



# RYEGATE DECOMMISSIONING

Report Pursuant to Act 155 of 2022

January 16, 2023

PUBLIC SERVICE DEPARTMENT

## I. Introduction

The Ryegate Power Station (Ryegate) is a 20 MW wood-fired electrical power (biomass) generation facility in East Ryegate, Vermont. Approximately 3% of Vermont's electric supply is produced at Ryegate from the combustion of approximately 250,000 tons of whole tree wood chips and sawmill residues.<sup>1</sup> Under 30 V.S.A. § 8009, Vermont electric distribution utilities must purchase their pro rata share of the output from Ryegate under a 10-year contract administered by VEPP, Inc. The current contract was set to expire November 1, 2022, however, Act 155 of 2022<sup>2</sup> temporarily extended this obligation for 2 years and gave the opportunity for a further extension out to 2032 provided Ryegate owners make improvements to the plant efficiency. The fate of Ryegate is not yet known and contingent on utilization of the plant's waste heat to meet the efficiency improvement requirements(also known as co-generation).

Ryegate Associates, Inc, currently operates the plant. In turn, Ryegate Associates is a subsidiary of Stored Solar LLC, a Maine-based company with assets across northern New England. According to Stored Solar's 2022 testimony to the General Assembly, the price support and guaranteed purchase power agreement is necessary to keep Ryegate operational. Without this state support there is a possibility that the plant would cease operations in the next few years. In preparation of such a possibility, Section 3 of Act 155 required the Department of Public Service to issue a report on the Ryegate Power Plant's decommissioning fund. A decommission fund is a requirement of the Plant's 1990 Certificate of Public Good (CPG). Section 3 of Act 155 states:

*On or before January 15, 2023, the Department of Public Service (Department) shall assess the current value of the Ryegate decommissioning fund and determine if it is sufficient to cover the costs necessary to decommission the plant. The Department shall submit the report to the General Assembly and include any recommendations.*

The Department of Public Service (PSD) submits this report to meet the reporting requirements of the PSD in Act 155.<sup>3</sup>

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<sup>1</sup> In addition to electricity, the Ryegate plant produces wood ash as a byproduct of combustion. This ash is used as a soil amendment for Vermont farmers.

<sup>2</sup> <https://legislature.vermont.gov/Documents/2022/Docs/ACTS/ACT155/ACT155%20As%20Enacted.pdf>

<sup>3</sup> Stored Solar, LLC, is currently undergoing bankruptcy proceedings in Maine. Ryegate Associates is largely unaffected by the proceeding. However, several fuel suppliers have recently expressed significant concerns about the state of operations at the Ryegate facility, as articulated in PUC Case 22-3994-PET. Parties to that case, including the Department, have commented in the case proceedings on the concerns expressed. This report is focused on the decommissioning fund, and does not further address the bankruptcy, or Ryegate's operations.

## II. Ryegate Decommissioning Requirements

The Ryegate Wood Energy Company (RVEC) Inc. received a Certificate of Public Good (CPG) from the Public Utilities Commission (PUC) to construct the plant, after PUC investigation in Docket 5217. Stored Solar, LLC purchased the plant and assumed all the responsibilities and requirements of the CPG. Included in the final Order<sup>4</sup> approving construction are requirements regarding the eventual decommissioning of the Plant and the establishment of a decommissioning fund to pay for the decommissioning and the restoration of the site to its original condition. The PUC's Order required security for decommissioning be retained for the life of the project. No decommissioning plan needed to be implemented, but no sums that were set aside could be disbursed without the Commission's approval.<sup>5</sup>

## III. Ryegate Decommission Costs

At the time of the PUC's investigation, it was estimated that the cost of decommissioning a plant the size of the proposed Ryegate Plant was approximately \$400,000 in 1989 dollars<sup>6</sup>. The original petitioner for the CPG submitted a letter from Harbert International Inc. of Birmingham Alabama that provided a cost estimate for decommissioning of the Ryegate of \$300,000 to \$400,000 in 1989 dollars. This estimate was the total costs and did not include any salvage value for the equipment or materials that would be removed from the site upon decommissioning. Harbert International said in their April 25, 1989 letter that they were basing their estimate on the then recent demolishing and salvaging of a larger wood-energy plant in Bridgeport Connecticut.

According to the plans presented by the RVEC and their consultants at the time, the plant was to be built in a manner to make demolition less costly. Further lowering the risk of escalating decommissioning costs, the State was assured there would be no asbestos, PCBs, or other hazardous or toxic materials on site at the time the plant is decommissioned and returned to a field suitable for agricultural.

Adjusting for inflation based on the U.S. Consumer Price Index since 1989 the \$300,000 to \$400,000 dollar range presented at the time of plant approval equals \$720,269 to \$960,358 today<sup>7</sup> (prior to the salvage value)<sup>8</sup>. The PSD was not able to ascertain whether decommissioning costs of increased at a rate different than the Consumer Price Index since 1989. There has not been an updated cost estimate to fully decommission the Ryegate Plant since the 1989 PUC proceeding and the PSD was not able to find a cost estimate for any other wood-fired plant, nor was it resourced to complete an independent decommissioning study specific to Ryegate. However, in 2016, Resources for the Future estimated the cost of decommissioning various types of fossil fuel plants.<sup>9</sup> The study showed

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<sup>4</sup> Public Utility Commission Docket 5217, Order of 10/17/1989

<sup>5</sup> *Id.* Page 17. See also finding #28

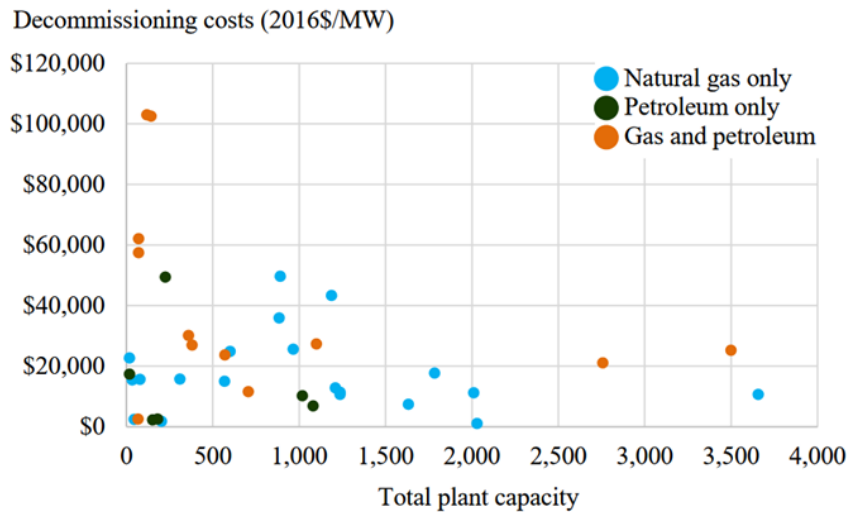
<sup>6</sup> Finding # 29, pg. 7 of the 5217 Final Order of 10/17/1989

<sup>7</sup> <https://www.usinflationcalculator.com/>

<sup>8</sup> Since it was originally commissioned, Ryegate has added a Selective Catalytic Reduction (SCR) emissions control system, which effectively reduces the plant's emissions. This may have additional salvage value.

<sup>9</sup> Resources For the Future: <https://media.rff.org/documents/RFF20Rpt20Decommissioning20Power20Plants.pdf>

a range of costs for different sized gas and petroleum fired plants, ranging from \$15,000-\$30,000/MW for most smaller plants, with costs greater than \$60,000/MW for some (see figure below).



Based on the \$400,000 estimate used by the PUC when issuing the CPG, as well as the Resource for the Future report, the PSD estimates the cost of decommissioning of a wood-fired plant of the size of Ryegate could cost between \$725,000 and \$1.2 million in 2022 dollars.

#### IV. Current Decommissioning Fund Value

Based on information provided by Stored Solar Inc. the decommissioning fund (the Ryegate Wood Energy Co. Escrow Fund) had a total value of \$869,351 on 11/01/2022.

#### V. Recommendations

The current amount in the decommissioning fund is about \$870,000, within the broad range of potential decommissioning costs estimated by the Department (\$725,000-\$1.2million). However, the Department was not resourced to conduct an independent, plant specific decommissioning study that would give a higher amount of confidence that sufficient funds were available for decommissioning.

The last professional estimate known to the PSD was completed 34 years ago. The Department recommends that Ryegate Associates be required to hire an independent third party to fully assess site specific decommissioning costs, and submit those estimates to the Commission and the General Assembly. Alternatively, the Department could be authorized to bill-back costs of such a study to Ryegate Associates directly through amendment of the contract between the Commission (administered by VEPP, Inc.) and Ryegate pursuant to 30 V.S.A. § 8009.