

SHERIFFDOM OF TAYSIDE CENTRAL AND FIFE AT STIRLING

DETERMINATION

By Sheriff W.A. Gilchrist

In an Inquiry held under the Fatal Accidents and Sudden Deaths (Scotland) Act 1986

Into the death of

DAVID JOHN McCLOREY

STIRLING, February 2015

The Sheriff, having resumed consideration of the cause, in terms of the Fatal Accident & Sudden Deaths Inquiry (Scotland) Act 1976 ("the Act") determines as follows:

(1) David John Craig McClorey (dob 27/10/80) of South Queensferry, West Lothian died at a temporary access track then under construction, known as track 97, of the B8033 Dunblane to Braco Road near Kinbuck, Perth and Kinross at approximately 14.15 hours on 11 April 2012. Mr McClorey was pronounced dead at 14.56 hours that day.

(2) The cause of death was:

1(a) Multiple thoracic injuries;

1(b) Blunt force trauma;

1(c) Entrapment between plant machinery.

(3) The cause of the accident resulting in the death was that Mr McClorey was trapped between 2 machines, namely a roller and an excavator during an operation to transfer fuel from one machine to another.

(4) A reasonable precaution whereby the death and the accident resulting in the death of Mr McClorey might have been avoided would have been to carry out the fuel syphoning operation without requiring one machine to reverse towards the other, or to

the extent that the reversing manoeuvre was required, if this had been carried out to avoid danger to Mr McClorey in his capacity as a banksman.

(5) There was a defect in the system of working which contributed to the accident resulting in the death, namely that the reversing operation was not conducted in accordance with normal safe practises which would have required the banksman, in this case Mr McClorey, to have been sufficiently far from the reversing vehicle and its path so as to be safe during reversing, and which would have required that no person would have positioned himself between the 2 vehicles until both were stationary, with their engines turned off.

Note

1. Much of the evidence at the inquiry related to the circumstances leading to Mr McClorey being trapped between the 2 machines. It was clear from the evidence that the roller was being reversed towards the excavator for the purpose of refuelling the excavator from the roller. There were a number of areas of dispute, namely why was fuel not available on the site thus avoiding the necessity of carrying out a syphoning operation; whether the site foreman, Alan Cook knew that a syphoning operation was in contemplation; whether there should have been a risk assessment for a syphoning operation; and whether Mr McClorey was standing between the roller and the excavator throughout the reversing operation or whether he moved between the vehicles immediately before he was crushed. Such findings as I am able to make in relation to these matters are dealt with later in this determination. What is not in dispute, however, is that Mr McClorey was positioned between the excavator and the roller immediately prior to being trapped between them and that was the cause of the accident.

2. The inquiry heard evidence over 4 days from 8-11 December 2014. A number of witnesses were called by the Crown. None of the other interested parties led evidence.

In addition to the Crown, the following interested parties were represented at the inquiry:

- (a) the deceased's mother and sister;
- (b) Paul Cooper, the driver of the roller;
- (c) RJT Excavations Limited, Mr McClorey's employer;
- (d) Balfour Beattie Utilities Solutions Limited, the principal contractor;
- (e) John Nixon Hire Limited, the company supplying the roller to RJT.

3. The background to the accident is usefully set out in the extensive joint minute of agreement. Works were on-going as part of a project to construct a new transmission power line from Beauly to Denny. Balfour Beattie Utilities Solutions Limited ("BBUS") was engaged as the principal contractors. BBUS sub-contracted engineering works to Balfour Beattie Civil Engineering Limited ("BBCE"). BBCE, in turn, sub-contracted certain works to 5 sub-contractors. RJT Excavations Limited ("RJT") was one of the 5 contractors, responsible for constructing access tracks from an area near to Aberfeldy to an area near to Dunblane.

4. Work to construct tracks would involve the removal of soil and the spreading of crushed stone which would then be compacted. Generally, each track would be approximately 4 metres wide, with wider areas to enable vehicles to pass, and turning areas. During construction, there would typically be an area for mobile welfare facilities and a refuelling station.

5. On 11 April 2012, Mr McClorey was working at a temporary access track, under construction, known as track 97. He was employed by RJT as an excavator operator and was working with Paul Cooper, who was also employed by RJT as a supervisor.

6. Prior to works commencing, a site inspection was carried out. This was known as a "march in", and provided a joint visit between representatives from BBUS, the appointed sub-contractor and the land-owner. Discussions would cover *inter alia*, the

location of the track, identification of hazards (including overhead lines and underground gas lines), the strength of existing bridges, topography, environmental issues, and land owner requests. Following a march in, RJT would produce risk assessments and a method statement, details of the scope of works and the plant, equipment and resources required. This documentation was known as a "SIIP pack". The SIIP pack in respect of track 97 contains a RJT risk assessment.

7. Following a meeting on 2 April 2012, Alan Cook who was employed by RJT as a foreman, attended to the hire of plant for the works at track 97, discussing same by telephone with a member of staff at John Nixon Hire Ltd that day. On 10 April, Mr McClorey and Paul Cooper attended at track 97 to recommence works there. The equipment necessary to undertake the work had not been delivered to the site. At around 11.00 hours that day, a 360° excavator owned by RJT arrived on site. It did not have a full tank of fuel. The hired road roller arrived a short time later.

8. An empty fuel bowser and pump arrived at track 97 on the morning of 11 April 2012, having been ordered by Alan Cook the preceding day. Attempts had been made by Alan Cook on 10 April 2012 to arrange for fuel to be delivered by Highland Fuels Ltd to track 97 on 11 April 2012. That company had been unable to deliver fuel before 12 April 2012 and no order was placed for fuel to arrive on 11 April.

9. When the hired roller arrived on site it had less than a full tank of fuel. The precise level of fuel is uncertain although it was at least half a tank. There was sufficient fuel in the excavator to enable Mr McClorey to commence work but a diminishing level of fuel became an issue over the course of the morning of 11 April. Both Paul Cooper and Alan Cook gave evidence to the effect that there was discussion between them on the morning of 11 April about the diminishing level of fuel. Their evidence differed as to whether Alan Cook was aware that syphoning from one machine to another was in contemplation. For my part, I am satisfied that I do not require to make any finding of fact in relation to whether or not Alan Cooper knew that Mr McClorey and Paul Cooper intended to syphon fuel from the roller to the excavator. There was ample evidence that syphoning was not prohibited by RJT but was something that had been done on previous

occasions by a number of RJT employees. Syphoning was not an everyday occurrence but it was a known and condoned practice within RJT.

10. The need to syphon fuel from one machine to another arose because there was no fuel in the bowser which had been delivered to the site on 11 April. Mr Bell, who represented Mr McClorey's mother and sister in his written submissions was critical of Alan Cook's evidence in relation to both the lack of fuel and whether he knew that Mr McClorey and Paul Cooper intended to syphon fuel from one machine to another. It was submitted on behalf of the family that had Alan Cook planned the job as he ought to have done, and reacted properly on 11 April to the information he received about fuel levels, then Mr McClorey and Paul Cooper would not have embarked upon the syphoning operation. It was also submitted on behalf of Mr McClorey's family that the absence of any recognition of the hazards of plant refuelling, combined with the practice of allowing plant refuelling was the cause of the accident and represented a failure of the work system. In this connection, I favour the Crown's submission that it ultimately does not matter whether Alan Cook did or did not know that syphoning was in contemplation. Equally, whether Alan Cook forgot to order fuel or omitted to do so for some other reason is not a matter for which I require to make a finding. I agree with the Crown's submission that it matters not why there was no fuel in the bowser. It simply led to a state of affairs whereby there was insufficient fuel on site on 11 April thus giving rise to the need to syphon fuel from one machine to another.

11. With regard to the fact that the SIIP pack did not contain an explicit risk assessment for either refuelling from a bowser or for syphoning, I accepted the evidence of Isabelle Martin, HM Principal Inspector of Health & Safety that she was content that the SIIP pack did not set out the details of how to undertake the refuelling. She considered this to be an every-day task which did not require to be subject to a risk assessment. In any event, it is clear that the hazard that occurred in this case was that of reversing rather than the refuelling operation itself. In this connection, the SIIP pack did contain reference to a control measure designed to minimise reversing operations.

12. Following the accident, the HSE served a prohibition notice banning the practice of syphoning within RJT. However, the evidence at the inquiry from Ms Martin was that

refuelling from one plant machine to another was not perceived to present a significant health and safety risk. Ms Martin confirmed that reversing should be kept to a minimum and eradicated if possible. Nevertheless, it was her evidence that the reversing of vehicles was permissible, provided that the system for doing so was safe. That could be achieved by the use of a banksman to guide the driver of the reversing machine. Such an operation could be conducted safely if the person acting as banksman was positioned out of line of the machine's movement, was visible to the driver of the reversing vehicle at all times, and was trained to carry out the task. In this connection, the evidence was clear about the need to ensure that no person would go in between the 2 vehicles until both were parked-up and braked and the engines of both were shut off.

13. A considerable amount of evidence was led about the qualifications of Mr McClorey and Paul Cooper. In this connection, I accepted the conclusion reached by Ms Martin to the effect that both men were qualified and competent to operate the machines they were using. Ms Martin gave evidence to the effect that had she been on site she would have been content to allow Mr McClorey to act as a banksman. The SIIP pack contained a controlled measure to "provide competent plant operators, banksmen and supervision". Ms Martin was satisfied that this position met any obligations in relation to the task being undertaken, standing the training and competence of the men on site. She indicated that she would not have expected to see a method statement for such a task.

14. Mr Bell, on behalf of the family, submitted that plant refuelling ought to have been recognised as hazardous, should have been prohibited and should have been seen to be a manoeuvre that required assessment and planning. For my part, I am satisfied that the hazardous activity is not that of refuelling from one machine to another. Rather, the hazardous activity is that of reversing. In the present case, it would have been possible for the excavator to have been driven up to the roller, rather than have the roller reverse to the excavator. In addition, I am satisfied that reversing was an operation that could be undertaken safely and that both Mr McClorey and Paul Cooper were capable of undertaking this task safely. I am satisfied that specific risk assessments and method statements were not required for a refuelling or syphoning task and that the SIIP pack

already dealt adequately with reversing operations and the need to provide competent plant operators and banksmen.

15. The most contentious area of dispute between parties related to the question of where Mr McClorey was positioned immediately prior to his being trapped between the machines. What is not in dispute is that at approximately 14:00 hours on 11 April, Mr McClorey and Paul Cooper were commencing an operation to syphon or transfer fuel from the road roller to the excavator. Paul Cooper was driving the road roller and was reversing it towards the excavator. During the course of that operation, Mr McClorey became trapped between the road roller and the excavator.

16. There was evidence that Mr McClorey had previously engaged in a roller to excavator fuel transfer but that this had not involved a reversing manoeuvre. The evidence presented to the inquiry suggested that, on this occasion, there were 2 possible explanations for how Mr McClorey came to be trapped between the machines. The first was that he had stood in the path of the reversing roller throughout the reversing operation, guiding it back. It is suggested that he was positioned there to use the fuel hose, which would require to stretch diagonally from the corner of the excavator across to the fuel tank of the roller. In other words, he would be seeking to gauge the appropriate distance required to allow the hose to fit into the tank of the roller.

17. The second explanation came from Paul Cooper's evidence to the inquiry to the effect that Mr McClorey was standing near to the corner of the excavator, guiding the roller back. Mr Cooper was looking over his left shoulder, with the seat of the roller partially rotated and was therefore not relying on his mirrors. He claimed never to have lost sight of Mr McClorey until immediately after he gave a hand signal for the roller to stop. According to Mr Cooper, he turned away to stop the machine and as he did so he felt it rocking backwards. He said that he then moved the roller forward and when he turned round he could not see Mr McClorey. He then said that he was not 100% sure whether he saw Mr McClorey before he fell to the ground.

18. Mr Cooper's position was that Mr McClorey must have stepped into the gap between the 2 machines at the last moment. His position was that Mr McClorey had

always been to his left during the reversing manoeuvre. The evidence given by Mr Cooper at the inquiry was contrasted with his statement to the police on the day of the accident. On arrival at the locus, Sergeant Ross of Tayside Police asked Mr Cooper what had happened and Mr Cooper gave an account. Sergeant Ross understood Mr Cooper to be saying that Mr McClorey had stood between the 2 machines during the reversing operation so as to guide him back. A Constable Stapleton was subsequently tasked to note a statement from Mr Cooper. This was recorded in the constable's notebook. Although the statement noted by the constable does not give this account in express terms, the constable gave evidence that his understanding was that Mr McClorey had been standing between the 2 machines. When Ms Martin arrived on the site, Sergeant Ross relayed the circumstances to her in the presence of Mr Cooper. It was Ms Martin's understanding that Mr McClorey had been standing between the 2 machines guiding the roller back. There was no evidence to suggest that Mr Cooper had dissented from Sergeant Ross's account given to Ms Martin in his presence.

19. It was submitted on behalf of Mr McClorey's family that Mr Cooper had given 2 different versions of events and that the version he gave in his evidence, and in a statement which he gave to his employers about a month after the accident, was designed to imply that Mr McClorey was responsible for his own fate. The evidence that Mr Cooper gave at the inquiry was consistent with the statement that he had given to his employers. He had prepared a diagram at the time of giving that statement and this indicated the position that Mr McClorey had taken when guiding the roller back. This would have positioned Mr McClorey near to the corner of the excavator. In this connection, Ms Martin's evidence was that even if Mr McClorey had been standing in front of the excavator's track, as seemed to be indicated by Mr Cooper in his diagram, then that was still not a safe position to adopt as there was a danger that he could have been trapped between the roller and the excavator's track.

20. My view is that there is a problem with Mr Cooper's evidence to the effect that Mr McClorey must have moved between the machines after he had signalled for the roller to stop because such a course of action on Mr McClorey's part is inherently implausible and may also have been physically impossible to achieve. Evidence was led from a

Constable Murray that the stopping distance of the roller was 0.9 metres. Due to the length of the excavator's fuel hose and the need for it to stretch diagonally between the 2 machines they would need to be no more than 1.14 metres apart. If Mr McClorey had been standing between the machines then, on the assumption that he had given the command to stop at a time when the machines were close enough to enable the fuel transfer to take place, namely 1.14 metres, then allowing for the stopping distance, this would leave only 0.24 metres "spare". At post mortem, Mr McClorey's torso was found to be 0.23 metres deep, thus allowing only a 1 cm margin of error. From a furrow mark left by the roller on the ground, it was possible to identify the position the roller must have been in when it came to a halt. That indicates that the gap in which Mr McClorey would have been standing would only have been 6 cm or 7 cm. Mr Cooper referred to his feeling his wheels sinking immediately before he moved it forward away from the excavator. That drop coincides with the furrow mark.

21. Given the 0.9 metre stopping distance and the 6 cm minimum distance between the stationary vehicles, that might infer that Mr McClorey had given the hand signal to stop when the 2 vehicles were only somewhere in the region of 0.96 metres or thereby apart. However, if Mr McClorey had factored in the stopping distance and had given the hand signal when the machines were 2 metres apart (ie allowing for the stopping distance of 0.9 metres and taking account of the fact that the machines needed to be no more than 1.14 metres apart) that does not explain why the machines ended up so close together unless for some reason it took Mr Cooper much longer than it should have taken him to bring the roller to a halt. Whether the hand signal to stop was given when the roller was about 2 metres or 1 metre from the excavator, it is clear that if Mr McClorey had been standing to Mr Cooper's left and not immediately between the machines when he gave the hand signal to stop, he would then have had to move into a relatively short gap between the machines and would have done so at a stage when the roller was still moving. I agree with the Crown and the submissions on behalf of Mr McClorey's family that that is a most unlikely scenario. In particular, I agree with the evidence given by Constable Murray that he would be "very surprised to find anybody jumping into a gap of less than a metre and closing". The other difficulty with this scenario is that the excavator's track in front of which Mr McClorey is said to have been standing protrudes

extensively from the excavator to the extent of about a metre. In my view this means that the track would be obstructing the route that Mr McClorey would have to take if he had chosen to move between the excavator and the roller at the very last moment.

22. The likeliest scenario therefore is that Mr McClorey was standing between the machines guiding Mr Cooper's reversal of the roller. That is certainly the impression given to Sergeant Ross and Constable Stapleton by Mr Cooper on the day. I accept that there is some force in submissions made on Mr Cooper's behalf that when Sergeant Ross spoke to Mr Cooper he was obviously distressed. Sergeant Ross was not seeking a detailed account of the incident from Mr Cooper and he did not note a statement from him. His evidence was that Mr Cooper advised him that Mr McClorey had been "between both machines guiding him back". This was not necessarily inconsistent with the position Mr Cooper indicated on the diagram which he provided to his employer. That does place Mr McClorey at the corner of the excavator and is not incompatible with saying that he was "between" the machines. It was also submitted on behalf of Mr Cooper that the statement taken by Constable Stapleton does not provide a detailed account of the incident and, in particular, does not detail the position of Mr McClorey during the reversing manoeuvre. Constable Stapleton also accepted that when he took the statement, Mr Cooper was in a distressed and highly agitated state.

25. My conclusion that Mr McClorey is much more likely to have been standing directly between the 2 machines rather than moving to that position at the last second is not primarily based on what Mr Cooper told the police on the day of the incident. Rather, it is based on my view that it is inherently implausible that Mr McClorey would have jumped into a short and diminishing gap when the roller was still moving. In any event, it is arguable that it makes no difference whether Mr McClorey was between the 2 machines throughout the reversing manoeuvre or whether he moved into that position at the last moment. It is not in dispute that he became trapped between the machines and, in either scenario, that he was in a position he should not have been in if the reversing manoeuvre had been carried out safely. To complete this manoeuvre safely required that Mr McClorey would not be positioned between the 2 vehicles until both were stationary, with their engines turned off. That clearly did not happen.

24. In the submissions on behalf of the family, I was invited to find that there were a number of other reasonable precautions whereby the accident might have been avoided. Specifically, I was asked to find that having sufficient fuel available for the plant operator would have obviated the necessity of refuelling from one machine to another. I was also invited to find that a prohibition on plant-to-plant refuelling would have avoided the accident.

25. I have not made such determinations because I am satisfied that the absence of fuel on site was not a cause of Mr McClorey's death but simply formed part of the chain of events leading to it. With regard to a prohibition on plant-to-plant refuelling, I agree with the assessment by the HSE that this method of refuelling did not present a significant risk to the health and safety of those engaged in such an operation. I am also satisfied that there was no need to undertake a specific risk assessment or provide a method statement for a refuelling or syphoning task. In this connection, I am satisfied that both Mr McClorey and Mr Cooper were capable of undertaking the task safely, although clearly that is not what happened. In the first instance, the syphoning could have been undertaken without requiring the roller to reverse. Secondly, even if the reversing manoeuvre had been required, Mr McClorey should and could have been positioned differently from that described in either of the 2 scenarios explored at this inquiry.

26. I do not intend to make any further findings in terms of Section 6(1)(e) of the 1976 Act. I would wish to take the opportunity, however, to convey my sympathy to Mr McClorey's family for their tragic loss.