



## **Cymbaluk Noise Complaints**

**Sundance and Keephills Power Plants**

**December 22, 2015**

**Alberta Utilities Commission**

Decision 20259-D01-2015

Cymbaluk Noise Complaints

Sundance and Keephills Power Plants

Proceeding 20259

Application 20259-A001

December 22, 2015

Published by the:

Alberta Utilities Commission

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## **1 Introduction**

1. On January 27, 2015, David Cymbaluk filed a noise complaint with the Alberta Utilities Commission under Rule 012: *Noise Control* regarding the noise at his residence from power plants owned by TransAlta Corporation (TransAlta). A similar complaint made by Tammi Cymbaluk Breymann on February 13, 2015, described in an email exchange between TransAlta and Ms. Cymbaluk Breymann, was also brought to the attention of the Commission.
2. On March 13, 2015, both noise complaints were registered on the AUC's eFiling System under Proceeding 20259.

## **2 Background**

3. TransAlta operates coal-fired power plants, Keephills units 1, 2 and 3 (collectively, Keephills or the Keephills generating facility) southeast of Lake Wabamun. The power plants that comprise the Keephills generating facility have a combined capability of 1,275 megawatts (MW). The Keephills generating facility is located in Section 36, Township 51, Range 4, west of the Fifth Meridian.<sup>1</sup>
4. TransAlta is also the operator of the Sundance power plant (Sundance) located on the south shore of Lake Wabamun. The Sundance power plant consists of six coal-fired electric generating units varying in size from 300 MW to 440 MW, with a total installed generating capability of 2,271 MW. Sundance is located in the northwest quarter of Section 20, Township 52, Range 4, west of the Fifth Meridian.<sup>2</sup>
5. Mr. David Cymbaluk's residence is located approximately 5.9 kilometres southwest of Sundance and approximately four kilometres northwest of Keephills in the southeast quarter of Section 10, Township 52, Range 4, west of the Fifth Meridian.<sup>3</sup>
6. Ms. Tammi Cymbaluk Breymann's residence is located approximately 7.5 kilometres south-southeast of Sundance and approximately 4.5 kilometres west of Keephills in the southwest quarter of Section 34, Township 51, west of the Fifth Meridian.<sup>4</sup>

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<sup>1</sup> Power Plant Approval U2013-299, Proceeding 2523, Application 1609428, June 19, 2013. Power Plant Approval U2014-52, Proceeding 2975, Application 1600169, February 19, 2015.

<sup>2</sup> Power Plant Approval U2010-56, Proceeding 244, Application 1602494, April 8, 2010.

<sup>3</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring, PDF page 11.

<sup>4</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring, PDF page 11.

### 3 Process

7. In his complaint dated January 27, 2015, Mr. Cymbaluk indicated that there was excessive noise on January 26, 2015 at his residence from the operations and start-up activities of a unit at the Sundance power plant.<sup>5</sup> Mr. Cymbaluk stated that the start-up of units at Sundance is not an infrequent event and units are started-up multiple times each year. He added that he was able to hear noise from the Keephills generating facility which he stated had become a problem depending on weather conditions.<sup>6</sup>

8. On March 10, 2015, the Commission directed TransAlta to review the complaints and its operational records and provide its views on any noise emitting operations that may have led to the noise complaints. The Commission also requested that TransAlta provide a description of its noise complaint protocol, how the complaint protocol was implemented for these noise complaints, in what manner TransAlta considered that the current noise complaints could be resolved, and whether TransAlta has considered any changes to its operations as a result of feedback received from Mr. Cymbaluk and Ms. Cymbaluk Breymann (collectively, the Cymbaluks).<sup>7</sup>

9. By letter dated March 27, 2015, TransAlta stated that it launched a review with its operations groups for both the Sundance power plant and Keephills generating facility to provide accurate information to the Cymbaluks on the likely source of the noise. TransAlta provided an explanation of the event that led to the noise complaint of January 26, 2015,<sup>8</sup> confirming the likely source of the noise was from the Sundance power plant. With respect to the Keephills generating station, there were no unusual operating conditions on January 26, 2015.

10. In its March 27, 2015 letter, TransAlta also submitted that, in its view, the first logical step to resolve the noise complaints was to conduct noise monitoring to measure noise during start-up and other events. TransAlta also committed to inspect existing silencers and noise reduction equipment at the next outage opportunity to verify their integrity. If required, further steps, such as reviewing operations to reduce noise during start-up and shutdown events, could be implemented.

11. On May 29, 2015, TransAlta advised the Commission and interested parties that it had retained Golder Associates Ltd. (Golder) to conduct noise monitoring at the David Cymbaluk and the Tammi Cymbaluk Breymann residences.<sup>9</sup> TransAlta stated that noise monitoring would be used to complete a comprehensive sound level survey which would meet the requirements of Rule 012. Once completed, the comprehensive sound level survey would be filed on the record of this complaint proceeding.

12. TransAlta added that the noise monitoring program would be designed to capture representative periods with similar wind and operational conditions that were present when the noise complaints were reported. The noise monitoring would be scheduled for at least a 30-day period.

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<sup>5</sup> Exhibit 20259-X0001, Cymbaluk Noise Complaint 2015-01-27.

<sup>6</sup> Exhibit 20259-X0004, Cymbaluk email to AUC 2015-02-27.

<sup>7</sup> Exhibit 20259-X0005, AUC letter to TransAlta 2015-03-10.

<sup>8</sup> Exhibit 20259-X0008, Response to Sundance & Keephills generating facilities noise complaint, January 26, 2015.

<sup>9</sup> Exhibit 20259-X0010, Sundance & Keephills generating facilities noise monitoring update May 2015.

13. On August 7, 2015, TransAlta confirmed that it had completed a one-month noise monitoring program at the David Cymbaluk and Tammi Cymbaluk Breymann residences<sup>10</sup> which was subsequently uploaded to the record of Proceeding 20259.<sup>11</sup>

14. Both Mr. Cymbaluk and Ms. Cymbaluk Breymann submitted observation logs during the course of the sound survey.<sup>12</sup>

15. On September 21, 2015, the Commission issued information requests to TransAlta regarding its noise measurement methodology and the results of the comprehensive sound level survey.<sup>13</sup> On the same day, the Commission outlined in a letter the remaining process steps to consider the noise complaints.<sup>14</sup>

16. In accordance with the process schedule, TransAlta responded to the Commission's information requests on October 5, 2015.<sup>15</sup>

17. The Cymbaluks submitted their information requests to TransAlta<sup>16</sup> on October 19, 2015 and, on November 2, 2015, TransAlta responded to the Cymbaluks' information requests.<sup>17</sup>

18. The Commission considers the close of record for this proceeding to be November 2, 2015.

19. In reaching the determinations set out within this decision, the Commission has considered all relevant materials filed in this proceeding. Accordingly, references in this decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to a particular matter.

#### **4 The sound level survey**

20. On August 10, 2015, TransAlta submitted a comprehensive sound level survey entitled "Noise Monitoring at Dwellings in SE-10-052-04-W5M and SW-34-051-04-W5M" (the sound survey).<sup>18</sup> Golder prepared the sound survey on behalf of TransAlta.

21. Golder conducted continuous sound level measurements at Mr. Cymbaluk's and Ms. Cymbaluk Breymann's residences from May 20, 2015, to June 23, 2015, in order to capture representative periods with similar wind and operational conditions that were present when the

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<sup>10</sup> Exhibit 20259-X0014, Sundance and Keephills generating facilities noise monitoring cover letter.

<sup>11</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring.

<sup>12</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring. Appendix D.

<sup>13</sup> Exhibit 20259-X0025, AUC information request round 1 to TransAlta (TransAlta-AUC-2015SEP21-001 to 010).

<sup>14</sup> Exhibit 20259-X0024, AUC letter re process schedule.

<sup>15</sup> Exhibit 20259-X0033, Responses to TransAlta-AUC IR 001 to 010.

<sup>16</sup> Exhibit 20259-X0034, Cymbaluk Information Requests dated 19 October 2015.

<sup>17</sup> Exhibit 20259-X0035, TransAlta Response to Cymbaluk IR Round 1 001 to 005.

<sup>18</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring.

noise complaints were recorded,<sup>19</sup> and to assess the compliance of Sundance and Keephills with the permissible sound levels established in accordance with Rule 012.<sup>20</sup>

#### 4.1 Methodology

22. Golder set up Brüel and Kjaer Model 2250 Type 1 sound level meters at the David Cymbaluk and Tammi Cymbaluk Breymann residences.

23. The sound level meter microphone at the David Cymbaluk residence was fitted with a wind screen and was located approximately 15 metres south of the residence on a tripod at a height of 1.5 metres. Golder indicated that this location was consistent with the location used in an earlier comprehensive sound level study completed for this residence.<sup>21</sup> Golder explained that the location of the sound level meter was intended to capture noise from both the Keephills generating facility and the Sundance power plant.

24. The sound level meter microphone at the Tammi Cymbaluk Breymann residence was also fitted with a wind screen and was located approximately 19 metres northeast of the residence to capture noise events from both the Keephills generating station and the Sundance power plant. Golder stated that the specific location of the sound level meter was approximately consistent with the location used in an earlier comprehensive sound level study for this dwelling.<sup>22</sup>

25. The sound level meters were set up to collect continuous sound level measurements and continuous audio recordings at each of the residences. The sound level meters were programmed to log continuous one-minute A-weighted broadband sound levels ( $L_{eq\ 1min}$  dBA) and linear or unweighted one-third octave-band values ( $L_{eq\ 1min}$  dBZ).

26. The sound level meters were field calibrated before the start of the sound survey using a Brüel & Kjaer model 4231 Type 1 calibrator. Sound level meter calibration was also verified periodically throughout the monitoring program and at the end of the sound survey.<sup>23</sup>

27. Meteorological parameters were continuously recorded at each residence using Kestrel 4500 weather meters for the duration of the noise monitoring, to log wind speed and direction, ambient temperature, relative humidity, and barometric pressure. The data collected was averaged over 10-minute intervals.

28. The Kestrel 4500 weather meter at the David Cymbaluk residence was located at Universal Transverse Mercator (UTM) coordinates 666221 E and 5927426 W. The Kestrel 4500 weather meter at the Tammi Cymbaluk Breymann residence was located at UTM coordinates 664981 E and 5924551 W.<sup>24</sup> Golder stated that “weather monitoring equipment was deployed in

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<sup>19</sup> Exhibit 20259-X0010, Sundance & Keephills generating facilities noise monitoring update May 2015.

<sup>20</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring, PDF page 2.

<sup>21</sup> FDI (FDI Acoustics). 2009a. Comprehensive Sound Survey — TransAlta Utilities Highvale Mine Pit 7, Residence SE 1/4 Sec 10-052-04 W5M. Prepared for TransAlta Utilities in February 2009. (PDF 13 of CSL).  
<sup>22</sup> Ibid.

<sup>23</sup> Exhibit 20259-X0033, Responses to TransAlta-AUC IR 001 to 010, TransAlta-AUC-2015SEP21-002(a) and (b), PDF pages 6 and 7.

<sup>24</sup> Exhibit 20259-X0033, Responses to TransAlta-AUC IR 001 to 010, TransAlta-AUC-2015SEP21-001, PDF page 2.

a manner consistent with specific and explicit guidance provided by Rule 012” at a height of approximately 1.5 metres.<sup>25</sup>

29. In response to information requests from the Cymbaluks regarding wind speed and direction, TransAlta stated that the only weather records used in the data analysis were those collected locally in accordance with Rule 012.<sup>26</sup> TransAlta used the West Central Airshed Society Meadows air monitoring trailer located in the study area to provide the wind speed and direction when responding to specific noise complaints.

30. Photographs and the layout of the sound level meters and weather monitoring stations at both residences were provided by TransAlta in response to information requests from the Cymbaluks.<sup>27</sup>

31. From the sound survey, Golder selected five 24-hour periods for the David Cymbaluk residence and five 24-hour periods for the Tammi Cymbaluk Breymann residence, which Golder determined were suitable for a detailed analysis. The five 24-hour periods were selected by cross-referencing several criteria, including: whether the selected 24-hour period included events representative of complaint conditions with respect to Keephills and/or Sundance operations, normal facility operating conditions, prevailing wind speed and direction, and resident observations. Data from other days in the sound survey were not analysed because meteorological and/or operating conditions were less consistent with the complaint conditions.

32. Golder stated the acceptable downwind angle range at the David Cymbaluk residence is 81 degrees to 171 degrees for the Keephills data and 269 degrees to 359 degrees for the Sundance data. The acceptable downwind angle range at the Tammi Cymbaluk Breymann residence is 38 degrees to 128 degrees for the Keephills data and 291 degrees to 21 degrees for the Sundance data.<sup>28</sup>

33. For some 24-hour periods, the noise level was calculated using less than the three hours of valid data prescribed in Rule 012.

34. Golder’s analysis of each of the five representative 24-hour periods included the following steps:

1. Creating two copies of the same 24-hour data set – one to evaluate compliance of Sundance and one to evaluate the compliance of Keephills.
2. Removing any one-minute data samples that were not logged under valid downwind conditions for either of Keephills and Sundance copies of the data sets (i.e., samples recorded during periods of upwind or crosswind conditions were removed, samples recorded under downwind conditions with wind speeds in excess of 10 km/h were also eliminated based on Table 8 Favourable summertime weather conditions in Rule 012).

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<sup>25</sup> Exhibit 20259-X0035, TransAlta Response to Cymbaluk IR Round 1 001 to 005, PDF page 2.

<sup>26</sup> Exhibit 20259-X0035, TransAlta Response to Cymbaluk IR Round 1 001 to 005, CYMBALUK-TRANSALTA-2015OCTI9-001 (a) to (g).

<sup>27</sup> Exhibit 20259-X0035, TransAlta Response to Cymbaluk IR Round 1 001 to 005, PDF pages 5 and 6.

<sup>28</sup> Exhibit 20259-X0033, Responses to TransAlta-AUC IR 001 to 010, TransAlta-AUC-2015SEP21-006 (b), PDF page 97.

3. Removing one-minute data samples that are dominated by non-industrial noise sources such as technician activities, resident activities, domestic animals, birds, road traffic, rain and thunder, and wind in trees and other vegetation, were identified through review of the audio recordings.
4. Calculating the daytime and nighttime isolated  $L_{eq}$  values for each data set and comparing the daytime and nighttime  $L_{eq}$  values from the Keephills data set and the Sundance data set to test compliance with the permissible sound level at each of the David Cymbaluk and Tammi Cymbaluk Breyman residences using the remaining one-minute data samples.<sup>29,30</sup>

35. Golder stated that the Highvale Mine was considered a valid noise source for the purposes of processing the monitoring data collected at both the David Cymbaluk and Tammi Cymbaluk Breyman residences and that noise associated with the Highvale Mine was not excluded when performing isolation analysis on the raw monitoring data. During the sound survey, operations at the Highvale Mine were continuous and noise emissions from these operations were captured.<sup>31</sup>

#### **4.2 Results of the sound survey**

36. The results of the analysis for compliance of Sundance and Keephills are summarized in the following tables.

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<sup>29</sup> Exhibit 20259-X0033, Responses to TransAlta-AUC IR 001 to 010, TransAlta-AUC-2015SEP21-006 (a), PDF page 73.

<sup>30</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring, PDF page 19.

<sup>31</sup> Exhibit 20259-X0033, Responses to TransAlta-AUC IR 001 to 010, TransAlta-AUC-2015SEP21-009, PDF page 104.



**Cymbaluk Noise Complaints  
Sundance and Keephills Power Plants**

Summary of sound survey for the David Cymbaluk residence							
Date	Period	Key facility activities	PSL (dBA)	Sundance (dBA)	Keephills (dBA)	Comprehensive sound level study results	
						Sundance	Keephills
May 27, 10 p.m. – May 28, 9:59 p.m.	Nighttime	All units operating normally	40	36	36	Compliant	Compliant
	Daytime	All units operating normally except Sundance Unit 2, which went offline at about 7:30 p.m. on May 28	50	43	44	Compliant	Compliant
May 30, 7 a.m. – May 31, 6:59 a.m.	Nighttime	Restart of Sundance Unit 2	40	38(a)(b)	38(a)(b)	Inconclusive	Inconclusive
	Daytime	Restart of Sundance Unit 2	50	NA (a)(c)	45(a)(b)	Inconclusive	Inconclusive
June 3, 10 p.m. – June 4, 9:59 p.m.	Nighttime	Restart of Keephills Unit 2	40	35(a)(b)	42(a)	Inconclusive	Non-compliant
	Daytime	Most units operating normally	50	44(a)(b)	45(a)	Inconclusive	Compliant
June 12, 7 a.m. – June 13, 6:59 a.m.	Nighttime	Most units operating normally	40	39(d)	40(b)(d)	Compliant	Inconclusive
	Daytime	Sundance Unit 1 and Keephills Unit 2 shutdown at about 9 p.m. on June 12	50	44(d)	43(b)(d)	Compliant	Inconclusive
June 14, 10 p.m. – June 15, 9:59 p.m.	Nighttime	Restart of Sundance Unit 2	40	41(d)	41(b)(d)	Non-compliant	Inconclusive
	Daytime	Most units operating normally	50	48(b)(d)	N/A(c)(d)	Inconclusive	Inconclusive

- (a) This 24-hour period was selected for processing because it was representative of resident complaints about Keephills operations
- (b) This noise level has been calculated using fewer than 180 valid one-minute data samples. Rule 012 requires a minimum of 180 valid one-minute data samples for the results of monitoring program to be considered conclusive.
- (c) Valid data is not available
- (d) This 24-hour period was selected for processing because it was representative of resident complaints about Sundance operations

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Summary of sound survey for the Tammi Cymbaluk Breymann residence							
Date	Period	Key facility activities	PSL (dBA)	Sundance	Keephills	Comprehensive sound level study results	
						Sundance	Keephills
May 22, 10 p.m. – May 23, 9:59 p.m.	Nighttime	Restart of Keephills Unit 1	40	36(a)	36(a)	Compliant	Compliant
	Daytime	Most units operating normally	50	40(a)	40(a)	Compliant	Compliant
May 25, 10 p.m. – May 26, 9:59 p.m.	Nighttime	Keephills Unit 2 starting up for almost entire nighttime period	40	37(a)	37(a)	Compliant	Compliant
	Daytime	Keephills Unit 2 finishes start-up at about 7:30 am. on May 26	50	41(a)	41(a)	Compliant	Compliant
May 27, 10 p.m. – May 28, 9:59 p.m.	Nighttime	All units operating normally	40	39(b)	39	Compliant	Compliant
	Daytime	All units operating normally except Sundance Unit 2, which went offline at about 7:30 p.m. on May 28	50	38	39	Inconclusive	Compliant
May 28, 10 p.m. – May 29, 9:59 p.m.	Nighttime	Most units operating normally	40	39(a)(b)	39(a)	Compliant	Compliant
	Daytime	Sundance Unit 5 shutdown at about 2 pm. on May 29	50	40(a)(b)	41(a)	Inconclusive	Compliant
May 29, 10 p.m. – May 30, 9:59 p.m.	Nighttime	Sundance Unit 4 shutdown at about 10 p.m. on May 29; Keephills Unit 2 boiler leak and shutdown beginning at 11:15 p.m. on May 29	40	41(a)(b)	43(a)	Inconclusive	Non-compliant
	Daytime	Most units operating normally	50	39(a)(b)	44(a)	Inconclusive	Compliant

- (a) This 24-hour period was selected for processing because it was representative of resident complaints about Keephills operations.  
 (b) This noise level has been calculated using fewer than 180 valid one-minute data samples. Rule 012 requires a minimum of 180 valid one-minute data samples for the results of monitoring program to be considered conclusive.

37. TransAlta submitted that the sound survey confirmed that normal operations of Sundance and Keephills were compliant with Rule 012 at both the David Cymbaluk and Tammi Cymbaluk Breymann residences.

38. Golder summarized the results, indicating events of non-compliance for the David Cymbaluk residence, as follows:

- when a strong wind was blowing from Keephills towards the dwelling (favourable to propagation), the noise level associated with a nighttime start-up at Keephills was found to be non-compliant by 2 dB; and
- when a strong wind was blowing from Sundance towards the dwelling (favourable to propagation), the noise level associated with a nighttime start-up at Sundance was found to be non-compliant by 1 dB.

38. With respect to the Tammi Cymbaluk Breymann residence, Golder submitted that when a strong wind was blowing from Keephills towards the residence (favourable to propagation), the noise level associated with a nighttime boiler leak/shutdown at Keephills was found to be non-compliant with the permissible sound level. However, the measured noise level was contaminated by wind-induced noise, making it difficult to characterize the nature of the non-compliance. Noise produced from Sundance was found to be compliant with Rule 012 permissible sound level values for the duration of the sound survey. However, Golder noted that Ms. Cymbaluk Breymann never reported that noise from Sundance to be disturbing.

39. Golder also conducted a low frequency noise analysis for each of the 24-hour data sets for the daytime, nighttime and short-term/intermittent low frequency noise. Golder completed its analysis using the one-third octave band data collected during the noise survey. It first evaluated the dBC minus dBA values for the overall sampling period of valid daytime and nighttime data and then evaluated the presence or absence of a tonal component. Golder found that there was no low frequency noise from either Sundance or Keephills at either the David Cymbaluk or the Tammi Cymbaluk Breymann residences for the daytime and nighttime periods analysed and that there were no meaningful short-term or intermittent low frequency noise conditions identified. Consequently, it concluded there was no need to consider mitigation to address low frequency noise.<sup>32</sup>

40. In response to information requests from the Cymbaluks regarding other AUC and Alberta Energy Regulator facilities that may contribute to the cumulative sound level, TransAlta stated:

...the noise contribution from all “regulated developments” was considered when testing Sundance and Keephills compliance - ...[and] That being said, the purpose of the noise monitoring program was to test compliance of the Sundance and Keephills facilities and, therefore, the data processing focused on periods when wind conditions were such that Sundance and Keephills noise levels were likely to be highest ... [and] TransAlta respectfully submits that re-processing the raw monitoring data using other wind criteria would not add to an understanding of the noise compliance for Sundance and Keephills.”<sup>33</sup>

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<sup>32</sup> Exhibit 20259-X0015, Sundance and Keephills generating facilities noise monitoring, PDF pages 4 and 19.

<sup>33</sup> Exhibit 20259-X0035, TransAlta Response to Cymbaluk IR Round 1 001 to 005, PDF page 9.

### 4.3 Proposed operational investigations

41. TransAlta proposed to complete operational investigations at Sundance and Keephills to further lower the sound level at the David Cymbaluk and Tammi Cymbaluk Breymann residences. It specifically proposed to implement the following corrective actions at Sundance:

- review existing standard operating instructions to develop and establish additional guidance on matching steam temperature rise with boiler temperature rise;
- evaluate changes to the standard operating instructions to vent more steam at lower pressures during certain start-up conditions;
- review existing standard operating instructions to determine what operational changes can be made to include noise as a focus along with safety and efficiency, and increase the priority to close vents as soon as they can be safely closed; and
- review options to monitor noise near the Sundance boundary that would provide real-time information to operations on noise levels.

42. TransAlta submitted that the effectiveness of the corrective action items will be evaluated for Sundance with noise monitoring at the boundary of the Sundance site. TransAlta stated that the Brüel and Kjør noise monitor, along with the Noise Sentinel subscription, will be a large step forward in TransAlta being able to monitor noise near the Sundance boundary, and will provide real-time information to its operations employees. This ongoing monitoring will allow TransAlta to develop a baseline and understand if the corrective actions outlined are effective.<sup>34</sup>

43. If the corrective actions outlined in paragraph 41 are deemed to be effective, TransAlta stated that it would implement similar measures at Keephills.

## 5 Commission findings

44. The Commission accepts that the sound level meters and calibrator used in the sound survey met the minimum requirements and were factory calibrated within the specified period in accordance with the requirements of Rule 012, and that all sound level meters were field calibrated before, during, and at the end of the measurement period at each residence in accordance with Rule 012.

45. The Commission acknowledges the importance of the location of the sound level meters, wind direction, and wind speed in the investigation of the noise complaints and determination of compliance for Sundance and Keephills. The Commission finds that the locations of the sound level meters and weather stations during the sound surveys at the David Cymbaluk and the Tammi Cymbaluk Breymann residences followed the requirements of Rule 012.

46. With respect to the five days of data selected for each residence during the sound surveys, the Commission is satisfied that Sundance and Keephills were operating normally during each

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<sup>34</sup> Exhibit 20259-X0033, Responses to TransAlt-AUC IR 001 to 010, TransAlta-AUC-2015SEP21-010, PDF page 108.

24-hour period used. The Commission finds that these days constitute representative conditions as required by Rule 012 and therefore may be used to determine the compliance of Sundance and Keephills.

47. However, the Commission finds that the amount of measurement time does not meet the minimum amount of three-hour of nighttime and daytime hours of data as specified in Section 4.1 4(a) of Rule 012, where it states: “in the case of a noise complaint or where compliance at a dwelling is in question, at least three cumulative hours of valid data in each nighttime sampling period (10 p.m. to 7 a.m.) and three cumulative hours in each daytime sampling period (7 a.m. to 10 p.m.) under representative conditions are obtained.” Nonetheless, the Commission agrees with TransAlta’s assessment that while three hours of valid data were not obtained, the results provide a reasonable basis to assess the types of conditions, such as normal operations, start-up operations and other non-routine operations, to determine compliance. Accordingly, although the sound survey does not meet all of the requirements of Rule 012, the Commission has determined that the sound survey provides enough information upon which to base its findings on the noise levels at the David Cymbaluk and Tammi Cymbaluk Breymann residences.

48. The Commission finds that the isolation analysis conducted through audio review and the removal of extraneous noise sources from the data set was reasonable in the circumstances and in compliance with the requirements of Rule 012.

49. The results of the sound survey at both the David Cymbaluk and Tammi Cymbaluk Breymann residences indicated a variety of outcomes, including compliance, non-compliance, and inconclusive results for noise produced from Sundance and Keephills. Based on the analysis provided, the Commission accepts that the noise levels at the David Cymbaluk and Tammi Cymbaluk Breymann residences are in compliance with Rule 012 during normal operations of Sundance and Keephills.

50. However, as acknowledged by TransAlta, the sound survey indicated that during some operational events such as start-ups and boiler blowdowns, the noise levels at the David Cymbaluk and Tammi Cymbaluk Breymann residences exceeded the permissible sound level for a short duration when those events occurred in certain wind conditions. It is the responsibility of the approval holder, TransAlta, to be aware of activities that create excessive noise and to ensure that compliance with Rule 012 is achieved. The Commission recognizes, however, that the complexity of operations at Sundance and Keephills must be taken into account when adopting noise mitigation procedures.

51. The Commission accepts Golder’s evaluation of low frequency noise and its conclusion that there were no low frequency noise conditions observed for the daytime and nighttime periods analysed and no meaningful short-term or intermittent low frequency noise conditions identified at either of the Cymbaluks’ residences.

52. For the reasons discussed earlier, the Commission finds that the noise levels produced from Sundance and Keephills are not in compliance with Rule 012.

53. Because the Commission has found that noise produced from Sundance and Keephills exceeds the permissible sound levels, TransAlta must implement a noise mitigation plan. Section 5.1(3) of Rule 012 states that if a facility is found to be non-compliant, the licensee must

provide both a detailed noise control mitigation plan and a timeline as to when compliance will be met.

54. The Commission understands that TransAlta has developed a plan to reduce noise from Sundance as described in paragraph 41 above, and has modified its start-up procedures at Sundance.<sup>35</sup> It also recognizes that TransAlta has installed continuous noise monitoring equipment to enable it to monitor noise levels from Sundance and gauge the effectiveness of the changes in its operating procedures.

55. The Commission expects that TransAlta will uphold its commitment to implement similar operational changes at Keephills, provided that the changes at Sundance have resulted in reduced noise emissions.

56. Based on the foregoing, the Commission finds TransAlta's approach, combined with the corrective actions already implemented, to be a sufficient noise control mitigation plan in accordance with Rule 012. The Commission expects that this approach will assist in ensuring compliance during all operating conditions and in lowering the number of occurrences where start-ups and non-routine operations create noise levels that exceed the permissible sound level at nearby residences.

## **6 Decision**

57. Based on the findings in this decision, the Commission orders TransAlta:

- (1) to complete its review of the operations at Sundance and Keephills to establish efficiencies in reducing noise emissions of its normal operations, with a focus on operational noise events that are subject to the current noise complaints, and report its findings to the Commission by June 1, 2016.
- (2) to provide a summary update of its finding with respect to its continuous noise monitoring system by March 3, 2016.

Dated on December 22, 2015.

### **Alberta Utilities Commission**

*(original signed by)*

Anne Michaud  
Commission Member

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<sup>35</sup> Exhibit 20259-X0035, TransAlta Response to Cymbaluk IR Round 1 001 to 005, PDF page 17.