUNDRIES does in Vermont. *Id.* 8:14-22, 9:16-10:7.

21. GLOBALFOUNDRIES operates fabrication plants at two sites in New York, East Fishkill and Malta, at which the delivered cost of electricity in 2018 was \$0.0575 per kWh and \$0.0452 per kWh respectively. This translates to a comparative competitive disadvantage for GLOBALFOUNDRIES' Vermont facility with respect to the New York facilities in the amount of \$15 to \$20 million annually, based solely on energy costs. *Id.* 10:13-11:22.

22. GLOBALFOUNDRIES has indicated that without stable and reliable energy costs that are more competitive, the constant downward pressure on world-wide semiconductor pricing will force GLOBALFOUNDRIES to manufacture products in less expensive fabricators elsewhere and run the risk of losing customers to the competition. *Id.* 10:7-10.

C. The Term Contract

23. On July 31, 2018, GLOBALFOUNDRIES and GMP executed a Memorandum of Understanding (the “Memorandum of Understanding”) designed to provide support for GLOBALFOUNDRIES to maintain operations at its Vermont plant, continue to make purchases of electricity that will benefit all GMP customers by contributing to common costs, and expand economic development at its Williston property. Prefiled Rebuttal Testimony of Kristin Carlson, Exh. GMP-KC-1.

24. The parties subsequently executed an addendum on September 11, 2018 setting forth specific rates and terms to implement the Memorandum of Understanding (the “Addendum”). *Id.*

25. GMP and GLOBALFOUNDRIES together filed a petition for approval of the Term Contract, consisting of the Memorandum of Understanding and Addendum, on September 11, 2018. *See* Petition, Docket No. 18-3160-PET.

26. If approved, the Term Contract will, among other things:

a. adjust each component of the rate applicable to GLOBALFOUNDRIES under GMP’s Commercial and Industrial Transmission Service Rate Schedule, No. 70 (the “Transmission Rate”) by 2.73%, effective January 1, 2019, consistent with the Rate Design petition GMP filed in Case No. 18-2850-TF;

b. freeze the Transmission Rate for the period beginning January 1, 2019 and ending September 30, 2022, a period of 3 years and 9 months;

c. exempt GLOBALFOUNDRIES from any credits or adjustors, positive or negative, in effect under GMP's current Interim Regulation Plan (2018-2019), approved in the 2019 Rate Case (including any tax reform credits to be paid to customers related to the return to customers of Accumulated Deferred Income Taxes), or approved in the multi-year regulation plan docket, except that GLOBALFOUNDRIES will be subject to the Exogenous Change Adjustor for Major Storm expenditures reasonably related to transmission infrastructure repairs;

d. provide an additional incentive to GLOBALFOUNDRIES to develop new and curtailable load, which benefits all GMP customers, by increasing its own operations or attracting new curtailable load from tenants or purchasers of its properties that can be utilized by GMP to lower costs for all customers; and

e. commit GLOBALFOUNDRIES to continue to consume electricity from GMP during the term of the Term Contract at least at the baseline amount of 350 million kWh of electric energy per year.

Id.

27. Under the Term Contract, GLOBALFOUNDRIES would also continue to pursue all cost-effective energy efficiency and conservation measures in cooperation with GMP, thereby advancing the State's energy policy with respect to energy efficiency. GLOBALFOUNDRIES would file an annual report within 120 days of the anniversary of each year following contract approval identifying the past year's load for the Vermont facility, the amount spent on energy

efficiency, a description of specific energy efficiency or other energy savings actions undertaken, and the amount of energy saved. Flaherty Prefiled 13:6-13.

28. The Term Contract would provide upside for the other customers served by GMP because, in exchange for rate stability, GLOBALFOUNDRIES would give up its right to other financial benefits that could arise in the coming years. Prefiled Testimony of Kristin Carlson, Docket No. 18-3160-PET,² 3:18-20, 15:12-15.

29. Additionally, providing incentives for GLOBALFOUNDRIES to maintain its operations in Vermont will help avoid the shift of infrastructure costs to other GMP customers that would occur if GLOBALFOUNDRIES were to discontinue its operations. GMP has calculated that the cost of the Term Contract is more than 2.5 times lower than the revenue loss customers would have to pay in the event GLOBALFOUNDRIES exited Vermont. *Id.* 3:20-4:2, 12:16-13:6, 16:9-11.

30. The Term Contract would effectively lower GLOBALFOUNDRIES' overall revenue contribution to GMP (based upon 2017 revenues) from 6.17% to 6.00%. Even with this reduction, GLOBALFOUNDRIES' revenue contribution would remain well above the marginal cost to serve GLOBALFOUNDRIES. Prefiled Testimony of Scott R. Anderson, Docket No. 18-3160-PET, 4:51-53, 6:87-100.

II. PROPOSED CONCLUSIONS OF LAW

Pursuant to 30 V.S.A. § 229, a public service company may enter into a contract for a “definite term” subject to approval from the Commission. The Commission will grant approval of such a contract where, among other things, it will promote efficient use of energy, will be just and reasonable, and will not be unjustly discriminatory. *See* Docket S.C. #1005, Order of March

² Attached as Exh. GMP-KC-2 to the Prefiled Rebuttal Testimony of Kristin Carlson in this docket.

20, 2015, at 4. Here, the proposed Term Contract satisfies § 229's standards, advances the expressed policy goals of the Legislature, and will inure to the benefit of GMP ratepayers and Vermonters generally. It should be approved for those reasons.

In Docket S.C. # 1005, weighing the approval of a special contract between the Village of Enosburg Falls Water & Light Department and Franklin Foods, Inc., the Commission began its analysis with the policy objectives set forth in 30 V.S.A. § 218e. That provision, enacted by the Legislature in 2014, states as follows:

To give effect to the policies of section 202a of this title to provide reliable and affordable energy and assure the State's economic vitality, it is critical to retain and recruit manufacturing and other businesses and to consider the impact on manufacturing and other businesses when issuing orders, adopting rules, and making other decisions affecting the cost and reliability of electricity and other fuels. Implementation of the State's energy policy should:

- (1) encourage recruitment and retention of employers providing high-quality jobs and related economic investment and support the State's economic welfare; and
- (2) appropriately balance the objectives of this section with the other policy goals and criteria established in this title.

The Commission concluded that the policy goals enunciated in § 218e supported approval of the contract because Franklin Foods was “a primary employer in Enosburg Falls’ service territory, . . . Enosburg Falls’ largest customer,” and “an important manufacturer in the local economy.” Docket S.C. #1005, Order of March 20, 2015, at 3.

To say that the same is true of GLOBALFOUNDRIES would substantially understate the case. GLOBALFOUNDRIES’ is Vermont’s biggest manufacturer, providing high-quality jobs in high-tech manufacturing to a large number of employees; its presence in the State results in significant contributions to the State’s economic welfare, including tens of millions of dollars in purchases of services and goods from local vendors annually. That being so, Section 218e

unambiguously requires that the State's energy policy be implemented so as to encourage retention of GLOBALFOUNDRIES as an employer.

The Commission must "appropriately balance" this policy imperative with the other criteria and policy goals under Title 30, including the criteria typically applied in considering special contracts under § 229. Those criteria all favor approval. To begin with, the Term Contract will promote the efficient use of energy by requiring GLOBALFOUNDRIES to continue to pursue all cost-effective energy efficiency and conservation measures in cooperation with GMP. Under the Term Contract, GLOBALFOUNDRIES will file an annual report within 120 days of the anniversary of each year identifying the past year's load for its Vermont facility, the amount spent on energy efficiency, a description of specific energy efficiency or other energy savings actions undertaken, and the amount of energy saved. The provisions of the Term Contract are also structured to ensure that the revenues generated for GMP under the Term Contract will significantly exceed the marginal costs to serve GLOBALFOUNDRIES' load and provide a contribution to GMP's fixed costs, thus rendering the rate just and reasonable, as required by 30 V.S.A. § 218(a).

Finally, the proposed Term Contract is fair and equitable. While the Term Contract does not contain specific employment benchmarks such as the Franklin Foods contract had, it also does not provide the level of incentives in the Franklin Foods contract. Instead, like the rate freeze agreement approved by the Commission in 2014 for IBM, the Term Contract will create economic benefits that might not otherwise exist by incentivizing the State's largest manufacturing employer to maintain its operations in the State, keeping high-quality jobs and a reliable base load that lowers the overall costs borne by GMP's other customers. It also requires GLOBALFOUNDRIES to forgo certain value that will flow to all other customers through

