

ATTACHMENT 2

STATE OF NEW HAMPSHIRE
BEFORE THE ENERGY FACILITY SITE EVALUATION COMMITTEE

Docket No. SEC _____

Joint Petition of Granite Ridge Energy, LLC and
Calpine Granite Holdings, LLC
For Approval to Transfer Membership Interests in Granite Ridge Energy, LLC
Under RSA 162-H

TESTIMONY OF WILLIAM H. FERGUSON
ON BEHALF OF GRANITE RIDGE ENERGY, LLC, CALPINE GRANITE HOLDINGS, LLC
AND CALPINE CORPORATION

1 **Q. Please state your name, business address and occupation.**

2 **A.** My name is William H. Ferguson. I am East Region Vice President of Operations for
3 Calpine Corporation (“Calpine”). My business address is 500 Delaware Ave., Suite 600,
4 Wilmington, DE 19801.

5 **Q. In what capacity are you testifying today?**

6 **A.** I am here today to offer testimony in support of the Joint Petition of Granite Ridge
7 Energy, LLC (“Granite Ridge”) and Calpine Granite Holdings, LLC (“Calpine Granite”) for Approval
8 to Transfer Membership Interests in Granite Ridge to Calpine Granite. The structure of the
9 transaction through which Calpine Granite proposes to acquire all of the membership interests
10 of Granite Ridge is more fully described in the Joint Petition and the testimony of Mauricio Del
11 Valle. Upon consummation of the transaction, all of the membership interests of Granite Ridge
12 will be directly owned by Calpine Granite. Calpine Granite is an indirect subsidiary of Calpine
13 Corporation (“Calpine”). My testimony will focus on the technical and managerial capability of
14 Calpine and Calpine Granite to operate and manage the facility owned and operated by Granite
15 Ridge known as the Granite Ridge Energy Facility in continued compliance with the terms and
16 conditions of the Certificate of Site and Facility issued by the New Hampshire Site Evaluation
17 Committee on May 25, 1999, in Docket No. 98-02 (the “Certificate”).

18 **Q. Please describe your background and experience with Calpine.**

19 **A.** I have been employed with Calpine in various capacities of increasing responsibility
20 since 2001. I assumed the title of East Region Vice President, Operations in 2010, at which time
21 I relocated to our regional business office in Wilmington, DE. From 2008 to 2010 I served in a
22 similar role as Regional Vice President of Operations in Calpine’s Western Region, where I was
23 responsible for the overall operation of 18 power plants, totaling approximately 6,000
24 megawatts, located in California, Arizona, Colorado and Oregon. From January, 2007 to
25 January, 2008 I served as Western Region Director of Asset Management, where I assumed the
26 lead role in completing the restructuring of various contracts associated with the Calpine
27 Pittsburg Plant. From November, 2004 through December, 2006 I served as West Region
28 Director of Operations Engineering, a role in which I supported the Sales and Marketing,
29 Business Development, and Financial Analysis Groups in responding to various Request for

1 Proposals (“RFP”) opportunities in the California market. During the period August, 2001
2 through November, 2004 I served as General Manager of the Calpine Delta Projects. During
3 this period, I had overall daily operational and managerial responsibility for a group of four
4 power plants with a combined total of 1,400 megawatts of electric generating capacity and a
5 full-time staff of 64 employees.

6 **Q. Please describe your education and other relevant industry experience.**

7 **A.** In total I have more than 40 years of direct experience in the energy and electric power
8 industry. Prior to joining Calpine in 2001, I served as Senior Manager, Operations and
9 Maintenance, for United American Energy Corp., which owned three power generating facilities
10 in California. From 1999 to 2000 I was General Manager at Constellation Power Inc., which was
11 a 50 percent owner of the Central Wayne Resource Recovery Project in Dearborn Heights,
12 Michigan. From 1984 through 1998 I worked in a series of roles of increasing responsibility at
13 Wheelabrator Technology Inc., headquartered in Hampton, New Hampshire, which was a
14 national leader in the waste-to-energy and independent power business. I ultimately closed my
15 tenure at Wheelabrator as Regional Vice President and General Manager. I started my career in
16 1972 as a Project Engineer in the Paper Mill Department of Stone Container Corp., located in
17 Hopewell, Virginia. In the intervening years I moved up through the ranks at Stone Container
18 and by 1978 I became Superintendent of the plant’s Power and Recovery Department. I hold a
19 B.S. in Mechanical Engineering from Virginia Polytechnic Institute in Blacksburg, Virginia.

20 My resume is appended to this testimony as Exhibit A.

21 **Q. Please provide an overview of your current responsibilities as Calpine’s East Region VP**
22 **of Operations.**

23 **A.** I am one of three regional Operations Vice Presidents in the Calpine organization. As
24 such, I report directly to Tom Webb, our Executive Vice President of Operations, who is a senior
25 member of Calpine’s corporate leadership team. I have attached a chart showing Calpine’s
26 senior management team as Exhibit B. My regional responsibilities, prior to the acquisition of
27 Granite Ridge, include oversight of 18 power plants or groups of plants in 28 different locations
28 across 14 states. I supervise 15 Plant Managers/General Managers, I am responsible for the
29 safe and reliable operation of 9,200 megawatts of electric generating capacity, and I am directly

1 involved in a wide range of issues related to plant operations and maintenance and compliance.
2 While serving as Calpine’s East Region VP of Operations I have played a major role in the
3 integration of 20 power plants into Calpine’s fleet of power generation facilities. Of these,
4 Calpine acquired 19 as a package in 2010. The most recent was Calpine’s acquisition of the
5 Fore River Energy Center in 2014. I have attached a chart showing Calpine’s East Region
6 Organization and Support Functions as Exhibit C.

7 **Q. Please describe why you are qualified to testify as to the managerial and technical**
8 **capability of Calpine Granite and Calpine.**

9 **A.** In addition to my extensive experience with integrating newly acquired assets into
10 Calpine’s fleet, my day-to-day responsibilities include a broad range of activities related to
11 technical operating issues and plant management. For example, I have direct supervisory
12 responsibility for developing annual plant-specific O&M budgets, which requires me to be
13 knowledgeable about a broad range of plant-specific technical, financial, and human resources
14 issues. I am also directly involved in planning related to planned maintenance outages and
15 helping to coordinate a timely and efficient response to any unplanned outages or equipment
16 problems. My team manages numerous contracts with various outside vendors, and I have
17 extensive experience in labor negotiations and other personnel-related management duties.

18 **Q. What is the purpose of your testimony?**

19 **A.** The purpose of my testimony is to demonstrate unequivocally that Calpine Granite and
20 Calpine possess the managerial and technical capability as well as the necessary resources to
21 own and operate the Granite Ridge Energy Facility in a safe, reliable, efficient, and profitable
22 manner. Upon transfer of ownership, Granite Ridge will benefit from the breadth and depth of
23 experience and expertise Calpine brings to the table as the nation’s premiere independent
24 power producer.

25 It is my understanding that New Hampshire law provides that a certificate of site and
26 facility “shall not be transferred or assigned without approval of the committee.” RSA 162-H:5,
27 I. In addition, the Certificate provides that: “any change in ownership of the applicant, AES
28 Londonderry, LLC, without the approval of this Committee, shall render the Certificate subject
29 to revocation....” Certificate at General Condition 6. It is my further understanding that when

1 considering a request for approval of a change in ownership, this Committee considers whether
2 the proposed owner has adequately demonstrated that it has the financial, managerial and
3 technical capabilities to operate the facility in accordance with its certificate of site and facility.
4 I believe that my testimony, along with the content of the Joint Petition, demonstrates that
5 Calpine Granite and Calpine have the technical and managerial capability to operate the Granite
6 Ridge Energy Facility in compliance with the terms and conditions included in the Certificate.

7 **Q. Please provide a general description of Calpine Corporation.**

8 **A.** Calpine is a Fortune 500 company that is among the largest independent power
9 companies in the United States. Calpine has a market capitalization of approximately \$6 billion
10 and 2014 annual revenues of approximately \$8 billion. Calpine has more than three decades of
11 experience related to the development, construction and operation of large-scale power
12 generating facilities. Calpine employs more than 2,000 professionals and its fleet currently
13 includes 82 operating power plants and one under construction located throughout 18 states
14 and Canada, representing a combined total of more than 27,000 megawatts of electric
15 generating capacity. Calpine's headquarters are located in Houston, Texas. Calpine is a
16 publicly-owned company with stock traded on the New York Stock Exchange under the symbol
17 NYSE:CPN. Calpine's website is www.calpine.com.

18 **Q. Please describe Calpine's existing power generation fleet.**

19 **A.** Calpine's fleet of power generation assets is almost exclusively comprised of natural
20 gas-fired, combined-cycle power plants, similar in design and operation to Granite Ridge.
21 Indeed, Calpine owns and operates the largest fleet of combined-cycle and combined-heat-and-
22 power (cogeneration) electric generating facilities in North America. Therefore, Granite Ridge is
23 ideally suited to become a member of the Calpine fleet, and Calpine is an ideal owner of such
24 an asset since the company has unparalleled experience in the ownership and operation of gas-
25 fired, combined-cycle generation. I have included a map showing Calpine's existing operations
26 as Exhibit D. In addition, Calpine owns and operates 725 megawatts of baseload geothermal
27 capacity at The Geysers, located west of Napa and Sonoma Counties, in northern California. The
28 Geysers facility is the largest single-site geothermal complex in the world.

29 **Q. Please describe Calpine's existing presence in New England.**

1 **A.** Calpine has substantial existing expertise and experience in New England. The company
2 currently owns and operates the 552-megawatt Westbrook Energy Center, in Westbrook,
3 Maine, and the 731-megawatt Fore River Energy Center, located in North Weymouth,
4 Massachusetts. Calpine has owned Westbrook since construction and its initial commercial
5 operation date (“COD”) in 2001. Calpine purchased the existing Fore River facility from Exelon
6 Corporation in 2014. Both plants, like Granite Ridge, are gas-fired, combined-cycle generating
7 units and participate in the regional energy, capacity and ancillary services markets
8 administered by ISO-NE.

9 **Q. Are you familiar with the Certificate of Site and Facility for Granite Ridge, including all**
10 **of its terms and conditions?**

11 **A.** Yes. I have reviewed the existing Certificate and I find that the included terms and
12 conditions are both generally typical of the types of regulatory requirements to which power
13 plants are subject, and are well within Calpine’s capabilities with respect to ongoing
14 compliance.

15 **Q. Please provide a general description of Calpine’s experience and expertise with**
16 **respect to electric power markets.**

17 **A.** Calpine is a significant player in the U.S. electric power industry. The company owns
18 and operates power generating facilities in all the organized competitive markets throughout
19 the U.S., including ISO-NE, NYISO, PJM, ERCOT, MISO, and CAISO. Calpine participates both in
20 “merchant” markets – i.e. restructured markets in which most if not all power sales
21 transactions occur on a day-ahead or real-time basis – as well as bilateral markets in which
22 Calpine operates facilities pursuant to Power Purchase Agreements with various utility or other
23 counterparties. According to the most recent data published by Platts, a leading global
24 provider of energy information, Calpine is currently the 6th largest electric generating company
25 in the nation as measured by annual electrical power produced. This means that Calpine
26 provides approximately 3 percent of the total electricity needs of the United States.

27 **Q. Please explain Calpine’s experience and expertise with respect to natural gas markets.**

28 **A.** Power generating facilities such as Granite Ridge must navigate successfully in both the
29 power markets in which they are located as well as the regional natural gas markets that supply

1 their fuel. A significant benefit of transferring ownership of Granite Ridge to Calpine is related
2 to Calpine's natural gas expertise. Indeed, Calpine is the largest gas-fired power producer in
3 the U.S. and, as such, is the largest overall natural gas consumer in nation's electric power
4 sector, if not the overall U.S. economy. On an annual basis, Calpine uses approximately 10
5 percent of the natural gas consumed in the nation's power generating sector. Calpine
6 purchases approximately 0.8 Trillion Cubic Feet ("TCF"), or approximately \$2.5 Billion worth of
7 natural gas per year and manages its natural gas commodity and transportation needs from its
8 full time Houston-based trading desk. Calpine utilizes a wide range of arrangements to fuel its
9 plants depending on regional and local market characteristics, including the use of firm and
10 interruptible pipeline transportation, firm-delivered services, and tariff agreements with natural
11 gas local distribution companies ("LDCs") when Calpine's power plants are located behind the
12 LDC City Gate. Unlike many other gas-fired power producers, Calpine manages its natural gas
13 commodity and transportation activities internally, rather than relying on a third-party asset
14 manager. Calpine maintains strong historic relationships with a broad spectrum of natural gas
15 counterparties in the U.S. and Canada.

16 **Q. Please discuss Calpine's managerial expertise with respect to the acquisition of power**
17 **plants.**

18 **A.** Calpine has a proven track record with respect to the acquisition of power plants similar
19 to Granite Ridge. In 2010, for example, Calpine acquired 19 power plants totaling
20 approximately 4,500 megawatts in a \$1.6 billion transaction with Conectiv Energy. All of those
21 units are located within the PJM market, primarily in the states of Delaware, New Jersey and
22 Pennsylvania. The Conectiv acquisition is the underlying reason why Calpine opened a regional
23 office in Wilmington, Delaware. I relocated from California to Delaware at that time to assume
24 my current position and manage the integration of the Conectiv assets and personnel into the
25 Calpine organization.

26 **Q. Can you provide a more recent example of Calpine's managerial expertise related to**
27 **power plant acquisition?**

28 **A.** Yes. Last year Calpine purchased the Fore River Energy Center, located in North
29 Weymouth, Massachusetts, from Exelon Corporation in a \$530 million transaction. We were

1 able to effect a seamless integration of the plant and existing plant personnel. In the past two
2 years Calpine also implemented similarly successful transitions with the acquisition of the 762-
3 megawatt Bosque Energy Center in Laguna Park, Texas and the 1,009-megawatt Guadalupe
4 Energy Center in Marion, Texas.

5 **Q. Who will be the key Calpine personnel that will manage the successful integration of**
6 **the Granite Ridge facility?**

7 1. Steven Smith, Director, East Region Asset Management, will manage the integration of the
8 Granite Ridge Facility. Steven has over 25 years of power industry experience, including 12
9 years at Calpine. His current duties include acquisition activities and problem solving for
10 operations and maintenance. He has held various roles in power plant operations and
11 maintenance during his career including Plant Manager at Calpine's Osprey Energy Center in
12 Auburndale, Florida.

13 2. Annie Tighe, Regional Director of Human Resources, will also be involved in the integration
14 team. Annie has over 19 years of human resources experience, including 4 years at
15 Calpine. Her duties include employee and labor relations, collective bargaining, and strategic
16 partnering with management.

17 3. Seth Berend, Director, Power Trading, will be part of the integration team. During his 13-
18 year tenure with Calpine Seth has been one of the lead members within Calpine's trading
19 organization with responsibility for day-ahead and real-time commercial strategies related to
20 the integration of new assets into the company's fleet. He is intimately familiar with the ISO-NE
21 market as well as NYISO, PJM, MISO, and CAISO.

22 4. Brett Lindsey, Director of Information Technology, will also be part of the team. Brett has
23 over 25 years of Information Systems experience. He has been with Calpine for nearly 6 years
24 where his current responsibilities include Enterprise Information Management, Plant Data
25 Systems, and M&A IT Coordination.

26 5. Paul Dougherty, Operations Analysis Manager, will participate in the integration. Paul holds
27 a Bachelor of Science Degree from Texas A&I University in Electrical Engineering and has over
28 34 years of energy generation and delivery experience, including 15 years at Calpine. Currently

1 he is responsible for real-time telemetry systems between the Calpine Power Plants and the
2 Calpine EMS, ISO and TO/Bas, real-time telemetry of gas pipeline data, and Electric Revenue
3 Meters at the Point of Interconnection. Paul provides daily leadership over day-to-day
4 operations regarding RTUs, Revenue Metering and Gas telemetry. He also works closely with
5 the internal teams responsible for plant dispatch and settlements.

6 6. Tom Long, Vice President, Development and Optimization Engineering, will also be
7 involved. Tom has over 20 years of industry experience, including 15 years at
8 Calpine. Currently he is responsible for the growth and optimization initiatives for Calpine. He
9 provides technical and commercial insight for long and short term origination, development,
10 trading and M&A activities as well as leading performance optimization, testing and diagnostic
11 activities.

12 7. Andre Walker, Calpine's Vice President of Power Operations Administration and Strategic
13 Procurement, will participate, as well. Andre has been with Calpine for 16 years and his
14 responsibilities include long term maintenance planning as well as establishing and
15 implementing optimization initiatives for the power operations department in addition to
16 strategic supplier relationships and procurement of all capital equipment.

17

18 **Q. Please describe the basic steps involved in the acquisition of an existing power plant.**

19 **A.** In order to ensure a seamless ownership transition, it is important for the buyer to
20 undertake a variety of activities prior to actual financial closing. The goal is to ensure that the
21 plant remains in operation throughout the transition and that its employees experience the
22 greatest possible level of continuity in their daily work duties. The first significant step in this
23 type of ownership transfer relates to information technology ("IT"). Power plants like Granite
24 Ridge have a number of important communications interfaces that must be securely
25 transferred and updated, as necessary. In Calpine's fleet, for example, our plants communicate
26 real-time data to our trading floor related to plant operations, gas and power metering, etc.
27 Power plants also maintain critical communications interfaces with their local transmission
28 owner and/or Regional Transmission Operator, such as ISO-NE in this case. These IT systems
29 must be updated, calibrated and tested prior to the actual ownership transfer and that effort

1 must be accomplished with appropriate regard to current cybersecurity requirements, etc. The
2 result of this effort is to ensure that power supplied from the plant to the electrical grid is not
3 interrupted and that Granite Ridge will be able to continue to comply with its capacity supply
4 obligations to ISO-NE.

5 **Q. What other important activities must be accomplished prior to closing?**

6 **A.** Prior to closing, Calpine must review and understand any and all existing contractual
7 relationships and obligations as well as the plant’s existing regulatory approvals and conditions,
8 in order to ensure ongoing compliance with applicable requirements. Also, it is obviously
9 essential that we work with existing plant personnel to facilitate the onboarding process within
10 Calpine’s HR system. Our intent is to ensure that, as of day one, our new employees are fully
11 set up within the Calpine payroll and benefits system so that we minimize any disruption to
12 their personal lives and their normal daily work activities. Calpine has a proven track record in
13 this regard.

14 **Q. Please describe how Calpine plans to staff Granite Ridge.**

15 **A.** Granite Ridge Energy Facility is currently operated and maintained pursuant to an
16 Amended and Restated Operation and Maintenance Agreement (“O&M Agreement”) between
17 NAES Corporation (“NAES”) and Granite Ridge Energy, LLC. Calpine has the option to either
18 extend and continue the O&M Agreement or terminate the contract and offer employment to
19 the existing plant personnel as Calpine employees, subject to Calpine’s typical employee
20 screening practices. At this time, a final decision on whether Calpine will terminate the existing
21 O&M Agreement and extend offers to existing plant staff, or continue with the O&M
22 Agreement, has not been made.

23 By way of further background, when this Committee was asked to approve the transfer
24 of ownership from AES Londonderry, LLC (“AESL”) to its lenders in 2004, the applicants
25 submitted testimony indicating that the lenders, as the new owners of the facility now known
26 as Granite Ridge (the “Facility”), would enter into an operation and maintenance agreement
27 with NAES to complete, maintain and operate the project, thus satisfying the managerial and
28 technical capability requirement. The prefiled testimony submitted at that time included
29 testimony from Oscar D. Scarborough, Vice President, Power Plant Operations with NAES, who

1 also testified at the hearing before this Committee, describing NAES’s managerial and technical
2 capability. This testimony included a description of the extensive experience that NAES had in
3 operating and managing more than 60 power plants, many of which were similar in technology
4 to Granite Ridge, and experience with at least 34 plant transfers and takeovers. When it
5 approved the transfer of ownership the SEC noted: “NAES has experience in dealing with the
6 operational challenges that accompany the management of such plants.” *Joint Application of*
7 *AES Londonderry, et al.*, Decision and Order, Docket No. 2004-01 (October 14, 2004) at 7. The
8 Committee went on to say:

9 The record clearly demonstrates that NAES has the technical and managerial
10 capability to manage and operate the Project. NAES has over twenty years
11 experience in the industry and has successfully managed and operated dozens of
12 power plants, many of which share similar technologies with this Project.

13 Additionally, NAES is familiar with operating plants that are in a distressed
14 financial condition and subject to the same constraints that apply in this case. *Id.*

15 At 8.

16 Subsequent to the Committee approval in 2004, NAES, on behalf of the new owners,
17 completed work on the Facility and since then it has maintained and operated the Facility
18 safely, responsibly and economically, in compliance with the terms and conditions of the
19 Certificate. Granite Ridge has since renewed the NAES contract in 2010 and again in 2015.
20 The O&M Agreement between Granite Ridge and NAES describes the duties of NAES with
21 regard to operating and regulatory reporting at the Facility. NAES must maintain complete
22 records of all transactions, operations, and maintenance relating to the Facility. The Agreement
23 states that NAES will employ, hire, train, direct and compensate all employees that operate and
24 maintain the Facility. NAES is also responsible for all planning and scheduling of major
25 maintenance activities. The Facility must be operated and maintained in compliance with all
26 applicable federal, state, and local laws, statutes, regulations, and codes, and in compliance
27 with the terms and conditions of the Certificate. NAES coordinates with applicable
28 governmental agencies operating, safety, health, and environmental permits, licenses, and
29 approvals required to operate or maintain the Facility. NAES employs 27 people at the Facility.

1 The O&M staff is comprised of a plant manager; one plant engineer; one plant administrator;
2 one operations manager; four control room operators; four power block operators; four water
3 treatment operators; one maintenance manager; four instrument controls and electrical
4 technicians; three mechanical technicians; one buyer/planner, one warehouse technician, and
5 one environmental, health, and safety manager. The station is manned 24 hours per day.
6 As an example of the NAES staff's competency it is noteworthy that Granite Ridge has received
7 nine Best Practice awards in the past six years from *Combined Cycle Journal*, a nationally
8 recognized electric power industry trade magazine. Multiple Best Practice Awards were
9 received in 2012, 2013 and 2015. These awards range from safety and environmental best
10 practices to outage planning efficiencies and process management.

11 Thus, whether Calpine elects to continue with the O&M Agreement or terminate the
12 contract and extend offers to existing plant staff, Calpine will have access to experienced and
13 qualified personnel who know the Facility and have a proven track record of operating it in
14 compliance with terms and conditions of the Certificate, the ISO-NE tariff, and all local, state
15 and federal requirements. Thus, in addition to the extensive managerial and technical
16 expertise and experience that Calpine brings to its ownership and operation of this Facility it
17 will have access to similarly extensive expertise and experience provided by NAES employees
18 that will ensure a smooth transition of ownership and continued operation in compliance with
19 the Certificate and all applicable requirements.

20 **Q. Have you visited the Granite Ridge facility?**

21 **A.** Yes. Annie Tighe, our regional Director of Human Resources, and I visited the plant and
22 its personnel on October 15, 2015 to provide an introduction to Calpine.

23 **Q. What should plant personnel expect in the weeks and months after Calpine takes**
24 **ownership?**

25 **A.** As a large corporation that manages its fleet on an integrated basis, Calpine has
26 numerous policies and procedures that all of its employees must understand and acknowledge.
27 We realize, however, that both the company and its new employees benefit from an orderly
28 rollout of this information. In an acquisition situation, Calpine tailors its internal training so that
29 new employees are brought fully up to speed on its policies and procedures in a thoughtful and

1 organized manner, and this usually occurs over the first 60 to 90 days after we assume
2 ownership.

3 **Q. What is the basic message you try to instill in your new employees?**

4 **A.** Calpine's mission is to remain the premier power generation company in the United
5 States. We have a set of guiding principles we expect our employees to apply to every task,
6 action, pursuit and decision in their daily work lives. We refer to these core values as our
7 ASPIRE program, which stands for: Accountability; Safety; Passion; Integrity; Respect; and Esprit
8 de Corps. Calpine's ongoing internal education and training efforts are based on those values. I
9 have attached a chart with a more detailed explanation of ASPIRE as Exhibit E. In addition,
10 Calpine will continue to encourage and support ongoing plant and employee community
11 outreach activities at Granite Ridge.

12 **Q. As regional Vice President of Operations, are you in regular communication with the
13 plants under your jurisdiction?**

14 **A.** Yes. I communicate with all my plant managers at least once per week, during a
15 regional operations conference call, and on an as-needed basis. We use our weekly call as an
16 opportunity to ensure that the plants are aware of any changes in corporate policies or
17 procedures and to compare notes on plant performance and share any lessons learned.

18 **Q. Do you feel that Calpine has the ability to successfully manage the ownership
19 transition and ongoing operation of the Granite Ridge Energy Facility?**

20 **A.** Yes. For the reasons stated above, I am confident the Granite Ridge Energy Facility and
21 its personnel will be joining a company with a proven track record of managing a large existing
22 fleet of power generating assets and significant expertise in ensuring a seamless experience in
23 the acquisition of new power plants.

24

1 **Q. Please generally discuss Calpine’s experience, expertise and overall technical**
2 **capability to operate Granite Ridge.**

3 **A.** Calpine has a proven track record of safe and reliable power plant operations and
4 maintains high standards for employee and contractor safety and plant-specific environmental
5 performance. Calpine is structured so that functions such as human resources, accounting,
6 information technology, legal, finance, engineering, procurement and parts management,
7 among others, -- as well as market-related commercial transactions – are centrally managed,
8 freeing up power plant personnel to focus on the safe and efficient operation of their specific
9 facilities. At the same time, the company’s unmatched experience in the operation of natural
10 gas-fired, combined-cycle generating facilities provides extensive technical benefits to Calpine’s
11 individual plants in the form of a substantial knowledge base, internal subject matter expertise,
12 and powerful economies of scale.

13 **Q. How is Calpine different than many other power generating companies?**

14 **A.** Calpine is the largest operator of industrial gas combustion turbines in the U.S. and has
15 unequalled technical experience in the operations and maintenance of Siemens power
16 generating equipment similar, and in some cases identical, to what is currently utilized at
17 Granite Ridge. Calpine’s fleet currently includes 35 Frame “F” or “G” class Siemens combustion
18 turbines and 4 Siemens steam turbines. This has allowed Calpine to develop substantial in-
19 house technical expertise in which smaller generating companies and financial players are
20 unable or unwilling to invest. Moreover, Calpine is somewhat unique among its industry peers
21 in that we have an almost exclusive focus on the ownership and operation of modern
22 combined-cycle power generation equipment. This level of technological focus allows us to
23 capitalize on efficiencies related to parts management, root cause analysis, system engineering,
24 planned and predictive maintenance and employee training.

25 **Q. Does Calpine’s power plant fleet include facilities that are similar to Granite Ridge?**

26 **A.** Yes. Granite Ridge utilizes Siemens 501G combustion turbine technology, which is
27 relatively uncommon in the nation’s electric power sector. Calpine, however, already operates
28 two 501G combustion turbines at its Magic Valley Energy Station in Edinburg, Texas, which
29 Calpine developed and constructed and which has been in commercial operation since 2002.

1 Additionally, Calpine’s Fore River Energy Center in North Weymouth, Massachusetts, utilizes
2 two Mitsubishi 501G combustion turbines, which are based upon and very similar to the
3 Siemens 501G design. Calpine, therefore, not only has substantial expertise and experience
4 with respect to the operation and maintenance of combined-cycle gas turbine technology in
5 general, but is one of relatively few U.S. generating companies that already has direct
6 experience with the specific technology utilized at Granite Ridge.

7 **Q. Please provide more detail on Calpine’s internal capabilities with respect to power**
8 **plant operations.**

9 **A.** Over the past three decades, Calpine has been directly involved in the development,
10 design, engineering and construction of numerous power plants throughout the U.S. and
11 Canada. In other words, our power plant experience starts from the ground up. Our
12 engineering expertise, for example, reflects the fact that we have developed and constructed a
13 large percentage of our existing fleet. Set forth below in Table 1 is a list of major power plant
14 construction activity by Calpine over the past ten years. We are a large enough company that
15 we have been able to invest centralized spare parts inventory, such as key transformers, and
16 have internal technical subject matter experts on almost every aspect of power plant design
17 and operation. Calpine will be bringing the benefits of this expertise and these substantial
18 economies of scale to the operation of the Granite Ridge facility.

19 [Testimony continues on the following page]

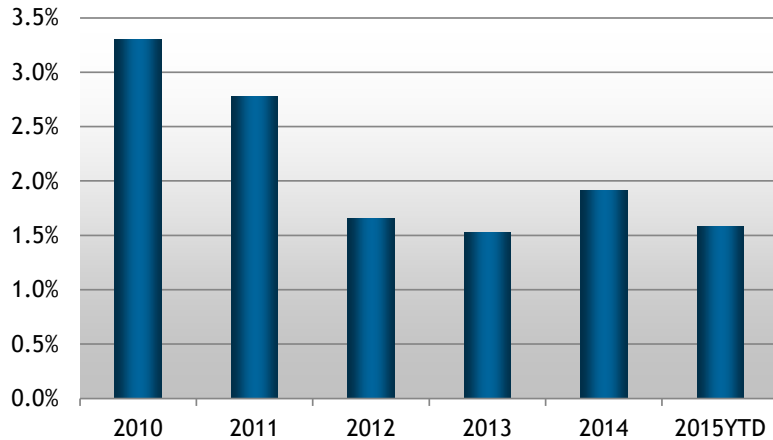
1 *Table 1 Recent Calpine Power Plant Construction Activity*

Plant	Region	Size	Construction Status
York 2	PJM/Pennsylvania	760 mw	Early construction
Garrison	PJM/Delaware	309 mw	COD 6-15-15
Russell City	California	464 mw	COD 2013
York	PJM/Pennsylvania	565 mw	COD 2011
Greenfield	Courtright, Ontario	1,030 mw	COD 2008
Mankato	Minnesota	375 mw	COD 2006

2 **Q. What are some of the other benefits Granite Ridge will experience as part of a larger**
3 **fleet?**

4 **A.** I will offer four examples of operational areas in which an individual plant benefits from
5 being part of a larger fleet:

6 First, Granite Ridge would be able to take advantage of Calpine’s Fleet Programs related
7 to predictive and preventative maintenance, transformer reliability and spares, summer and
8 winter preparedness, and operating performance observation and diagnostics. As an example
9 of the latter, as I mentioned earlier in my testimony, Calpine plants provide real time data that
10 allows the company to monitor its facilities and analyze important trends or potential failure
11 modes. This can provide an early warning system that alerts us to when repairs may be
12 necessary instead of waiting for a part to fail. As a result, and as shown in the following figure,
13 Calpine has been able to substantially reduce its forced outage rate in recent years.



1

2 *Figure 1 Calpine Fleet Forced Outage Factor (percent)*

3 The second item I will highlight relates to Supply Chain Services. Being part of a larger
 4 fleet would provide Granite Ridge an opportunity to take advantage of master purchasing
 5 agreements, volume discounts, and parts consistency.

6 Third, Calpine has approximately 1,000 employees working at gas-fired combined-cycle
 7 power plants or in direct supporting roles. This represents an unmatched level of experience in
 8 terms of overall labor-hours of relevant experience, and is the knowledge base we bring to the
 9 Granite Ridge acquisition. This knowledge base is a great resource that helps us manage day-
 10 to-day plant operations and troubleshoot any individual technical issues that may arise.

11 Finally, I would point to the benefits of being part of a fleet with respect to Outage
 12 Services. During a planned or forced outage a stand-alone plant is often at the mercy of its
 13 Original Equipment Manufacturer (“OEM”), which may affect both contractor availability and
 14 cost. Calpine’s Outage Services capabilities include in-house turbine expertise and integrated
 15 planning capabilities, which provides much greater flexibility compared with being exclusively
 16 reliant on the OEM.

17 **Q. Are there commercial advantages to being part of a larger fleet?**

18 **A.** Yes. As I mentioned earlier in my testimony, Calpine is a large purchaser of natural gas
 19 and utilizes in-house expertise to manage its natural commodity and transportation needs.
 20 Calpine, therefore, can manage its fuel portfolio on a system basis, which provides additional
 21 reliability, flexibility and economies of scale to an individual plant. With respect to power sales,
 22 Granite Ridge would interface with our East Region trading desk in Houston, which manages all

1 term, day-ahead and real-time commercial arrangements for what will now be three plants
2 operating within ISO-NE.

3 **Q. How will Granite Ridge interact with Calpine's trading desk?**

4 **A.** Calpine's plants interact with their respective trading desks (in this case, the East Region
5 desk) on a daily basis. There is a morning call in which the plant and desk discuss what the
6 market looks like, weather predictions for the next 7-10 days, information regarding
7 transmission or other known plant outages, plant availability, etc. During the daily call the desk
8 provides the plant with expectations for upcoming run schedules and plant personnel can
9 inform the desk whether it should consider any unique plant operations limitations or other
10 factors in terms of how the plant is scheduled into the market.

11 **Q. What are Calpine's primary focus areas with respect to power plant operations?**

12 **A.** Calpine has a proven track record for safe and reliable power plant operations. In
13 particular, I would highlight Calpine's significant focus on safety. It is my belief and experience
14 that safety is not only vitally important in and of itself, but ultimately reflects a company's
15 overall commitment to best-in-class operations as well. Safety is one of our core ASPIRE values
16 and reflects our commitment to the safety of our employees, our contractors, our neighbors,
17 and our guests. We incorporate safety into every aspect of our business. At the plant level,
18 one of the programs with which we have achieved great success is the Voluntary Protection
19 Program (VPP) of the U.S. Department of Labor's Occupational Safety and Health
20 Administration ("OSHA"). Our Westbrook facility in Maine is among the plants in our fleet that
21 have attained Star VPP certification, which is OSHA's highest level of recognition for
22 outstanding efforts by an employer and its employees to achieve a level of excellence in
23 occupational safety and health at their worksites. Similarly, Calpine has a solid track record and
24 strong plant-specific emphasis on environmental compliance. Calpine has actively supported
25 major regional and federal environmental public policy initiatives, such as the Regional
26 Greenhouse Gas Initiative ("RGGI") and the U.S. Environmental protection Agency's Clean
27 Power Plan, and is proud of its role as an environmentally responsible power producer.

1 **Q. Do you believe Calpine has the technical capability to successfully maintain the**
2 **ongoing operations of the Granite Ridge Energy Facility in continued compliance with the**
3 **terms and conditions of the Certificate of Site and Facility?**

4 **A.** Yes, I do. I believe I have demonstrated that Calpine has the full range of technical
5 capability and experience necessary to ensure the ongoing safe, efficient and reliable
6 operations of the Granite Ridge Energy Facility in compliance with the terms and conditions of
7 the Certificate.

8 **Q. Does that conclude your testimony?**

9 **A.** Yes, it does.

Exhibits

- A. Resume of William H. Ferguson
- B. Calpine's Senior Management Team
- C. Calpine's East Region Organization and Support Functions
- D. Map showing Calpine's existing operations
- E. Chart with a more detailed explanation of ASPIRE

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