

CPCF Weights and Measures Reflective Statement

Below is an example of when I carried out weights and measures duties.

On the 20th August 2019 I accompanied a Trading Standards Officer to a recycling unit to carry out a routine inspection of a weighbridge. A routine inspection is due every two years after a risk rating is carried out. After discussions with my colleague and in preparation for this visit, I contacted a weighbridge equipment company to organise the hire of a heavy testing unit and equipment including block weights. Copies of the calibration certificates for the block weights were requested to ensure they were within calibration and traceable to national standards. Prior to attending the site, these were received and are attached for reference. The calibration certificate shows that the date of calibration of the weights was 8th July 2019 which means they were within calibration in the time period required for the inspection I would be carrying out. As this was my first experience of inspecting and testing weighbridges, I spoke in detail with my experienced colleagues to gather as much information of the location of the weighbridges and potential problems we may come across on the day. I found that this put me at ease and I felt more prepared for the practicalities of the day.

Before the visit I ensured all personal protective equipment, including a high visibility coat, a hard hat and steel toe caps shoes were available and took this with me. I carried out checks on the internal system to view the history of the premises I was visiting and details of any previous inspections. There were no non-conformities noted on the previous visit.

I also made myself aware of and refreshed my knowledge of EN455011, OIML R762 and the NAWI Regulations 20163.

Once at the site, my colleague and I introduced ourselves, produced our credentials and explained the reason for the visit. As the owner of the business was not at the premise, my colleague spoke with the person operating the weighbridge and explained we were there to carry out a routine inspection of the weighbridge. The weather during the test was fine and dry and therefore did not affect any results, this is a factor that has to be taken into consideration when testing equipment. Along with my colleague I visually inspected the weighbridge. The equipment under test was a single plate weighbridge with six load cells. The headwork was positioned within the site office. All the required markings, as detailed in Schedule 1 of The Non-Automatic Weighing Instrument Regulations 20164 were present on the headwork of the instrument including: Max: 50,000kg, Min: 400kg, $e = 20\text{kg}$, accuracy class III and the manufacturer details were visible. The entire weighing platform was visible from the 'operators hut' where I was situated. I asked if the company had a service contract and if I could see the most recent calibration certificate. I was handed a calibration certificate dated 2/07/2019. When I viewed this certificate, it was clear that the weighbridge had failed on that occasion and the business had been advised that the weigh plate should be cleaned. I did not ask at this point if they had cleaned the weigh plate or when it was cleaned. This is something that did not occur to me at the time of the inspection but in hindsight this is a question that I should have asked. This is a point to learn from for future inspections.

The test was carried out in accordance with EN455015. The maximum permissible errors as detailed within EN455016 were established before the test began, as were the test loads for eccentric and accuracy tests.

Making reference to EN45501 the eccentric test was carried out. As there were six load cells a load equal to $\text{Max}/(n-1)$ was used. In this case the load was 10,000kg. The engineer commenced the test by loading 10,000kg to each test point. Even though I was aware of how to work out the test load that should be applied, I had only ever conducted eccentric tests at 1/3 of maximum, not 1/5th as I was required to in this instance, therefore I made sure I had calculated the correct figure with my colleague before proceeding. The weighbridge was outside the maximum permissible error for the eccentric test. The engineer from the heavy testing unit pointed out to me how much dirt had accumulated around one of the load cells and

explained that this could be the reason. As this was my first time testing a weighbridge, I had not noticed this, even though the calibration certificate advised to clean the weigh plate. I think the more experience I have with testing weighbridges, issues like this will become apparent quicker to me. I feel that I had the necessary knowledge and skill to test the equipment but at this time did not have the experience of surrounding issues that could impact on the accuracy of the equipment.

Generally, if a weighbridge failed the eccentric test no further test would continue, especially due to the build-up of dirt, however on this occasion we proceeded with the linearity and hysteresis test. The test loads used were going to be: zero, min (40kg), other (4,000kg), change over point 1 (10,000kg), change over point 2 (39,820kg – this was the nearest figure to 40,000kg that was achievable), max (43,820kg - this was the maximum weight available, there was not sufficient weight to take the test to 50,000kg). I found my practical inexperience was evident when conducting this test. The heavy test unit engineer was very experienced and I felt he went through the test quickly. I needed to concentrate and continually check my written records to be able to keep up and ensure the test was being carried out accurately. In hindsight I should have explained to the engineer that even though I had a good understanding of the test procedures and applicable legislation, in practice I needed to slow the test down to ensure it was carried out efficiently. Also, at this point I realised how difficult it was to satisfy the full test of EN45501. Even though we used the forklift, driver and test unit we still could not get a sufficient weight to test the weighbridge at its maximum capacity. This is something I would consider for future inspections.

The results of the linearity and hysteresis test showed that at zero the weighbridge had an error of +80kg, at 40kg the error was +80kg and at 4000kg the error was +100kg. This was likely to be due to the build-up of dirt and mud on the weighbridge. The maximum permissible error allowed at these test loads would be $\pm 20\text{kg}$ (1e).⁷ At this point it was felt that no further test was required as the weighing instrument was clearly outside the maximum permissible errors at zero and at minimum. There was no requirement at this point to establish if it failed at any other test load points as the instrument was not within the maximum permissible errors and therefore could not be used in trade.

As the weighbridge had not met the test requirements and was not suitable for use in trade the instrument had to be disqualified. When I discussed this with my colleague she agreed, however I realised at this point that I did not have disqualification stickers in my possession. After further discussions with my colleague, a suitable solution was agreed for my colleague to disqualify the current crown sticker with a pen. An asterix symbol was drawn over the current crown sticker to obliterate it and to symbolise the disqualification of the instrument. This was not something I had envisaged and I had not thought to ensure we had disqualification stickers with us. For future I will ensure these are taken with me when I am testing equipment. Again, this is something that was down to my lack of experience not knowledge. In addition to obliterating the sticker with a pen, along with my colleague, I returned the following day with the disqualification sticker and applied this to the instrument. I believe the intervention taken was appropriate.

The results of the test and the fact the instrument was disqualified had to be explained to the owner of the company using the equipment. This was made difficult due to the fact the owner was not on site during the inspection. The results were explained to the employees at the site at the time. It was explained that the instrument (weighbridge) was not suitable for use in trade and that the Crown sticker had been obliterated due to the disqualification of the instrument. It was also explained that now the instrument had been disqualified if it was to be used for trade an offence under Regulation 67 of the Non-Automatic Weighing Instrument Regulations 2016 would be committed. It is an offence if a person uses for trade a regulated measuring instrument to which there is affixed a disqualification mark. This would be a criminal offence and potential action would be taken against the company.

As the owner of the company was not at the site he was contacted by telephone and I explained the results of the inspection and test to him over the telephone. This was not the best approach as it was important that he understood the consequences of using the weighbridge once it had been disqualified, however there was no other option due to the owner not being able to be at the premise. The owner claimed that the weighbridge was no longer in use for trade, they were only using the instrument for internal weighing only. I explained to him that inaccuracy of the instrument would also have an effect on their internal systems if they were reliant on the weighbridge and a cleaning schedule was still important. I explained to the owner that if the circumstances of the business changed then the weighbridge would need to be re-verified before it could be used for trade. Again, it was explained clearly to the owner that it was an offence under the NAWI Regulations 2016 to use the equipment for trade now it had been disqualified. I left an inspection report at the premise detailing the information that was explained however it would have been a better approach to be able to speak to the owner face-to-face.

Once back at the office all the information was put onto the computer system and the premise was risk rated and scored to generate a date for the next routine inspection. Even though the owner of the company claimed the weighbridge was not being used for trade, it was not taken off our system as I did not fully believe that the weighbridge was not going to be used for use in trade. In regards to this I would be checking the status of the instrument and the use of it before I arranged another heavy test unit for a full test to be carried out. We have powers of entry under The Consumer Rights Act 20158 to carry out inspections and re-visits to clarify compliance with legislation. It would have been suitable and proportionate for an officer to return to the premises before the next due inspection to check this instrument was not being used in trade. To date the department has not received any notification from an Approved verifier that a re-verification has been carried out. Therefore, it can be assumed that the weighbridge is still disqualified and cannot be used in trade.

I believe that on this occasion I dealt with the situation appropriately. My decision making throughout the inspection led to appropriate and proportionate interventions. I feel that my prior learning and knowledge of metrology enabled me to carry out the inspection and my duties efficiently. I do believe however, that with more working experience the small factors that I did find difficult or did not expect to come across will become less pertinent and I will be more equipped to deal with those situations. I have spoken to my colleagues and requested that I attend more routine inspections where there is equipment that we do not see on a day to day basis. I have spoken with my colleague that was with me during this inspection and have had positive feedback in relation to how I dealt with the situation.