

# REPORT OF A BREACH OF THE CODE OF PRACTICE FOR STATISTICS

## 1. Core Information [\[guidance\]](#)

<b>Title and link to statistical output</b>	<p><b>Employee Earnings in the UK</b> <a href="#">employee earnings in the UK 2020</a></p> <p><b>COVID-19 Round up</b> <a href="#">coronavirus (COVID-19) roundup 2020</a></p> <p><b>Weekly Deaths 23<sup>rd</sup> October</b> <a href="#">deaths registered weekly in England and Wales provisional week ending 23 October 2020</a></p>
<b>Name of producer organisation</b>	<b>Office for National Statistics</b>
<b>Name and contact details of person dealing with report</b>	<p>Iain Bell Statistical Head of Profession, Office for National Statistics, Government Buildings, Cardiff Road, Newport, NP10 8XG. <a href="mailto:stat.hopoffice@ons.gov.uk">stat.hopoffice@ons.gov.uk</a></p>
<b>Link to published statement about the breach (if relevant)</b>	
<b>Date of breach report</b>	<b>03/11/2020</b>

## 2. Circumstances of breach [\[guidance\]](#)

<b>Relevant principle(s) and practice(s)</b>	<p>Principle 3: Orderly release Practice 6: Statistics should be released to all users at 9.30am on a weekday.</p>
<b>Date of occurrence of breach</b>	03/11/2020
<p>Three publications (which include bulletins/timeseries) were affected at 9:30 release:</p> <ul style="list-style-type: none"> <li>• Employee earnings in the UK</li> <li>• COVID-19 roundup</li> <li>• Weekly Deaths</li> </ul> <p>At publishing time there was a thread leak which meant our web servers reached capacity, this caused part of the publishing system to restart. A thread leak is where a thread has not closed off after publishing and thus continued to grow which resulted in creating the maximum number of threads and caused the application to terminate.</p> <p>In turn, this impacted with issues publishing all three publications named above.</p> <p>Employee earnings in the UK publication failed to publish on our live website at 9:30am, therefore we had to switch to our temporary back up site which allows ONS to publish the bare minimum. In this case, we were able to publish the bulletin including some regional analysis but with no data tables or timeseries. By 11:25am we were able to manually publish all data and publication through the live website.</p>	

At 9:30am the other two publications; COVID-19 round up and Weekly Deaths both experienced problems across both web servers. Our investigations showed that it failed on one server and not on the other. These collections were available at 9:30am at specific URLs for 50% of requests. The two web servers are load balanced to support our publishing system and serve requests equally. Therefore, an external user would have a 50% chance of accessing the data. This would have resulted in caching issues for users.

At 12:30pm both publications were 100% available on the website.

The development team immediately began investigating at 9:30am when alarms notified the team that a release had failed. Through this alarm, the publishing team and Business areas who are responsible for the publications were also aware at 9:30am that there were issues with the publications that morning.

By 12:30pm both servers had data in place, which ensured all search results and the release calendar were also up to date.

### 3. Impact of the breach [\[guidance\]](#)

There were 2 comments on Twitter just after 9:30am commenting that the data were unavailable. The social media team responded to this by stating we were experiencing an issue on the website and we were investigating. By 10:08am the social media team announced through twitter 'Our website is experiencing technical difficulties. We apologise for the inconvenience. We'll provide further updates here. In the meantime we will be linking to our backup website'.

There were other impacts to external bodies such as the Welsh Government and Scottish Government who incorporate figures from the ONS Employee earnings UK bulletin, and were planned to publish later that day, and on the next day. When the Earnings team realised there would be a substantial delay to their publication, they informed both the Welsh Government and Scottish Government by 10am of the situation. Both external parties made the decision to delay their own releases until the ONS UK Employee Earnings publication was live on the ONS website.

The biggest impact was associated with NISRA who publish an equivalent Employee earnings release at 9:30am. At this time NISRA proceeded with publishing their own bulletin; this publication held some of the Employee earnings estimates that had not been published at 9.30 by ONS due to the technical failure. Therefore, some ONS estimates were in the public domain via a third party before ONS had released the data. The data that NISRA publish from Employee Earnings in the UK bulletin was restricted to regional estimates, in which they include regions of GB, which account for only a very small proportion of the estimates.

#### 4. Corrective actions (taken or planned) to prevent re-occurrence[\[guidance\]](#)

Since the incident we have increased the capacity of memory to allow full investigations to be carried out. This increase significantly reduces chances of any restarts at crucial times.

We have run investigations and held a post-mortem meeting to analyse our results from this:

- we aim to create an alert that will signal when parts of the publishing system restarts, this will raise awareness for any prompt action required.
- we are currently testing a potential fix to prevent this issue from happening in future
- from a business process perspective, we plan to make improvements on how we report incidents to ensure all stakeholders and communications teams are notified promptly and users of our website are aware as soon as the incident occurs. We plan to run a workshop to run through all steps required when reporting an incident, to confirm the channel to report the information and the key contacts during this time.