

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

Rocky Mountain Power’s Application for)	Docket No. 20-035-01
Approval of the 2020 Energy Balancing)	
Account)	Sur-surrebuttal Testimony
)	of Philip Hayet
)	For the Office of
)	Consumer Services

REDACTED

February 8, 2021

REDACTED

1 **Q. WHAT IS YOUR NAME, OCCUPATION AND BUSINESS ADDRESS?**

2 A. My name is Philip Hayet and I am a Vice President and Principal of J. Kennedy
3 and Associates, Inc. (“Kennedy and Associates”). My business address is 570
4 Colonial Park Drive, Suite 305, Roswell, Georgia, 30075.

5 **Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS CASE?**

6 A. Yes, I previously filed response testimony on behalf of the Utah Office of
7 Consumer Services (“OCS”) on December 10, 2020 and surrebuttal testimony on
8 January 15, 2021.

9 **Q. WHAT IS THE PURPOSE OF THIS TESTIMONY?**

10 A. Pursuant to the Commission’s Order of January 26, 2021 this testimony addresses
11 the Root Cause Analysis (“RCA”) performed by Ronald Halpern of Generator
12 Consulting Specialists (“GCS”) and Neil Kilpatrick of GenMet, LLC (“GenMet”)
13 regarding the Lake Side 2 Unit 3 Outage starting on August 18, 2019. Collectively
14 the two consulting experts will be referred to in this report as GCS/GenMet, and
15 the RCA they produced will be referred to as the GCS/GenMet RCA.

16 **Q. HOW DID YOU ANALYZE THE GCS/GENMET RCA?**

17 A. I read the GCS/GenMet RCA and compared its findings with the findings in the
18 Siemen’s RCA. I also prepared discovery questions and reviewed the responses
19 along with the responses to the Division of Public Utility’s (“DPU”) discovery
20 questions. I supplemented that with additional research of my own.

21 **Q. WHAT IS YOUR INITIAL REACTION TO THE GCS/GENMET RCA?**

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A. After reviewing this document, subsequent discovery information and Mr. Ralston's Surrebuttal Testimony and Exhibits, I have concluded Rocky Mountain Power (RMP) has not been transparent in this proceeding regarding the purpose of the GCS/GenMet RCA. It was misleading for RMP to even call it the "Second RCA" and imply it was intended to find the cause of the outage after Siemens failed to do so. In fact, GCS was hired to [REDACTED] two days after the outage occurred (hired 8/20/19), and Mr. Halpern was [REDACTED] four days after the outage occurred ([REDACTED] 8/22/19). Furthermore, GCS began working on the RCA before RMP was even aware Siemens planned to prepare an RCA.¹

Q. ARE THERE ANY POLICY IMPLICATIONS THAT ARE IMPORTANT IN REGARD TO THE LAKE SIDE 2 OUTAGE INVESTIGATIONS?

A. Yes. OCS witness Michele Beck addresses those in her testimony.

Q. WHAT APPEARS TO BE RMP'S PURPOSE IN CONDUCTING THE GCS/GENMET RCA?

A. The purpose of the GCS/GenMet RCA was apparently to determine whether Siemens [REDACTED] for the outage. This is quite understandable. Such a catastrophic failure of the stator [REDACTED] is extraordinary because they normally are expected to have a service life of 30-50 years.

¹ OCS 4.9d and DPU 16.10 in attached Confidential OCS Exhibit 1.1SSR.

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40 The RCA document was marked as [REDACTED] suggesting it
41 was prepared in [REDACTED] The experts were hired with the
42 understanding they might be required to [REDACTED] regarding their findings.²
43 Review of the GCS [REDACTED] shows that RMP [REDACTED]
44 [REDACTED]³ belying Mr. Ralston's previous claim that the GCS/GenMet RCA was
45 an additional, neutral investigation.

46 *Due to the significance of the event, the Company hired and is working*
47 *with a neutral third-party contractor to perform an additional RCA*
48 *investigation in pursuit of a root cause. This report is expected to be*
49 *completed by end of 2020.*

50 (Ralston Rebuttal Testimony, Docket No. 20-035-04, lines 61-64)

51 RMP has not provided the report [REDACTED] nor decided how it will proceed
52 [REDACTED]⁴ Regardless of how RMP proceeds with the GCS/GenMet RCA, the
53 PSC should see it as evidence that RMP is conflicted with respect to seeking
54 recovery of the costs of the Lake Side 2 outage. If RMP believes the blame for the
55 outage lies with [REDACTED] it would not be proper for RMP to seek to have customers
56 pay those costs.

57
58 **Q. HAVE YOU CHANGED YOUR RECOMMENDATION THAT THE PSC**
59 **SHOULD DISALLOW THE COST OF REPLACEMENT POWER FOR**
60 **THE LAKE SIDE 2 OUTAGE IN THE 2019 EBA TRUE UP?**

² OCS 4.3, Consulting Agreement, Exhibit A Scope of Work, see Confidential OCS Exhibit 1.1SSR.

³ *Id.*, Monthly invoices.

⁴ DPU 16.7, in Confidential OCS Exhibit 1.1SSR.

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A. No. While the GCS/GenMet RCA [REDACTED] from the Siemens RCA in the emphasis it places on the role of a [REDACTED] as the potential cause of the outage, it does not present a conclusive alternative determination as to the ultimate cause of the outage. Indeed, both RCA's reach the same ultimate finding: there is no conclusive cause of the outage. [REDACTED] but differ on their assessment of the likelihood of that scenario. GCS/GenMet ranks the [REDACTED] above the [REDACTED] while Siemens ranks the [REDACTED] as the most likely cause. Each of these scenarios points to imprudent actions by RMP or the manufacturer which means that ratepayers should not be held responsible for the costs of the outage and I continue to recommend that the Utah Public Service Commission (PSC) disallow recovery of these costs in the 2019 EBA.

Q. WHAT IS THE PRIMARY DIFFERENCE BETWEEN THE TWO RCA STUDIES CONCERNING THE FO SCENARIO?

A. Both identify a [REDACTED] cause of the outage. However, Siemens and GCC/GenMet view the possibility of a [REDACTED] differently. GCS/GenMet asserts that:

[REDACTED]
[REDACTED]
[REDACTED]

It is implicit that Siemens does not [REDACTED]. In fact, in both of the Lake Side RCA's performed by Siemens (the first being a 2009 Lake Side outage event) and the 2019 outage currently under investigation, the Siemens experts did not identify any [REDACTED]. In both cases, Siemens examined

REDACTED

85 numerous potential causes for the outage, and found that all had a [REDACTED]
86 [REDACTED]; however, in both cases (2009 and 2019) Siemens found that the
87 [REDACTED] was the leading candidate as the cause of the outage. GCS/GenMet
88 asserts that a [REDACTED], but Siemens does not
89 [REDACTED]. Indeed, the GCS/GenMet investigation actually discusses a scenario [REDACTED]
90 [REDACTED] which could give rise to a [REDACTED] being
91 present in the generator from initial construction that could cause a short, deep
92 [REDACTED].⁵ RMP failed to respond meaningfully to a question regarding
93 whether a misplaced light-weight FO would necessarily leave [REDACTED]
94 inside the generator. RMP stated it had “insufficient expertise to answer this
95 question.”⁶

96 **Q. NO [REDACTED] WAS FOUND IN THE INVESTIGATION. DOES THE**
97 **GCS/GENMET RCA SUPPORT THE HYPOTHESIS THAT A FO COULD**
98 **HAVE BEEN [REDACTED]?**

99 **A.** Yes. The GCS/GenMet report leans heavily on the presence of “[REDACTED]” near the
100 site of the failure. Chemical analysis determined that the [REDACTED]
101 [REDACTED]
102 [REDACTED].⁷ RMP contended it did not know the [REDACTED] inside the generator at
103 the time of the fault.⁸ However the [REDACTED] must

⁵ DMR-1S, at 44 of 106.

⁶ OCS 4.12 in Confidential OCS Exhibit 1.1SSR.

⁷ DMR-1S, at 54 of 106.

⁸ OCS 4.14 in Confidential OCS Exhibit 1.1SSR.

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104 have been at least 5,000 degrees Fahrenheit, which is approximately the boiling (or
105 vaporization) points of both copper and iron. While a FO may not have been the
106 source of the [REDACTED]

107 [REDACTED].

108 **Q. DOES THE GCS/GENMET RCA IDENTIFY A “MOST LIKELY” CAUSE**
109 **OF THE OUTAGE?**

110 A. Yes. GCS/GenMet considers [REDACTED]
111 [REDACTED] as the most probable cause of the outage
112 although the experts indicate that no evidence of [REDACTED] was actually found:

113 [REDACTED]
114 [REDACTED]
115 [REDACTED]
116 [REDACTED]
117 [REDACTED]
118 [REDACTED]
119 [REDACTED]
120 [REDACTED]
121 [REDACTED]
122 [REDACTED]
123 [REDACTED]

124 (Exhibit DMR-1S, page 66 of 106, emphasis added)

125
126 **Q. WOULD A DETERMINATION THAT [REDACTED] WAS THE CAUSE OF**
127 **THE OUTAGE PROVE THAT THE OUTAGE WAS NOT THE RESULT**
128 **OF IMPRUDENCE OR NEGLIGENCE BY RMP?**

129 A. If the cause of the outage was core failure due to [REDACTED], as hypothesized by the
130 GCS/GenMet RCA, that does not imply that ratepayers should bear the costs of the
131 outage. RMP had a [REDACTED] device made by

REDACTED

Siemens in place which might have detected a [REDACTED] problem in advance. According to a Siemens document found from an internet search, the purpose of an FOVM is specifically to “Help to avoid costly outages related to vibrations in generators before massive winding damage occurs.” See OCS Exhibit 1.2SSR, page 2, which is brochure produced by Siemens that discusses the purpose of an FOVM device. However the Lake Side FOVM stopped working long before the 2019 outage and had still not been [REDACTED] at the time of the outage. (Exhibit DMR-1S, page 79 of 106). As a result, data for [REDACTED] were not available for the evaluation of vibration issues prior to or at the time of the August 2019 outage. RMP has indicated it does not know if the FOVM would have detected the vibrations related to fretting because the installed vibration monitor equipment was not working.⁹ The significance of this is that RMP had a potentially relevant monitoring device that was apparently not [REDACTED]. This certainly casts doubt on whether RMP’s claims of prudent operating procedures are actually always practiced in the field.

Q. DOES THE GCS/GENMET RCA PROVIDE ANY FURTHER EVIDENCE REGARDING THE LIKELIHOOD OF A [REDACTED] ?

A. Yes. The report contains an excerpt from an internet forum of owners of turbine generators. The question was posed as to whether similar failures of Siemens

⁹ OCS 5.2, see attached OCS Exhibit 1.3SSR.

151 generators had occurred. There was one case of a [REDACTED] related failure reported that
152 caused [REDACTED].¹⁰

153 **Q. WOULD DENIAL OF REPLACEMENT POWER COST RECOVERY IN**
154 **THIS CASE DISINCENTIVIZE RMP TO PERFORM RCA'S IN THE**
155 **FUTURE?**

156 A. No. I believe it would have quite the opposite effect. It would put RMP on notice
157 that without conducting a conclusive RCA, RMP would not be able to meet its
158 burden of proof and it would be denied cost recovery. After any significant outage
159 occurs, it is standard utility practice to find the cause of the event and to take steps
160 to prevent it from happening again. In this case, RMP has not found the cause, and
161 therefore it may be susceptible to similar failures happening in the future.

162 **Q. PLEASE DESCRIBE CONFIDENTIAL OCS EXHIBIT 1.1SSR, OCS**
163 **EXHIBIT 1.2SSR, AND OCS EXHIBIT 1.3SSR.**

164 A. Confidential Exhibit OCS 1.1SSR provides copies of confidential data response
165 answers provided by RMP, which document the footnoted statements listed above.
166 Exhibit OCS 1.2SSR contains the FOVM brochure discussed above, and Exhibit
167 OCS 1.3SSR contains a non-confidential data response answer provided by RMP
168 based on one of the footnoted statements listed above. These provide the evidence
169 in support of the passages in question.

¹⁰ DMR-1S at 99. Also see OCS 4.6 in Confidential OCS Exhibit 1.1SSR.

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170 Q. PLEASE SUMMARIZE YOUR OVERALL CONCLUSIONS FROM YOUR
171 ANALYSIS OF THE GCS/GENMET RCA.

172 A. Overall, I conclude:

- 173 • The GCS/GenMet RCA commenced before RMP even knew whether Siemens
174 would perform an RCA. It appears to have been prepared with the intent to be
175 used in [REDACTED].
- 176 • The GCS/GenMet RCA, like the Siemens RCA, is inconclusive and cannot
177 support RMP's claim that it acted prudently to avoid this catastrophic outage.
- 178 • If the PSC believes that [REDACTED] might be the cause of the outage, then RMP could
179 be at fault because it did not [REDACTED] system when it failed in [REDACTED]
180 [REDACTED]. In any event the
181 failure to identify that the [REDACTED]
182 [REDACTED].
- 183 • I continue to recommend that the PSC disallow RMP's recovery of the costs of
184 the Lake Side 2 outage in the 2019 EBA true up.

185 Q. DOES THIS COMPLETE YOUR TESTIMONY?

186 A. Yes.

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