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Interactive comment on "Change-point detection in wind turbine SCADA data for robust condition monitoring with normal behaviour models" *by* Simon Letzgus

Anonymous Referee #1

Received and published: 21 May 2020

The paper represents a very valuable contribution to the processing of SCADA data for condition monitoring by automatically identifying change points in the time series. The paper is generally suitable for publication, though there are a few points to be addressed: Page 7, line 29: what is the bracketed (1) meant to represent? Page 8, line 4: what is P? In general, ensure that al symbols in equations are properly explained. Page 12, line 17: should the maximum std not be evaluated over k values rather than i? In equation 10, what are D and T? Page 14, line 14: should the statement 'whereas splitting the might require detection of a less severe change in one half of the signals' be something like 'whereas splitting them might result in only the detection of a less severe change in one half of the signal time series'. Section 5.2: I am not sure I understand the

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analysis by CP – who exactly are the time series split? I assume there is one section of data with a CP within it, but where is the split made? Page 17, line 1: it is said that there are two CPs in 11a, but the figure shows only one shaded region Page 17, line 14: the reference to 'signal drifts' should be changed to 'signal changes'. A drift suggests a problem with the sensor itself, whereas what is suggested is that the temperature change is genuine but just due to bearing wear. Page 19, line 2: why would you want to remove such a trend? I assume this technique could be used to identify 'clean' sections of data which can then be analysed with fault detection algorithms. Taking out the trend would then be counter-productive A general point: although CPs are most likely due to some change in set points, maybe after maintenance for example, many could be considered as genuine faults (a sensor drift or comms problem is a fault after all). Perhaps the authors could comment on how to differentiate between CPs which are related to faults and those which are not as they need to be treated different in such as NBM. Some typos: Page 3, line 17: 'multiple' Page 3, line 21: space between 'specifies' and 'the' Page 4, line 19: better to be explicit in terms of 'oil pressure' (not just pressure which could be atmospheric pressure) Page 7, line 25: 'let us' rather than 'let's' (avoid contractions in formal writing) Page 8, line 24: 'calculation' Page 9, line 23: 'automated' Page 10, line 8: 'occurrence' Page 13, line 13: should be 'based on' Page 13, line 22: 'reversely' should be 'conversely' Page 13, line 28: 'algorithm's' Page 18, line 4: should be 'to ensure' Page 18, line 8: should be 'able to'

Interactive comment on Wind Energ. Sci. Discuss., https://doi.org/10.5194/wes-2020-38, 2020.