

Utilities measurement, monitoring and reporting procedure

1. Introduction

- 1.1. Data on electricity, gas, heat, and water consumptions is collected on a monthly basis by the Estates Department through meter readings.
- 1.2. Information on consumptions is also provided by the utility companies through billing. More detailed consumption figures are provided where half hourly electricity meters are in place.
- 1.3. This document outlines the procedure for collecting, comparing, monitoring and reporting on data for the consumption of electricity, gas, heat, and water and their associated carbon emissions. Carbon emissions resulting from the use of University vehicles are not included.

2. Meter readings

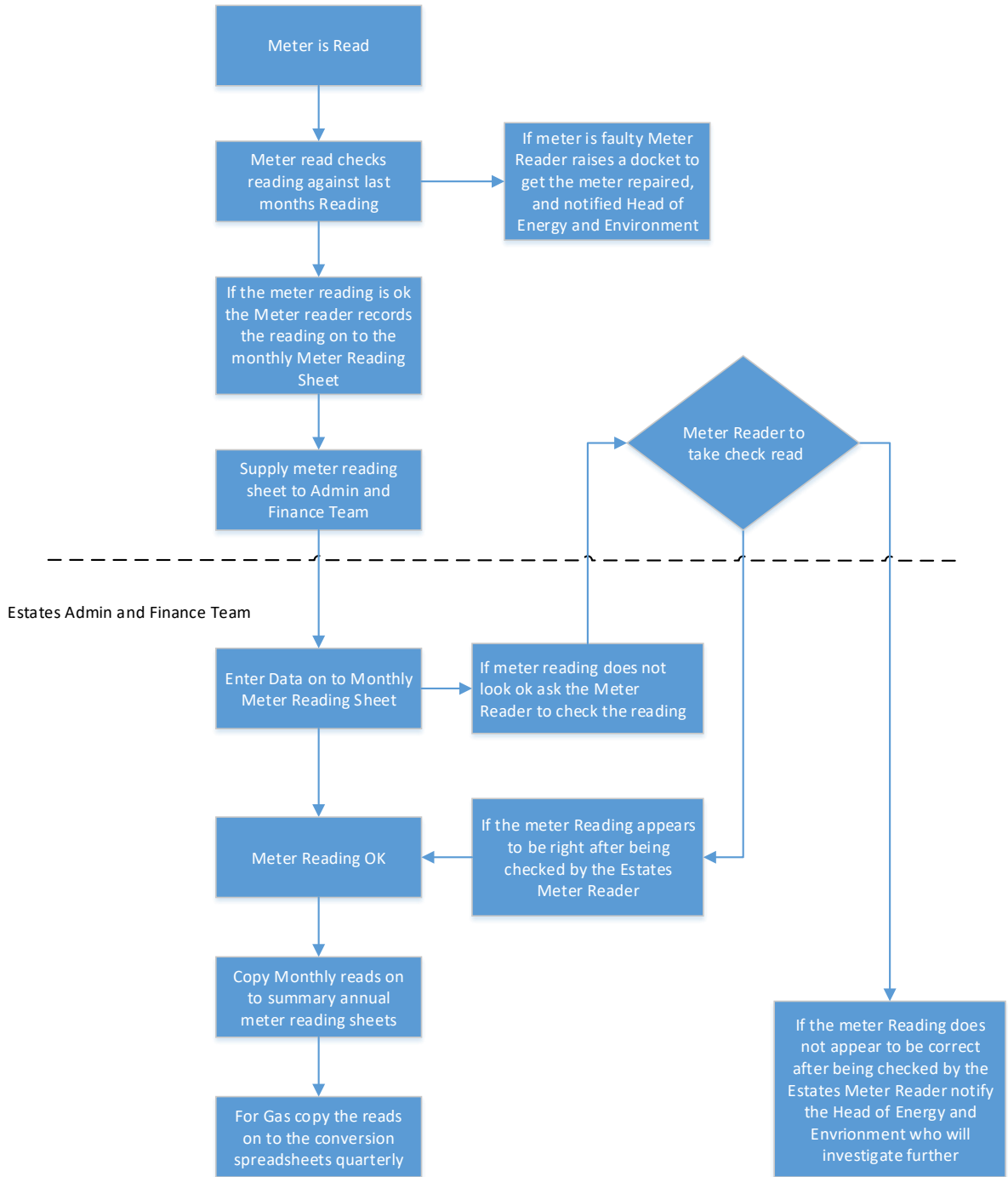
- 2.1. All University utility meters are read on a monthly basis by a member of staff from the Estates Department, Maintenance team.
- 2.2. Meter readings are recorded on pre-prepared meter reading sheets with the meter number and previous reading. Any obvious discrepancies are identified by the meter reader and checked as part of the meter reading process.
- 2.3. Before being passed to the Estates Department, Finance team the meter readings are entered in to the consumption data spreadsheets, and checked again for discrepancies by the Services Assistant. Monthly consumptions are compared with the same period in the preceding year and any significant anomalies investigated, the cause identified and appropriate action taken. A list detailing the possible meter reading issues is detailed in Appendix 1.
- 2.4. Meter readings are then entered into the appropriate finance spreadsheets by the Estates Department, Finance team.
- 2.5. The process for recording meter readings is shown on the following flowchart.

Utilities measuring, monitoring and reporting procedure	Authorised 27/01/2020	Version 1.4	Page 1 of 5
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Utility Meter Readings - Data Validation

Estates Maintenance Team



Utilities measuring, monitoring and reporting procedure	Authorised 27/01/2020	Version 1.4	Page 2 of 5
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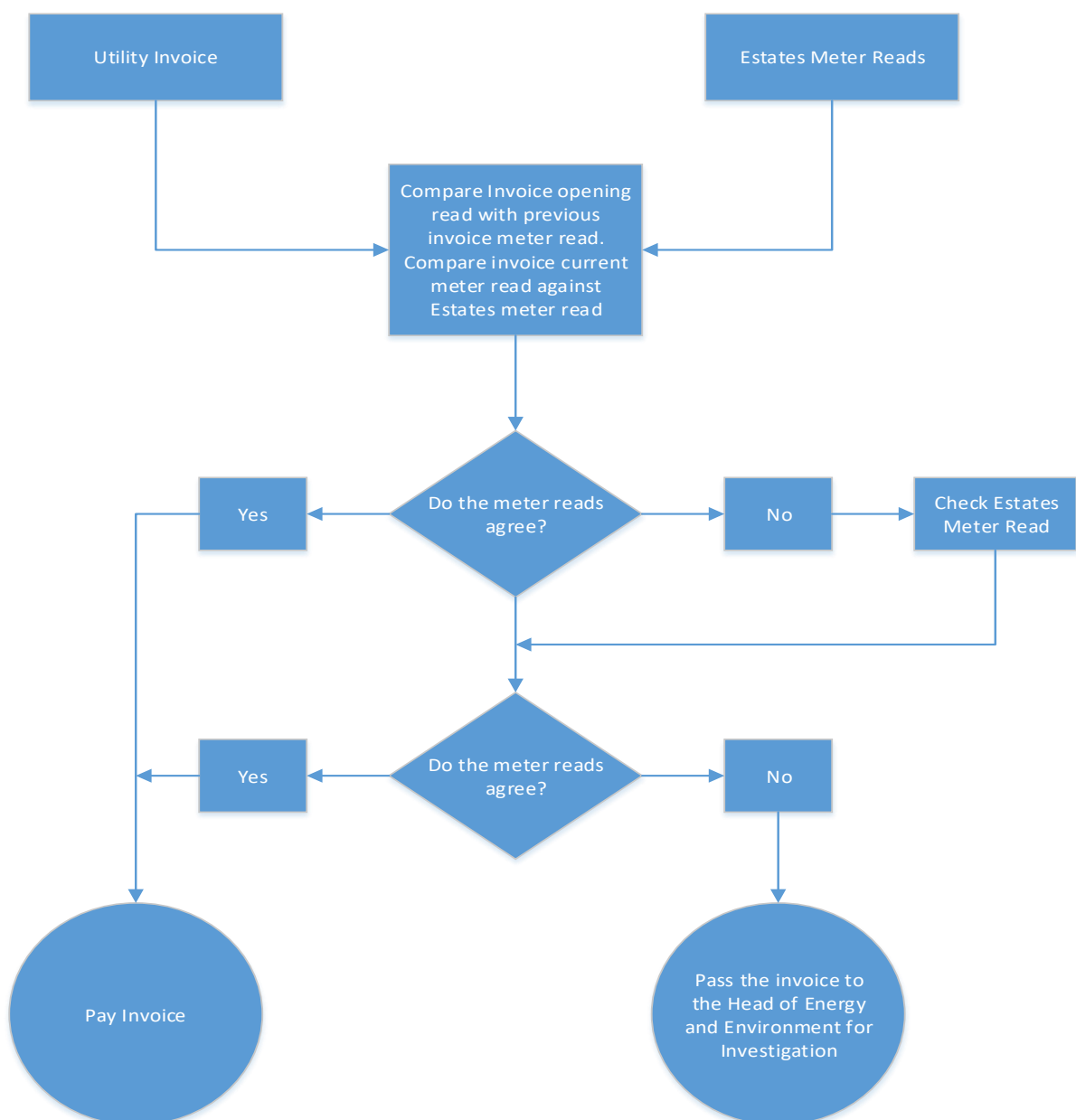
3. Utility bills

3.1. Invoices for the purchase of electricity, gas and water are mainly received monthly from utility companies. Some smaller sites are billed quarterly.

3.2. Utility invoices are compared with the recorded meter readings by the Estates Department, Finance team in accordance with the flow chart below.

Utility Invoice Validation

Estates Admin, and Finance Team



Utilities measuring, monitoring and reporting procedure	Authorised 27/01/2020	Version 1.4	Page 3 of 5
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4. Reporting

- 4.1. Data on energy and water consumptions and the associated carbon emissions are compiled and reported by the Estates Department.
- 4.2. Estate Management Statistics are compiled annually by the Estates Department and include data on the University's energy and water use.
 - 4.2.1. This is required by HESA (Higher Education Statistics Agency) and the reporting period runs from 1st August to 31st July annually.
 - 4.2.2. Emissions are calculated using emission factors published by DEFRA. The Head of Energy and Environment, who is responsible for compiling the data, checks that the correct emission factors are used.
- 4.3. The University of Kent has a 10 year Carbon Management Plan. The Plan includes a target for reducing Carbon emissions, and the actual emissions for each year are calculated and reported against this.
- 4.4. The University of Kent is within the scope of the Energy Savings Opportunity Scheme (ESOS). The energy consumption data that is required under ESOS is based on the meter readings, and subsequent recording of energy consumption undertaken as part of this procedure.
- 4.5. The Energy Data is used as the basis for producing Display Energy Certificates (DECs) in line with the Energy Performance of Buildings Directive legislative requirements for University Buildings.
- 4.6. The University may opt to report energy consumption as outlined in the newly introduced Streamlined Energy and Carbon Reporting (SECR) procedure. The data collection methodology would be as detailed by this Utilities measurement, monitoring and reporting procedure.

Utilities measuring, monitoring and reporting procedure	Authorised 27/01/2020	Version 1.4	Page 4 of 5
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Appendix 1 - Meter Readings – Possible Reading Issues

When meter readings are input on to the monthly meter reading sheets they are compared with the previous months read. When this check is done then either the meter reading appears to be correct, or it may show that there is an issue with the meter reading. Possible issues include:

- 1) Meter shows no consumption:

Previous month	Current Month	Consumption
1379	1379	0

If this occurs the meter reading needs to be checked to make sure it has been read correctly. If it is found that the meter not accessible, and the previous month's meter reading has been carried forward, then this needs to be note. If this is not the case, then the meter may be broken, and in this case it needs to be checked and repaired.

- 2) Meter shows a negative consumption:

Previous month	Current Month	Consumption
1379	1079	-300

If this occurs the meter reading needs to be checked to make sure it has been read correctly. If the meter has been read correctly, then then the meter may be broken, and in this case it needs to be checked and repaired.

- 3) The meter has wrapped

Previous month	Current Month	Consumption
9950	150	-9800

In this case the meter has completed a full set of counts for the number of digits in the display. The reading of 150, is effectively a reading of 10150, which if you minus 9950 from gives the actual consumption of 200 units.

When this occurs add the "1" in front of the readings for the remainder of the current year. At the start of the next year start with the actual displayed meter reading.

- 4) The meter has more digits than the previous meter reading

Previous month	Current Month	Consumption
550	5669	5119

If this occurs the meter reading needs to be checked to make sure it has been read correctly. The meter may have a decimal point in the display, and if it does then this should be shown in the meter reading. The meter may have a scale factor listed on the meter reading sheet, for example x10, but this factor should not be calculated by the meter reader, they are due to record the displayed meter reading without adjusting it.

Utilities measuring, monitoring and reporting procedure	Authorised 27/01/2020	Version 1.4	Page 5 of 5
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