SHERIFFDOM OF TAYSIDE, CENTRAL AND FIFE IN PERTH

[2019] FAI 38

PER-B135-19

DETERMINATION

BY

SHERIFF W M WOOD

UNDER THE INQUIRIES INTO FATAL ACCIDENTS AND SUDDEN DEATHS ETC (SCOTLAND) ACT 2016

into the death of

MARTIN LEONARD BUCHAN

Perth, 13 August 2019

DETERMINATION

The Sheriff, having considered the information presented at the inquiry, determines in terms of section 26 of the Act that:

1. The deceased is Martin Leonard Buchan, born 5 February 1981. At the time of his death, he resided in Dundee. He died at 1740 hours on 4 April 2018 at Ninewells Hospital, Dundee. At the time of his death, he was a self-employed painter and decorator.

2. In terms of section 26(2)(a), the death occurred at 1740 hours on 4 April 2018 at the Intensive Care Unit at Ninewells Hospital, Dundee.

3. In terms of section 26(2)(b), the accident resulting in the death of the said Martin Leonard Buchan occurred just before 1010 hours on 2 April 2018 at East Leys Lodge, Errol, Perthshire, PH2 7TD.

4. In terms of section 26(2)(c), the causes of death were: I(a) hypoxic brain injury and aspiration pneumonia; (b) out of hospital cardiorespiratory arrest; and (c) high voltage electrocution. In the post-mortem report prepared by Dr Tamara McNamee, it is explained that exposure to high voltage electricity can cause cardiac arrest due to cardiac arrhythmia or secondary to respiratory arrest resulting from paralysis of the respiratory muscles (diaphragm and intercostal muscles) during the electric shock. Following cardiac arrest, the cessation of circulation results in inadequate perfusion of the brain resulting in hypoxic brain injury. The associated loss of consciousness results in loss of the gag reflex, increasing the risk of inhalation of stomach contents into the lungs and the resultant development of pneumonia.

5. In terms of section 26(2)(d), the cause or causes of the accident resulting in the death were: Martin Leonard Buchan had been carrying out work at the locus, for which he had been using an extendable metal ladder. Having shortened the ladder in order to allow him to continue with his work, and with the foot of the ladder secured by his associate and friend, Mark Elliot Mulligan Tait, he raised the top of the ladder and continued to lift it in an ascending arc as he walked towards Mr Tait. Unnoticed by either man, Mr Tait had been standing almost underneath live high voltage overhead power lines that crossed the garden at East Leys Lodge. As the ladder was raised into the air, it either touched the overhead power lines or came into sufficiently close

proximity to them to cause electric current to pass via the ladder through Martin Leonard Buchan who was then holding it with both hands, causing him to sustain an electric shock.

6. In terms of section 26(2)(e), there are precautions which (i) could reasonably have been taken; and (ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided. These are as follows:

1. The said Martin Leonard Buchan could have created a safety zone within which to work.
2. The said Martin Leonard Buchan could have created a danger zone within which he ought not to work.
3. Had the said Martin Leonard Buchan demonstrated consistent awareness of the potential danger of the overhead power lines and implemented either 1. or 2. above, it is likely that he would have avoided the proximity of the overhead power lines altogether by adopting a safer method of work.

7. In terms of section 26(2)(f), there were plainly defects in Mr Buchan's system of working which contributed to the accident resulting in his death. Reference is made to paragraph 6.

8. In terms of section 26(2)(g), it is relevant to note that the positioning and height of the overhead power lines was in accordance with the legal requirements and industry guidelines for the same.

RECOMMENDATIONS

In terms of section 26(1)(b), there are no recommendations to be made which might realistically prevent other deaths in similar circumstances. No fault is attracted to Scottish and Southern Electricity Networks, to whom the overhead power lines belong, or to the Health and Safety Executive, the body having an interest in the prevention of deaths in similar circumstances. It is to be hoped that the holding of this inquiry and the evidence led is sufficient to highlight the dangers and precautions to be taken by anyone who requires to work in the proximity of overhead power lines.

NOTE

Introduction

[1] An inquiry was held into the death of Martin Leonard Buchan, born 5 February 1981, at Perth Sheriff Court on 23 July 2019. The inquiry is a mandatory inquiry under section 2(3) of the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016 ("the Act"), the death having occurred in Scotland while the deceased was acting in the course of his employment. The death was reported to the Crown Office and Procurator Fiscal Service. Following advertisement of the preliminary hearing and inquiry hearings, notification of intention to participate was received on behalf of Scottish and Southern Electricity Networks, who were represented at the preliminary hearing on 4 July 2019.

[2] At the inquiry hearing on 23 July 2019: the Crown was represented by Ms Stella Swan, procurator fiscal depute; and Scottish and Southern Electricity

Networks by Ms V Tate, solicitor. I noted that, although family members of the deceased were in attendance, they had not wished to participate in the inquiry. Evidence was led from Mark Elliot Mulligan Tait; Thomas Allen, Inspector, Health and Safety Executive; and Kenneth Morton, Principal Specialist Inspector, Health and Safety Executive. I also had a joint minute of agreement setting out agreed facts that should be admitted as evidence and the available productions, which included copies of statements garnered by the police from all relevant witnesses in the course of their enquiries. I then heard submissions on behalf of the represented parties, before closing the inquiry.

The legal framework

[3] The requirements to hold an inquiry under the Inquiries into Fatal Accidents and Sudden Deaths etc (Scotland) Act 2016 are principally governed by sections 1 and 2, which, insofar as relevant, contain these provisions:

> "**1 Inquiries under this Act**
>
> (1) Where an inquiry is to be held into the death of a person in accordance with sections 2 to 7, the procurator fiscal must—
>
> (a) investigate the circumstances of the death, and
> (b) arrange for the inquiry to be held.
>
> (2) An inquiry is to be conducted by a sheriff.
>
> (3) The purpose of an inquiry is to—
>
> (a) establish the circumstances of the death, and
> (b) consider what steps (if any) might be taken to prevent other deaths in similar circumstances.

(4) But it is not the purpose of an inquiry to establish civil or criminal liability.

(5) In this Act, unless the context requires otherwise—

(a) 'inquiry' means an inquiry held, or to be held, under this Act,
(b) references to a 'sheriff' in relation to an inquiry are to a sheriff of the sheriffdom in which the inquiry is, or is to be, held.

2 Mandatory inquiries

(1) An inquiry is to be held into the death of a person which—

(a) occurred in Scotland, and
(b) is within subsection (3) or (4).

(2) Subsection (1) is subject to section 3.

(3) The death of a person is within this subsection if the death was the result of an accident which occurred—

(a) in Scotland, and
(b) while the person was acting in the course of the person's employment or occupation."

[4] The inquiry into the circumstances of the death of Martin Leonard Buchan, therefore, is a mandatory inquiry in terms of section 2(3) of the Act. In terms of section 36 of the Act the inquiry is governed by the Act of Sederunt (Fatal Accident Inquiry Rules) 2017 ("the Rules").

[5] In terms of section 1(3) of the Act the purpose of the inquiry is to establish the circumstances of the death and to consider what steps (if any) might be taken to prevent other deaths in similar circumstances. The specific matters to be determined by the court are set out in section 26 of the Act, which is in these terms:

"26 The sheriff's determination

(1) As soon as possible after the conclusion of the evidence and submissions in an inquiry, the sheriff must make a determination setting out—

(a) in relation to the death to which the inquiry relates, the sheriff's findings as to the circumstances mentioned in subsection (2), and

(b) such recommendations (if any) as to any of the matters mentioned in subsection (4) as the sheriff considers appropriate.

(2) The circumstances referred to in subsection (1)(a) are—

(a) when and where the death occurred,

(b) when and where any accident resulting in the death occurred,

(c) the cause or causes of the death,

(d) the cause or causes of any accident resulting in the death,

(e) any precautions which—

(i) could reasonably have been taken, and

(ii) had they been taken, might realistically have resulted in the death, or any accident resulting in the death, being avoided,

(f) any defects in any system of working which contributed to the death or any accident resulting in the death,

(g) any other facts which are relevant to the circumstances of the death.

(3) For the purposes of subsection (2)(e) and (f), it does not matter whether it was foreseeable before the death or accident that the death or accident might occur—

(a) if the precautions were not taken, or

(b) as the case may be, as a result of the defects.

(4) The matters referred to in subsection (1)(b) are—

(a) the taking of reasonable precautions,

(b) the making of improvements to any system of working,

(c) the introduction of a system of working,
(d) the taking of any other steps,

which might realistically prevent other deaths in similar circumstances.

(5) A recommendation under subsection (1)(b) may (but need not) be addressed to—

(a) a participant in the inquiry,
(b) a body or office-holder appearing to the sheriff to have an interest in the prevention of deaths in similar circumstances.

(6) A determination is not admissible in evidence, and may not be founded on, in any judicial proceedings of any nature."

[6] It will be evident from the above that it is not the purpose of an inquiry to establish civil or criminal liability. The nature of the inquiry hearing is that it is part of an inquisitorial process, in which the procurator fiscal represents the public interest.

Summary of Evidence

[7] **Martin Leonard Buchan** was born 5 February 1981 and at the time of his death he was resident in Dundee. He was a self-employed painter and decorator. He was a sole trader and, although he had no employees, from time to time he received assistance from **Mark Elliot Mulligan Tait** ("Mark Tait"), whom he engaged on a cash basis.

[8] Mark Tait was the only eyewitness to the accident that led to Mr Buchan's death. He is 44 years of age and, while he also does some decorating work from time to time, he is currently a college student. He had known Mr Buchan for almost 30 years, having lived five doors apart growing up. Although they had lost touch, they met up again in

or around 2016, and after that he helped Mr Buchan out from time to time with his work as a painter and decorator.

[9] The locus of the accident is a large detached property with gardens to front and back. Running over the front garden is a high voltage power line owned and operated by Scottish and Southern Electricity Networks ("SSEN"). It is an 11 kilovolt line that provides supply to a number of local properties via a substation situated outside the property boundary. The property is owned by a married couple, Mr and Mrs S. Mr S, a chartered accountant, had provided some assistance to Mr Buchan in the past and as a result, engaged him to carry out some work sanding, priming and painting eaves and facings. Mr Buchan had attended on 29 March 2018 and subsequently agreed with Mr S the terms and conditions on which he would carry out the work, which included the employment of another person (that is, Mr Tait), to hold the ladder.

[10] Mr Buchan had contacted Mr Tait and the latter had agreed to help. Mr Buchan had turned up earlier than expected at Mr Tait's door on 2 April 2018, picked him up and they had then gone firstly to Mr Buchan's store to collect equipment and then to purchase paint before going on to the locus. They picked up coffee and something to eat on the way. They arrived at the locus between 8.30 and 9.00am. The house at the locus is a large, detached house with four dormer windows to the front and a protruding bay window to the left of the main door. There is a slabbed patio, which had garden furniture and a children's table and chairs. The latter were moved by Mr Buchan and Mr Tait to facilitate access to the windows.

[11] The equipment Mr Buchan had with him included a two section ladder and a three section ladder. Each section of the longer ladder measured 3.65 metres, which allowed for a maximum extension of about 10 metres. In order to access the dormer window above the bay, the long ladder had to be used at close to its fullest extension in order to allow for the pitch of the roof above the bay, which was at a relatively shallow angle. Mr Buchan had used the shorter ladder so that he could climb up that whilst manoeuvring the end of the long ladder into place against the wall under the eaves of the dormer window. In order to secure the end of the long ladder and to prevent it from slipping, Mr Tait had to sit on the foot, applying his whole weight. At some point following their arrival and before Mr Buchan had started work, Mr Buchan and Mr Tait had a conversation about the power lines crossing the garden and why the birds perching on it avoided electrocution. Mr Buchan had said that he and Mr Tait would avoid the power lines and Mr Tait had not thought that he would end up anywhere near them. Although Mr Tait had been wearing safety boots, with steel toe caps and thick rubber soles, Mr Buchan had not.

[12] At or about 9.30am, Mr Buchan had started work, scraping around the windows. He was up the long ladder for about 10 to 15 minutes. After that, he came down, moved the two-part ladder to the side, lifted the long ladder away from the house and he and Mr Tait had then manoeuvred it to the other side of the window so that Mr Buchan could work on the other side. Once the second part was done, Mr Buchan again descended and he checked whether the two-part ladder would be sufficient to extend for the next dormer. The three-part ladder was laid down, perpendicular to the house.

Mr Buchan decided that, given that the other dormers were narrower, it would be best for him to use the three-part ladder, positioned above the window, from where he would be able to reach both sides. The ladder required to be shortened, which was achieved by Mr Tait anchoring the far end of the ladder while Mr Buchan carried out the necessary adjustments. Unnoticed by either Mr Buchan or Mr Tait, in moving the three-part ladder away, perpendicular to the house, Mr Tait had inadvertently been positioned almost directly below the overhead power lines. As Mr Tait continued to anchor his end of the ladder, Mr Buchan picked up the far end and, pushing the ladder upward as he went, he then "walked" his hands down the ladder as he continued to push it towards a vertical position. Suddenly - when Mr Buchan was closing on Mr Tait - Mr Tait heard him scream. The top of the ladder had either fleetingly touched the overhead power line or come sufficiently close to it for current to "arc" across. Mr Tait felt a tingling in his legs and on looking at Mr Buchan, he saw "smoke coming out his head". Mr Tait immediately took his foot off the ladder and kicked it away; Mr Buchan fell to the ground. Mr Buchan appeared to be unconscious. Mr Tait put him in the recovery position in case he was sick. Mr Tait dialled "999" and asked for an ambulance. Unfortunately, he did not know where he was or how to direct an ambulance to the locus. He called out for help. He went to the door of the house and knocked, but got no reply. He obtained the name of the house for the ambulance switchboard from the front garden gate. He was given instructions by telephone on how to start CPR.

[13] Mr and Mrs S had both been at home. Mr S had been aware of the arrival of Mr Buchan and Mr Tait just before 9.00am. He was aware that the work had started on the large dormer to the left of the house and that the garden furniture had been moved out from the side of the house to allow access. Just before 1010 hours, Mr S had opened his bedroom curtains and saw Mr Buchan lying on the ground whilst Mr Tait was carrying out CPR. He called Mrs S, who is trained to undertake CPR and she went out to help whilst Mr S looked after their son. Mr S also dialled 999 at 1012 hours before going outside to offer assistance. His wife suggested that he fetch the defibrillator situated near the village hall in Errol. By the time he had returned from doing that in his car, the ambulance had already arrived.

[14] Mrs S had been aware of the work being done to the windows, although she did not know either man. Around the time of the accident, she had been changing her son's nappy upstairs. When called by her husband, she ran out into the front garden to see the man she learned to be Mr Buchan lying on his back parallel to the house while Mr Tait was kneeling next to him doing chest compressions. She took over. Ambulance control continued to provide instructions via Mr Tait's mobile phone. Although Mr Tait tried to give rescue breaths, Mr Buchan vomited. Mrs S had Mr Tait scoop the vomit out before recommencing chest compressions and both of them kept going until the paramedics arrived. Mrs S had been unaware of Mr Buchan either taking any breaths or having a pulse.

[15] **Thomas Fleck**, a paramedic team leader of some 25 years' experience, arrived on the scene. He observed Mr Buchan lying in the garden while Mrs S was giving him CPR

with Mr Tait standing nearby. Mr Fleck took over the CPR and was given a brief history of what had happened. He and his colleague attached a defibrillator monitor and intubated Mr Buchan. There was no cardiac output at that time and he was not breathing. Another ambulance crew from Perth arrived to assist. A Venflon was inserted into the back of Mr Buchan's right hand to assist with administering any medication. While a cardiac output was established, Mr Buchan was still not breathing. He was then removed from the garden into the ambulance and resuscitation continued on route to Ninewells Hospital, Dundee. On arrival, Mr Buchan still had a cardiac output but was not breathing.

[16] Once at the hospital, **Dr Pauline Alison Austin** (consultant in anaesthesia and intensive care medicine, Ninewells Hospital) attended Mr Buchan shortly after 1140 hours. Mr Buchan was admitted to the Intensive Care Unit. It was assessed that he had cardiogenic shock and a severe aspiration with uncertain neurological prognosis. He received aggressive ICU treatment including cardiovascular support and prone ventilation. Although Mr Buchan's lung and heart improved, on the morning of Wednesday 4 April 2018 it was noted that he had concerning features suggestive of significant brain injury. Mr Buchan was taken for a CT scan of his brain, the findings of which were in keeping with Mr Buchan having sustained a significant hypoxic brain injury. His condition further deteriorated from a respiratory point of view and escalating further life sustaining treatment was felt to be futile. Life sustaining treatment was withdrawn and Mr Buchan died with his family around him. Dr Austin formally pronounced life extinct at 1740 hours on Wednesday 4 April 2018.

[17] On 9 April 2018, **Dr Tamara McNamee**, MBChB, consultant pathologist, undertook a post-mortem examination of Mr Buchan. Two discrete thermal exit wounds were located over the pad of the greater toe and over the plantar surface of the base of the greater toe of the left foot. There were no other marks or injuries that would give cause for concern. External examination did not identify an entry point for the electrical burn, which is not unusual in a death due to electrocution. Dr McNamee concluded that death was attributable to hypoxic brain injury and aspiration pneumonia due to an out of hospital cardiorespiratory arrest as a result of high voltage electrocution. Exposure to high voltage electricity can cause cardiac arrest due to cardiac arrhythmia or secondary to respiratory arrest resulting from paralysis of the respiratory muscles (diaphragm and intercostal muscles) during the electric shock. Following cardiac arrest, the cessation of circulation results in inadequate perfusion of the brain resulting in hypoxic brain injury. The associated loss of consciousness results in loss of the gag reflex, increasing the risk of inhalation of stomach contents into the lungs and the resultant development of pneumonia. The findings of Dr McNamee's examination are detailed in Crown production number 5 (post-mortem report).

[18] At or about 1300 hours on 2 April 2018, photographs were taken at the locus at the direction of the police, which form Crown production number 1. **Detective Constable Paul Radley** was appointed as location manager. He noted the situation of the house and garden. An area of grass was identified by marks on the ground where Mr Buchan had been found by the paramedics. There were trolley marks imprinted into the ground and indentations where the feet of a ladder had been pressed into the grass.

There was a small amount of vomit that had been trampled into the soil. Directly overhead that area were three power cables attached to wooden poles to the left and right with the cables running parallel to the house. The point from where Mr Buchan was found and the ladder indentations was measured to the house by DC Radley, who found it to be 9.2 metres away from the wall of the house. The indentations made by the feet of the ladder were measured to be 55 cm wide. The three section ladder present in the garden was measured and each section was found to be 3.5 metres long with a total length of 10 metres. The description of events given by all witnesses was found to be consistent with the scene examination.

[19] SSEN employees attended the locus at 1030 hours on 2 April 2018. It was noted that there was no danger to emergency personnel or to third parties. There was no damage to the overhead conductors that might result in any mechanical failure. The height of the overhead power lines was measured and it was found to be 6.47 metres at the estimated point of contact and 6.3 metres at the lowest point. There are three cables that cross the locus, all of which are live. It was estimated that between 2 and 4 amps had passed through Mr Buchan based on the assumption that only one conductor had contact and the build and the size of an average human and the prevailing conditions. SSEN conducted an internal investigation and prepared a report (Crown production number 6). In the report it is explained that, with the likelihood of a close proximity (or fleeting) contact between the metal ladder and the overhead line conductor, any short circuit electric current would take the lowest resistance path to earth. Where there are multiple paths between the live conductors and the earth, the current would use all

paths. It is likely that a portion of the electric current passed through Mr Buchan, who had been touching the ladder, resulting in him receiving an electric shock. The fact that the overhead line conductors were not damaged during the incident potentially indicated a fleeting rather than a sustained contact. Each line at the locus conveys 11,000 volts. The line was subsequently checked for suitability and was confirmed as being compliant with Scottish Hydro Electric Power Distribution ("SHEPD") procedures and the associated standards and regulations. There had been no noticeable voltage depression or electrical current increase in the system information gathered post incident. The ancillary electrical protection systems associated with the circuit (explained by Mr Kenneth Morton: see para. 21 below) were not initiated as a consequence of the incident. From this, it is believed that the contact made by the ladder was mostly likely intermittent or fleeting and not sufficient to maintain the flow of electrical fault current for any significant time. The overhead line was positioned at 6.47 metres above ground; the required minimum height is 5.2 metres.

[20] There is no record of Mr Buchan having contacted SSEN regarding his intention to work in the vicinity of the high voltage overhead power lines. Had he done so, he would have been advised to follow the Health and Safety Executive guidance (GS6) (Crown production number 11) and maintain a safe distance from the line by creating a safety zone 6 metres horizontally from the nearest wire on either side of the overhead lines; had that not been possible, then SSEN would have liaised to see what other measures could be applied, including the possible isolation of the electrical assets.

[21] **Kenneth John Morton** explained his role as an HM Principal Specialist Inspector (Electrical Engineering) employed by the Health and Safety Executive. He is responsible for the investigation of all electrical accidents. In his supervisory capacity, he liaises with stakeholders and revises the available guidance from time to time. On occasion, he will conduct investigations of his own but on other occasions - such as in this case - he was invited to provide comment following a review of the available papers and photographs. He was aware that HM Inspector Thomas Allen had verified the height measurement of the overhead power line on 11 July 2019, and found that it was 6.55 metres above the ground: the difference between this measurement and the previous one was explained by variations in the amount of sag in the wire according to the prevailing temperature. It was for this reason that the wires were rarely at or near the minimum recommended heights. Mr Morton confirmed that "danger of death" notices were visible on the poles supporting the wire and he identified barbed wire wound round each pole in order to discourage climbing. He explained that the electrical supply had a built in protection system so that, if the line was overloaded, then the supply to that particular line would "trip" and stop the flow of current. In this case, it had been recorded on the supply monitors that there had been unusual activity but insufficient to trip the protection system. This was indicative that any connection with the wire by the ladder had been fleeting, if at all. The power lines were owned by Scottish Hydro Electric Power Distribution ("SHEPD"), which is part of SSEN. They were obliged to check all power lines every 5 years for sagging; the positioning of "danger of death" notices; the height of the line; and so on. In this case, the power lines

at the locus had last been checked in 2017. The Electricity Safety, Quality and Continuity Regulations 2002 ("ESQCR") regulate, *inter alia*, the positioning of power lines. The minimum line height over roads was 5.8 metres and over "other locations" is 5.2 metres. There is no minimum requirement in relation to the distance from buildings, provided that they are not so close that they "cause danger". SSEN have an internal policy document for the positioning of high voltage lines. The system voltage at the locus was 11 kilovolts; the minimum distance in the guidance for a line up to and including 33 kilovolts is 3 metres. The police had measured the horizontal distance from the house to the line to be about 10 metres. Mr Morton accepted that this was a statement of "best practice" although not a legal requirement.

[22] Mr Morton explained that if a conductive object (such as a metal ladder) came close enough to but did not touch the exposed live conductors of the overhead power line then electricity can "arc" or jump from the power line to the object as there is insufficient air between the two objects to act as an insulator. In this case, the ladder made fleeting or brushed contact with the power line when Mr Tait's foot was on the ladder and Mr Buchan's hands were on the ladder. This meant that there would be two "shock paths" from the power line to earth: the first would be through Mr Buchan's arms, across his chest and down his legs, exiting at his feet into earth; the second path would be through Mr Tait's foot on the ladder, up that leg and then down the other one exiting to earth through the other foot. The thick soled rubber boots Mr Tait wore would have significantly increased the resistance in the second shock path, mitigating the amount of current that would flow in his body and reducing the likelihood of him

sustaining serious injuries. As Mr Buchan's shock path was from his arms to his legs via his chest (including his heart), this was the most dangerous shock path and the fact that he had his hands on the ladder meant that there would be considerably less resistance than that of Mr Tait. It was estimated that between 2 and 4 amps of current would have passed down the ladder.

[23] Mr Morton drew attention to the fact that, as suggested in HSE publication GS6, avoiding danger from overhead power lines, it would have been reasonable for Mr Buchan and Mr Tait to put markers on the ground in order to warn them that they were encroaching into the area of the overhead power lines. Alternatively, Mr Buchan could have reduced the height of the ladder or laid the ladder horizontal to the power line when manoeuvring it around outside the house.

[24] **Thomas Allen** is an HM Inspector of Health and Safety. He carried out the investigation once the HSE had been informed by the police. In due course, he had prepared a report for the Crown Office and Procurator Fiscal Service, which was Crown production number 8. He had taken photographs, considered the witness statements and the whole circumstances of the incident, including the method of work employed by Mr Buchan. On 11 July 2019, he had observed and verified the measurement of the height of the overhead power lines. In his report, while he accepted that a ladder was appropriate for the type of work that Mr Buchan was to carry out, it had not been used in accordance with the available guidance on the use of ladders (HSE publication leaflet INDG455) in that Mr Buchan had been working at a particularly shallow angle (of some 22 degrees) rather than the recommended safety angle (of 75 degrees). In his

opinion, Mr Buchan would have had to overreach, which leads to instability. Scaffolding or a "mobile elevated work platform" (that is, "a cherry picker") could have been used. It was appropriate for Mr Tait to have been employed to "foot" the ladder for safety purposes. Mr Buchan had not taken any steps to implement any control measures in order to reduce the attendant risk in the overhead power lines. There was no evidence that he knew what the clearance was from ground level to the overhead power lines or that he took any steps to reduce the risk of contact with them. It would have been possible for him to have used visual markers, such as the patio furniture and children's toys that he had previously moved from the patio area. The HSE advice was readily available and the simple internet search using a search engine such as "Google" would reveal them.

[25] In response to questions from me, Mr Allen accepted that it was his job to work in "absolutes" and that while the use of a ladder was not, in that context, best practice, he accepted that sole traders such as Mr Buchan would have had a number of issues to consider, not least the likely cost. He accepted that the core issue in this particular case was the failure by Mr Buchan, having identified the existence of the power lines, to then take adequate steps to ensure that he did not place himself in danger.

Submissions

[26] I am grateful to the Crown for having prepared written submissions, based on the available evidence. In summary, I was invited to find the facts established as set out in the joint minute of agreement and to find the time, place, cause and circumstances of

Mr Buchan's death are in accordance with the conclusions of the joint minute and the death certificate.

Discussion and conclusions

[27] From all the evidence that I have heard and considered, it is clear that Mr Buchan's death as a result of electrocution was caused by no more than a moment's inattention. I have no difficulty in holding that the facts are as I have set them out in the foregoing paragraphs. Clearly, with the benefits of hindsight, it is possible to criticize Mr Buchan. As Mr Tait recounted, Mr Buchan had clearly been aware of the overhead power lines before he started his work on 2 April 2018 but he had failed to appreciate their significance or the fact that, given the length of his ladder, manoeuvring that ladder perpendicular to and between both the power lines and the house might create a potential hazard. It is clear that simple steps could and should have been taken by him. It would have been a simple thing to do - as Mr Allen suggested - for Mr Buchan, in the absence of any markers or barriers of his own, to have moved the patio furniture to a safe distance in front of the power lines in order to prevent any encroachment under them. Indeed, had Mr Buchan and Mr Tait not been chatting during the operation to raise the shortened ladder, he might have noted the proximity of the overhead power lines.

[28] I noted that, in the course of his evidence, Mr Tait referred to having suffered from flashbacks as a result of this incident. It is to be hoped that he identifies the

traumatic impact this incident has had on him and takes appropriate steps to deal with that.

[29] For the purposes of this determination, it is clear that Mr Buchan did not use the most appropriate equipment for the work that he was to carry out and, had he used mobile scaffolding or a mobile elevated work platform then the accident that resulted in his death might have been avoided. Bearing in mind that the accident was caused by manoeuvring the ladder - rather than its use for the work he was undertaking - the precaution of creating a simple barrier to prevent encroachment of a danger area below and around the overhead power lines would also have prevented the accident.

[30] While I endorse the view of the HSE that best practice should always entail a consultation of the available guidance on the issue - now widely and easily available through an internet search - I also recognise that not all proprietors of small businesses such as Mr Buchan will take the time and trouble to do that. Clearly, it is to be hoped that, as a result of this inquiry, more will do so in the future in order to prevent avoidable tragedy.

[31] I find that Mr Buchan died as a result of high voltage electrocution leading to hypoxic brain injury and aspiration pneumonia due to an out of hospital cardiorespiratory arrest.

[32] I offer my condolences to Mr Buchan's partner and family.