

SHERIFFDOM OF GRAMPIAN, HIGHLAND AND ISLANDS AT INVERNESS

[2016] FAI 15

DETERMINATION

BY

SHERIFF GORDON FLEETWOOD

UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRIES (SCOTLAND)
ACT 1976

into the death of

BARBARA ANN ANDERSON

Inverness 7th September 2016

The Sheriff, having resumed consideration of the Fatal Accident Inquiry into the death of Barbara Ann Anderson determines in terms of section 6 of *The Fatal Accident and sudden Deaths (Scotland Act 1976* as follows:-

Section 6(1)(a)

Barbara Ann Anderson, date of birth 5 August 1962, 8 Leyton Drive Inverness died between 05.30 and 07.30 hours on 6 August 2013 within a bedroom at said 8 Leyton Drive, Inverness.

Section 6(1)(b)

The cause of death was the combined effects of kyphoscoliosis due to spina bifida and smoke inhalation in a domestic fire.

The cause of the accident resulting in the death was a fire within said bedroom at 8 Leyton Drive, Inverness which began from an unknown source in close proximity to the bed where Barbara Ann Anderson was lying.

Section 6(1)(c)

I can find no reasonable precautions on the evidence whereby the death or the accident resulting in the death might have been prevented.

Section 6(1)(d)

I can find no defect in any system of working which contributed to the death or the accident resulting in the death.

Section 6 (1) (e)

There were flaws in the control and management in the Telecare system operated by NHS Highland at the relevant time. This resulted in inadequate records being kept of equipment installed in users' properties and inadequate records being kept of maintenance and replacement of equipment. It also resulted in equipment installed not being linked to the base unit of the Telecare system in all cases, including Barbara Ann Anderson's case.

NOTE**PRELIMINARY**

[1] This was a discretionary Inquiry, ordered by the Lord Advocate as a matter of public concern. I heard evidence between 10th and 15th June and on 15th August, all 2016.

On 15th August I heard submissions from all parties. All parties produced written submissions which are with the process, I am grateful to parties for the time and care shown by them in leading evidence in a difficult and emotive case and preparing the written submissions. A substantial Joint Minute was produced on 10th June and is attached to this Determination and should be read as part of it. A further, short, Joint Minute was produced on 15th August which simply confirmed that there was no smoke alarm present in the common parts of the block of flats at Leyton Drive, Inverness

[2] The Crown were represented by Mr Geoff Main, PFD. Ms Toner, Advocate appeared for Penny and Giles Controls Ltd, the manufacturers of the control unit fitted to Ms Anderson's electric wheelchair. Mr Grant-Hutchison, Advocate appeared for Sunrise Medical Ltd, the manufacturers of the wheelchair and Mr Reid, Advocate appeared for NHS Highland.

EVIDENCE

[3] The first witness to give oral evidence was Ms Susan Scott. She was the upstairs neighbour of the deceased. On the morning of 6th August 2013 she woke, as usual, at about 06.50 am, when her alarm clock sounded. She attended to routine matters without incident. She was not aware of any smell of burning nor did she, at that time, hear any smoke alarm. She was in the bathroom, drying her face when she became aware of a smoke alarm. At first she was unsure where the sound was coming from. She went out of her flat, onto the landing. Again, there was no smell of smoke and she could not determine from which flat the sound was coming,

[4] She returned to her bedroom. She could hear noises from downstairs, the deceased's flat. She could hear thumping noises. She now thought she could smell smoke. She went downstairs, to the door of the deceased's flat. The door was locked. As she was descending the stairs she was dialling 999 on her phone. She spoke to the operator as she was trying the door to the deceased's flat. She banged on the door and shouted, there was no response. She went to the next door flat, No 2, (occupied by Kelly Till) to try to rouse the occupant but there was no response.

[5] She went outside and to the back of the block, to see if there were any open windows, there were not. She couldn't open what she believed to be the deceased's bedroom window. It felt warm to the touch.

[6] She met her neighbour from the flat across from hers at about this time. They were both outside the block. At about this time the ambulance arrived, followed shortly thereafter by the Fire and Rescue Service.

[7] She agreed that Crown Production (CP) 4 was a transcript of her 999 call and that it bore to have been made at 07.44 am. She had first heard the alarm a few minutes before that; she could not be more precise. She could not recall phoning her neighbour Kelly Till. She later discovered she was at work at the relevant time.

[8] The next witness was DC Andrew Thomas, an officer in the Police Service of Scotland. He had attended the locus and managed the investigation into the fire. He had attended along with scene of crime operatives, a doctor and Fire Service investigators. He had compiled CP 3, a Major Incident Log.

[9] He first entered the property at about 08.30 or 09.00 am, after the Fire and Rescue Service (FRS) had extinguished the fire and ensured the safety of the premises. He entered the building with a DC Martin and members of the FRS. There was extensive smoke damage throughout the flat. Fire damage was confined to the main bedroom where the deceased had been. The FRS personnel present said that the fire had been in this room when they entered.

[10] CP23 is a book of photographs. Photo 2 shows the bedroom. An electric wheelchair can be seen next to and facing the single bed in the room. There is a bedside table beside the bed.

[11] CP 10 is a sketch of the flat prepared by the witness. It shows two smoke detectors in the hallway (at A and B) and a third in the living room (at C). D is a base unit for the deceased's Telecare system, situated in the corner of the living room. The witness was unable to say if the smoke detectors were working at that time.

[12] There appeared to be no obvious seat or source of the fire. There were electrical items within the bedroom, a charger for the wheelchair, a nebuliser device on the bedside cabinet, an electric pulley type device and the bed itself had electric components. There was a multi-plug socket on the floor at the side of the bedside cabinet.

[13] When found the deceased was not wearing the mask associated with the nebuliser, no trace of that was found. The witness found no evidence of smoking or naked flames within the bedroom.

[14] The wheelchair was removed from the flat, initially to the police office. It was examined at various times between the incident and the Inquiry by various persons, someone from the Health and Safety Executive, someone from Prometheus Forensic Services and an engineer from the manufacturer.

[15] In cross examination by counsel for Sunrise Medical, he advised that he had been present when members of the FRS had examined the nebuliser. All damage to it was to the outer casing. The casing was removed, there was no damage to the interior. Other

electrical devices in the bedroom were checked and nothing was found to indicate they had been the cause of the fire. He was told by others that most damage was to the front of the wheelchair.

[16] Next to give evidence was DC Jennifer Martin of the Police Service of Scotland. Her role in the investigation was as reporting officer. She attended the locus with DC Thomas. DC Martin confirmed there were three smoke detectors in the locus, two in the hall and one in the living room. She did not recall them being examined to see if they were working after the fire.

[17] She gave evidence about what she understood of the Telecare system installed in the flat. She was told a base unit was within the flat with a button to alert the operator and that the deceased had also had a pendant that she could press to the same affect. She should have worn the pendant at all times. She understood that the smoke alarms were installed in or about 2008 and were due to be linked to the base unit but this had not happened as at the date of the fire. When found the deceased was not wearing the pendant and the witness could not recall finding it. From noting statements she had learned that the deceased frequently did not wear the pendant. When in bed she would hang it on the knob of the bedside cabinet.

[18] She confirmed no smoking materials had been found in the flat and no source of a naked flame had been found in the bedroom. There was no record of a call to the Telecare hub on the 6th August 2013.

[19] Kelly Till's evidence was received by her statement of 21st January 2015 being read by DC Martin. She had left the block of flats which included her home and the

locus at about 07.30 am. She was going to a garage to collect her car before going to work. She smelt, saw or heard nothing of note as she left the block of flats at that time. En route to the garage she received a telephone call from Susan Scott. Ms Scott was in a panic, saying there was a fire in the building and she (Ms Till) had to get out. Ms Till assured Ms Scott she was out. She was told the FRS had just arrived. About two years before the fire she had been in her flat when the smoke alarm in the deceased's flat had gone off. She had heard it clearly in her flat.

[20] The evidence of Roseann Cameron was led by her statement to DC Martin on 12th August 2013 being read by DC Martin. Ms Cameron is the Telecare Hub Business Manager. She described the working of the Telecare system. It is a system whereby persons with disabilities can summon help if required. The persons have a variety of alarms, which can include smoke alarms, connected to the hub via a base unit in the user's home. The deceased had such a system. When an alert is received the operator tries to contact the user and ascertain the problem. If there is no response a "responder" is contacted. A "responder" is usually a person known to the user who stays near the user's home. Home care assistants can also be called to attend if necessary. If a smoke alarm is activated then the user is called to check if there is a fire and if there is the FRS is contacted.

[21] The witness gave a history of calls to the hub from the deceased's base unit. These were routine except on 29th July 2013 there was a test call from the base unit and at 09.35 on 6th August 2013 the hub received a "mains failure" message. There had been an accidental activation of the smoke detector on 10th August 2011.

[22] The next witness was Pauline Johnstone, a carer employed by NHS Highland. The deceased was one of those she cared for. She visited in the evening. She called on the deceased at about 0850 pm on 5th August 2013. A visitor was present. She assisted the deceased don her nightclothes and her recollection was that the deceased stayed up after she left. To her knowledge the deceased was a non-smoker. She had been wearing her Telecare pendant when the witness left the flat. She had once seen the Telecare pendant hanging from the bedside cabinet, the witness had told the deceased she should be wearing it.

[23] She confirmed that the electric wheelchair seen in CP 26, photo 6 was similar to the deceased's. About a week before the fire she had been told by the deceased that the "knob" on the chair required a wiggle before it would work. She told the deceased to report the fault and was told this had already happened, the wheelchair clinic had been telephoned.

[24] She identified the toggle or joystick on the wheelchair seen in CP26, photo 6 as the "knob" she was referring to which required a wiggle. She recollected there had been an earlier occasion when a similar problem had arisen but could give no details.

[25] The next witness was Sophie Henderson, also one of the deceased's carers. In August 2013 she visited the deceased in the morning to assist with washing, dressing and other personal tasks. She knew the deceased had had an electric wheelchair. She could get from her bed to the chair. The chair was charged overnight, if charging was required. This didn't happen every night.

[26] The witness was aware there had been a problem with the chair prior to 6th August 2013. The cable below the control console appeared to have a loose connection. The deceased had said when the power to the chair was affected by this the cable should be “given a wiggle”. In the week prior to 6th August 2013 the witness recalled difficulty with the chair once or twice. The witness advised the deceased to contact wheelchair services about the problem and the deceased told her she had. The witness knew the deceased had regular contact with wheelchair services about various aspects of the chair.

[27] The witness was aware the deceased had a Telecare pendant. She knew the deceased was supposed to wear it or keep it close at hand at all times. Sometimes the deceased did not do this. The witness would put the pendant on the deceased in the morning, she would leave it on her bedside cabinet overnight, it was accessible to her there.

[28] The witness had visited the deceased for about eighteen months prior to her death. Smoke alarms had been talked about once; the deceased had used a broom handle to knock a battery out of an alarm that was “beeping” to indicate the battery needed replaced.

[29] Next to give evidence was Margaret MacKenzie. She is a carer employed by the Home Care Service of NHS Highland. She visited the deceased in the mornings. As at August 2013 she had been doing this for about a year. She assisted the deceased in rising and preparing herself for the day. She was aware the deceased had used an electric wheelchair. Before the fire the deceased had complained to the witness that the chair

was not working properly. She said she would have to telephone wheelchair services.

The witness was not aware if such a call had been made. The deceased had said the wheelchair was not driving properly. The witness did not examine the wheelchair. Her recollection is that this conversation took place about a week before the fire.

[30] The witness was aware that the deceased had a Telecare pendant. She did not wear it overnight. It was in her bedroom, near the bed at night time. The wheelchair was charged when sitting by the deceased's bed. It was normally charged overnight. It did not require to be charged every night. The deceased was a non-smoker. The witness had seen nothing in the flat that she considered to be a fire hazard. Had she seen something she would have talked to the deceased about it.

[31] The next witness was Gordon Gray, manager of the Wheelchair Workshop operated by NHS Highland in Inverness. This service supplies, maintains and repairs wheelchairs in the NHS Highland area, along with other smaller NHS Boards in the North of Scotland. The service is both pro-active and reactive, there is a regular programme of maintenance of the wheelchairs supplied and any reported faults are attended to when the fault is notified to the service.

[32] Faults are notified by the user or a carer telephoning the workshop and leaving a message on a telephone answering service in the workshop. The witness believed that all calls were directed to the answering service. The caller left a message or, if they did not, the machine noted their number, enabling a call back. All calls were monitored, this was his responsibility. If he was absent there was an administrative assistant in the office who would monitor the calls.

[33] The first response was to call back the user. Some faults could be rectified by talking the user through the fault and suggesting “fixes” on the telephone. If this was unsuccessful an arrangement was made for a mechanic to visit. Such a visit should take place within 24 hours of the call.

[34] The witness knew the deceased. He confirmed she had been supplied with an electric wheelchair in 2011. It was a Salsa Quickie M model, the model of choice for NHS Highland. They continued to supply this model.

[35] A message was left by the deceased on the wheelchair workshop answering machine on 1st August 2013. CP 5 is a transcript of the message. The message reads “Hi, it’s Barbara Anderson here from 8 Leyton Drive, Inverness. Ehm, I’ve just got a wee problem with my chair. The lights on the control panel are flash, flashing off and on from time to time. Ehm, it feels as though it might be a loose connection maybe to the control panel. I was just wondering if someone could maybe come out and have a look for me. Thanks. Bye.”

[36] On 1st August 2013 the witness had been on holiday, as had the administrative assistant who usually checked calls in his absence. The task of monitoring the answering machine, he understood, had passed to an Andrew Hulse in his absence.

[37] The witness returned to work on 6th August 2013. He was aware of the fire at the deceased’s home that day. He heard the deceased’s message that day. So far as he was aware he was the first person to hear it. He immediately called his line manager, Mr Caldwell.

[38] Prior to August 2013 there was no indication on the telephone that there was an unanswered call on the machine. This had changed, there was now a red flashing light on the handset if there was an unanswered call in the system.

[39] Next the witness described the wheelchair supplied to the deceased. In particular, the control panel is at the end of the right armrest. Flashing lights on the control panel could be indicative of a number of faults, some of which could be cured by talking to and instructing the user on the telephone. If it had been thought there was a loose connection that would have received a high priority for a repair visit.

[40] Next the witness was taken through the repair log for the deceased's wheelchair, CP 9. He agreed there had been quite a lot of repair work carried out to the deceased's chair. Of note was the replacement of the control panel in August 2012 when a temporary replacement had been fitted before the present R-Net controller had been fitted in September 2012. The chair had received a routine service on 18th July 2013.

[41] The witness advised the Inquiry that prior to 6th August 2013 he would not have regarded a loose connection to the control unit as a fire hazard. He had changed his opinion because of the events of that date. Other than the changes to the answering service no other changes had been made to the operating systems at the wheelchair workshop.

[42] In cross examination from the various counsel instructed he advised that generally if lights were flashing on the wheelchair control console the chair would not operate. This was why it was treated as an emergency, it severely restricted the user's mobility. When a chair was sitting, unused and not charging there was very little power

passing through it. Andrew Hulse, who was covering the answering machine, knew how to respond to calls regarding chairs.

[43] Mr Gray had been working on wheelchairs since 2000. He had eight operatives working under him. The workshop was not open at weekends and on public holidays. If a call was made “out of hours” it should be picked up on re-opening.

[44] The R-Net controller was not now used by NHS Highland, a different controller from the same manufacturer was now used. This change had happened shortly after the accident, he understood because the Head of Service was unhappy with the R-Net controller.

[45] The next witness was Andrew Hulse. He is employed by NHS Highland as a Quality Control Manager. This entails monitoring and assessing data collected to check performance within NHS Highland. He is based at Raigmore Hospital in Inverness. The standard and quality of wheelchairs supplied by NHS Highland is part of his remit. Although he has a degree in mechanical engineering his role with the wheelchair workshop is not technical but related to decisions on acquisition and performance.

[46] He first heard that the deceased had left a message with the wheelchair workshop reporting a possible fault with her wheelchair on 7th August 2013, when he received a telephone call from Gordon Gray advising him of the message left on 1st August 2013. He talked to Mr Gray at about 3.30 or 4.00 pm. He had been advised of the fire at the deceased’s home by police officers the previous day.

[47] He was asked about the system for dealing with calls to the wheelchair workshop. He advised that users telephoned the workshop if assistance was required.

They were provided with a contact number for this. If the telephone was not answered there was an answering machine. Messages left on this machine were checked regularly by Mr Gray or workshop staff. It was part of the system to regularly check for messages.

[48] On 1st August 2013 he had been on annual leave. He was aware that Mr Gray and the administrative assistant at the wheelchair workshop were also on leave at that time. He understood that an Alan Fraser, the lead Rehabilitation Engineer, was to cover calls in this event. The witness was on leave on 1st and 2nd August. He had not been providing cover for the answering service before he went off. Mr Gray's evidence on this point was put to him, he did not accept that to be the case. He had previously checked messages and was aware how the system worked.

[49] His understanding was that in Mr Gray's absence his role was being covered by Stuart Calder, the Head of Service. Enquiries had been made after the deceased's death and it was discovered that there was no formal arrangement for monitoring messages left for the wheelchair workshop.

[50] His recollection was that calls to the workshop went to the answering service only if the telephone was not picked up. He disagreed with Mr Gray's evidence that all calls went straight to the answering machine. At the relevant time there were people working in the workshop who could have answered the telephone. They had not been trained to retrieve messages from the answering machine.

[51] For urgent requests the response time was twenty-four hours from receipt of call. At that time if a message was left there was no indication on the telephone that there was a message waiting. Since 2013 the telephone had a flashing light that advised of

unheard messages. The technicians in the workshop were now trained to deal with unheard messages by listening and responding as appropriate. He accepted that given what happened in August 2013 the system had not been working well.

[52] In cross examination he said that a higher priority was generally given to complaints about powered chairs, this was because of the severely restricting effect that a non working chair could have on the user. There continued to be no cover when the workshop was closed. He agreed that a lot of people had been away on leave at the same time, there had been no change in arranging leave dates. There were about 400 electric wheelchairs in the area covered by the workshop. CP 9, the schedule of work carried out on the deceased's chair, appeared to him to be about typical. R-Net controllers were not now used by NHS Highland. The decision on this had been taken after the accident. The connector between the control console and the chair had been examined and what NHS Highland saw as a problem, that the connector was not locked in place, was discussed with Sunrise Medical. They were unable to agree to proposed changes so the type of controller was changed. The new controller was manufactured by Penny and Giles, who also made the R-Net. This decision was a reaction to the accident but was not based on information from any outside agency.

[53] Next to give evidence was Darren Lahey, an officer in FRS, based in Aberdeen. He is presently a fire investigator. He was a fire fighter for over 16 years and had training duties during some of that time. He received recognition as a fire investigator in 2011 and has kept up to date with this skill through courses and reading since.

[54] On 6th August 2013 he attended at 8 Leyton Drive, Inverness and carried out an investigation into the fire there. CP 16 is his report of that investigation. It is in process and can be read in full there. It was prepared by Mr Lahey. He advised that it was a true and accurate record of his investigations and findings. He was accompanied by a police officer during his investigation and was assisted by Pete Smith, also of FRS.

[55] From his investigation Mr Lahey was of the opinion that the seat of the fire was in the bedroom occupied by the deceased at the relevant time. This conclusion was reached by examining the property for evidence left by the fire in the form of smoke and soot damage and signs of articles destroyed or affected by the blaze. The only evidence of fire damage was in the deceased's bedroom, described in the report as "bedroom2". It was here he understood that the remains of the deceased had been found although those had been removed prior to his investigation. He also understood that the deceased's wheelchair had been moved to allow removal of the remains but had been replaced where it had been found. Accurate replacement was possible because of unburnt portions of carpet under where the chair's wheels had been during the fire.

[56] Bedroom 2 contains a single bed, where the deceased was found, lying against the wall, her face facing and close to the wall. Next the bed there is a bedside table. There are electrical items on this table, a nebuliser used by the deceased, a bedside light and a cordless telephone charger. These items showed external heat damage. There was no indication they had suffered any internal electrical fault. A hoist positioned over the bed and the electrical items associated with it again had external heat damage. The bed itself had an electrical component fitted to allow it to be adjusted. The charger for the

wheelchair was on the floor beside the bed. It was plugged in but not in use. No electrical fault was found by the witness in any of these items.

[57] Page 14 of Mr Lahey's report is a sketch of the bedroom as found. The area shaded in red is, in his opinion, the likely seat of the fire. He reached that conclusion by examining the pattern of damage radiating out and up from this area together with the fact that the damage was greatest within the area. This area includes the front part of the wheelchair, the edge of the mattress nearest the right front of the chair and the floor area between the bed, the chair and the charger. He was of the view that damage to the floor in front of the wheelchair was probably caused by falling debris.

[58] The wheelchair was extensively fire damaged. The right armrest and the control console on the end of the armrest were badly affected by heat and fire. The seat and back of the chair were almost totally destroyed by fire. There was fire damage to the front of the chair below seat level. The underside, battery and rear of the chair were less affected by fire damage. In Mr Lahey's opinion this indicated that the fire had started at or near the front of the chair. Given the direct fire damage to the front of the chair, around the area of the control console, coupled with the information he had that a report of a possible electrical fault to the chair had been reported by the deceased prior to the fire Mr Lahey could not discount the chair as a cause of the fire, with an electrical fault in the chair igniting combustible material such as wiring insulation, the fire then spreading to other nearby items.

[59] In cross examination, he conceded he could not reach a definite conclusion as to the cause of the fire. He was of the opinion that this would have been a slow starting

fire, possibly smouldering for some time before becoming more active, up to two hours he thought. The evidence about the timing of hearing a smoke alarm and the prompt response of the FRS to a call thereafter was put to him. In his view he would have expected smoke detectors to react well before other evidence suggested they did. This was an opinion based on the extensive smoke and soot damage caused in the bedroom and other areas of the house more remote from what he considered to be the seat of the fire.

[60] The witness was referred to CP 23, a book of photographs and to photograph 5. He agreed this showed damage to the floor in front of the wheelchair, he attributed this to burning items falling onto the floor there. He agreed his inspection of other electrical items bedroom 2 had been visual. He was shown CP 25, photograph 87 and his attention was drawn to what appeared to be a piece of copper wire on a wheel of the chair. He said he had believed it to be a part of the chair and had left it where it was, he understood others were to examine the chair. CP 24, photograph 50 was put to him. He agreed the cupboard door in the photograph had what appeared to be a piece of copper wiring hanging from it. He did not know what, if anything, that wire was connected to. CP 24 photographs 48 and 49 were put to him. He agreed these showed copper wire on the floor of the bedroom near the front of the wheelchair's position. He could not say where it came from or was going.

[61] The next witness was Kenneth John Morton, a Principal Electrical Inspector employed by the Health and Safety Executive (HSE). He has a BSc in electrical engineering and has worked for HSE inspecting electrical matters for 18 years. He

worked in industry for 18 years in industry before that. He has investigated a number of fatal accidents with a potential electrical cause.

[62] In this case he examined the deceased's Salsa Quickie M wheelchair on 15th August 2013. It is a battery powered electrical wheelchair. It was in the kitchen of 8 Leyton Drive when he saw it. He concluded that the chair had not been plugged into the charger at the time of the fire. The cable from the charger to the chair fits into a port on the underside of the control console. The charger cable and plug were apparently undamaged indicating they had not been *in situ* at the relevant time. This meant that the only power supply to any part of the chair was the power stored in the batteries. There were two 12 volt batteries in position. They are located in the red box to be seen at the back underside of the chair. This part of the chair was relatively undamaged.

[63] The damage to the chair was substantial. Little wiring remained in existence, presumably having been consumed in the fire. This wiring was a possible source of ignition. The witness had been told of the reported fault in the operation of the chair, particularly concerning the control console. He found little wiring remaining in the area of the control console. In that event he would expect to see globules of copper, he hadn't. The casing of the console was badly fire damaged. From his observations the fire appeared to have started above the level of the batteries. This, together with the reported fault, led him to the conclusion that the control console could be the seat of the fire. This was because if the fire didn't start at the batteries the control console was the only other credible source, in particular the connector to the console.

[64] If he was correct in this the fire would have probably started with a short circuit in the connector or at the console. Electrical “arcing” would occur, a phenomenon where current goes direct from one exposed wire to another causing heat to develop and potentially set fire to nearby combustible material. A loose connection at the connector could cause this or faulty wiring at the console. He was unable to reach a firm conclusion on the information presented to him and his observations. He agreed there could be a source of the fire external to the chair, he had not been asked to look for that. He accepted that the reported fault had informed and influenced his opinion.

[65] The next witness was Ian Peck. He has produced a report, CP 17. He agreed that the report was a true and accurate record of his findings. He is employed by Prometheus Forensic Services as a director. His professional qualifications are set out in his report; suffice to say he is experienced in the forensic analysis of fires and investigating same. He examined the wheelchair at the wheelchair workshop on 11th March 2014. He took parts of it away for further examination.

[66] His examination confirmed that the wheelchair had been extensively fire damaged. The worst damage, in his opinion, was to the right front arm rest area, near the control console. The batteries were undamaged. He removed several electrical components from the chair for examination in a laboratory. This enabled, *inter alia*, examination of these components through a microscope. A CD (Crown Label 1) was produced and referred to in his evidence of images taken during this examination. Reference numbers IPP1-5 were given to these components for this examination. It is convenient to use the same system in this Determination.

[67] IPP1 is a section of 3 core cable. It was found not to be part of the chair. It appeared to have been found wrapped round a wheel of the chair. IPP2 is a section of partially burnt cable. It was partially with and partially without insulation attached. It was examined for electrical activity. Approximately 40 mm from the end of the insulation there was evidence of a large arc event with transfer of copper from one of the core wires to another. The end of the cores appeared to have been compressed, probably evidence of being held to a connector. IPP3 comprised the remains of the joystick and the printed circuit board (PCB) from the control console. There was no evidence of electrical activity within this. There was what the witness believed to be copper deposited on the steel base of the console. IPP4 was another length of cable, there was no sign of electrical activity on it.

[68] The witness's conclusion was that the fire started around the right arm rest of the chair. The cables examined were electrically powered at the relevant time. It was most likely that the fire was the result of a poor link within a connector or a break in a cable causing a poor connection. The witness agreed that when an electrical item is damaged in a fire then electrical faults can occur during the fire which appear similar to the type of damage caused by an electrical fault leading to a fire. In this case he was of the view that the arcing damage seen to IPP2 would have been enough to generate the heat needed to start a fire within the chair.

[69] The cable could have been damaged prior to the event, probably by being crushed. This could explain the intermittent fault reported by the deceased. He agreed

that he could see nothing in the design of either the chair or the control console that gave him cause for concern.

[70] In cross-examination he was shown photographs of the deceased's bedroom after the fire and agreed that a fire of that severity could cause an apparent electrical defect in the wiring he examined. He agreed that with the chair inoperative the power draw was low but emphasised that in his opinion there would still be current in the cables. This current would be sufficient to generate enough heat to start a fire should an arcing event occur.

[71] He confirmed he had read Production 2 for Sunrise Medical, a report by Mr Colquhoun. He agreed with much of it. He disagreed with the conclusion of that report that there was insufficient power present to lead to a fire in the event of wires within the chair arcing.

[72] Next to give evidence was Leah Chisholm, an employee of NHS Highland. She is employed by them as a clerical worker. About three years ago she had assisted with Telecare as part of her duties. Telecare is the name given to a system of remote communication with persons who, for one reason or another, may need medical or other assistance. The system operates by installing a base unit in the user's home. This base unit is linked, in one direction with a wristband or pendant which the user is advised to wear at all times. In the other direction the base unit communicates with a "hub" which monitors activity on the user's part. If a user activates a button on the pendant the base unit sends a signal to the hub and an operator at the hub can respond appropriately. In addition to the pendant, other devices in the user's home can be connected to the base

unit, for example smoke or fire alarms, door sensors, etc. An assessment of the user's needs is made when a system is installed and appropriate equipment supplied.

[73] The witness's role in the system was to assess the level of service required by a user by looking at various reports prepared when the system was being installed. She also arranged for home care workers or the user's named "responders" to visit if the system was activated by the user. She also arranged the rota for home care workers.

[74] She knew the deceased as a user of the Telecare system and as someone in receipt of home care. Prior to the fire there had been a problem reported with the deceased's Telecare arrangements. The witness could not recall details or when this was. The deceased had asked that someone call to check the system. This request was passed on by the witness to a Sandra Lockhart. She was unaware what happened in response to this request. She was aware that home care workers could replace base units, a supply of them were kept in her office for this purpose, and some carers kept spares in their vehicles.

[75] She now took no part in the organising of the Telecare system. Responsibility for the system had moved from her office some months after the fire.

[76] In cross-examination she advised she had started to be responsible for aspects of Telecare in or about 2009. At that time it was a Highland Council responsibility. NHS Highland took it over in or about 2012. Nothing changed at a day-to-day level when the provider changed. She understood that Cairn Housing and Signpost now dealt with Telecare but could give no further details.

[77] Next to give evidence to the Inquiry was Mark Hewitt, employed by Cairn Housing Association as a handyperson. His employer was now responsible for the fitting and maintenance of Telecare equipment in the NHS Highland area. This responsibility had been assumed by them on 12th August 2013. He thought this had been a planned changeover and not a response to the fire. As a handyperson he installed and replaced base units, personal alarms and smoke and fire detectors.

[78] Smoke detectors, if installed in a property, were linked to the base unit so that if the smoke detector went off the hub was alerted by the base unit via the telephone line it was connected to.

[79] He had visited the deceased's flat four or five times prior to the fire for a variety of reasons between about August 2011 and the date of the fire. He had had no dealings with the smoke detectors in the property during that time. Once when he was there a Mr Fergus from Signpost had turned up and changed batteries in the smoke detectors. Mr Fergus had noted there appeared to be no link from the smoke detectors to the base unit and said he would report that. He could not recall the date of this; his last visit to the deceased had been on 26th January 2013 (he had checked his diary) so it could have been then.

[80] Now, when a Telecare installation is made the serial number of the device is recorded along with any equipment linked to the base unit, e.g. a smoke detector. All devices are checked to ensure that they are connected and a record is kept of that check.

[81] The next witness was Laura Smith, a fire fighter employed by FRS. She had been one of the first FRS teams to attend 8 Leyton Drive after the 999 call. She arrived there at

about 07.50am. She had entered the flat wearing breathing apparatus. She was unsure if she had been in the first or second team to enter the flat. Entry had been forced by breaking open the door of the flat. There was a lot of smoke in the property. The fire had begun to burn itself out by the time she and her colleagues attended. When in the flat she had heard a smoke alarm. She was unable to say if it was within the deceased's flat or another nearby flat, or the common part of the block. The breathing apparatus she was wearing restricted her hearing. A statement she had made to the police shortly after was put to her. In that she said "the smoke alarm was sounding on entry". She agreed she probably said that but it was a smoke filled property and she could not be sure which smoke alarm was activated. She had not seen any of her colleagues turn off a smoke alarm in the flat.

[82] Next the Inquiry heard from Sandra Lockhart. She is employed by the "Enable" team of NHS Highland, based at Hilton. Her job involves assisting persons with disabilities to maintain their independence and, if possible, remain at home. She has had this role since 2012. Her initial contact with a user of her service will be in setting up supports as required. This can involve a home visit. Further visits may take place if the package of support in place changes. She was aware of the Telecare system and had had some training in it. She was aware there was different equipment supplied according to ability and need. Her duties included making initial installations of Telecare equipment in service users' houses. A base unit was always installed. Peripheral equipment was installed as required. She had been trained by a Nick Grainger in or about January 2012.

There had been no follow up training. She thought about ten persons had been trained to do this in the Inverness area.

[83] Installation started with a telephone request. When such a request was received paperwork relating to the installation was prepared. This was kept at her office. The reference number of the base unit was recorded there. Sometimes base units required to be changed. Any change was recorded on the paperwork in the office. Users were encouraged to check regularly that the unit was working.

[84] She had known the deceased. She had visited her twice at her home. On the second visit a Telecare system had been installed. Crown Production 6 was a copy of the deceased's care plan. Page 4 records she was able to stand for a few seconds. Telecare had been installed at the deceased's house on 15th January 2013. When the installation was done she had checked it was all in working order. She had understood this to be a first time installation; there had been no old unit to remove.

[85] She was asked about connecting the Telecare system to the smoke detectors which were in the deceased's house. She had not been asked to do that, she had no training in doing that and would not be confident about doing that. She had not been asked to connect any smoke detectors to the base unit. She was unable to say what paperwork, if any, had been generated by this installation; any there was would have been returned to the office after the job was done.

[86] In cross-examination by counsel for NHS Highland she confirmed that she had installed a base unit. The only peripheral equipment she had connected to the base unit was the deceased's pendant. If other equipment had required to be connected she

would have asked for someone else to do it. In conclusion she confirmed that when she had started in her present role her employer had been Highland Council, it had changed to NHS Highland in or about April 2012.

[87] The next witness was Nikolas Grainger. He is employed by NHS Highland as an Enable care team trainer. He has held that post since April 2015, before that he was the Area Telecare Installation Co-ordinator for the Inverness area. He held that post from August 2008. In that role he had been responsible for processing the installation and removal of Telecare equipment.

[88] Telecare equipment was installed after a request for this from, for example, a social worker. "Basic" installations involved a base unit and a bracelet or pendant worn by the user. Care home workers were trained to do that. "Enhanced" installations were when other peripheral equipment needed to be linked to the base unit. There was a team trained to do that. Such peripherals could be smoke detectors. The team who did these were then employed by the Direct Labour Organisation of Highland Council. This continued after NHS Highland took over the Telecare system. This continued until April 2013 when the DLO lost the contract.

[89] The witness carried out training in basic installations, there was a helpline available to care home workers doing this work. After the DLO lost the contract the witness undertook enhanced installations. He had trained a group of team leaders specifically to program in smoke detectors, etc.

[90] The installation process was that the staff member who was to organise the installation was emailed with details of what was required. That person allocated the

task. After installation there was a test call to ensure that all the system was working. That was recorded and the paperwork returned to the witness. Users were encouraged to check the equipment monthly and the hub automatically checked the base unit was working. If a fault was reported the base unit was replaced if there was any doubt about its reliability. If a base unit was replaced the peripherals were re-programmed to the new base unit. Care home workers were trained to do this re-assigning of base units. They would only do it if the paperwork directing the replacement of the base unit drew attention to the peripherals that required to be re-assigned. After re-assigning the link was tested by a call to the hub.

[91] In relation to the deceased he had not had personal knowledge of her. He knew from records that a Telecare system was installed in her home on 28th March 2000. On 15th November 2008 smoke detectors had been installed and connected to the base unit. He was aware that there had been no activation of the Telecare unit on 6th August 2013. He did not know why this was. He accepted there was a base unit and smoke detectors in the flat. He could not say if the smoke detectors had been linked to the base unit on 6th August 2013. The base unit had been replaced in January 2013 and there was no record of a test call on that date from the base unit showing the smoke detectors were linked.

[92] When the above became clear he had asked the Handyperson Service, who then had the contract for the Telecare system to visit and check the systems installed throughout the Highlands. This had resulted in a number of systems without connection between peripherals and the hub being discovered. In these instances it was found that the base units had been replaced and the peripherals had not been re-

assigned. Further checks revealed that records did not accurately show what equipment users had, this was due to a lack of feedback built into the system. The check revealed that home care workers often did not know what peripherals were attached in each case. As a result installation was taken out of the hands of the home care workers team and passed to the Handyperson Service.

[93] In cross-examination by counsel for NHS Highland the witness confirmed that the Highland Hub for the Telecare system had opened in 2010. He had trained home care workers in installation and use of equipment and all equipment had been re-programmed in 2010. There had been no change in procedures when NHS Highland took over the system. On 12th August 2013 responsibility for installation passed to the Handyperson Service of Cairn Housing. This was a direct response to the deceased's demise.

[94] It continued to be the case that first basic installations were done by care home workers; any replacements were done by Cairn Housing. Care home workers were no longer able to install replacement equipment. Since August 2013 any installation was subject to a FRS check to ensure it was sufficient for the user. The installer of any peripherals was trained in checking they were connected to the hub.

[95] That concluded, meantime, evidence from the Crown. Counsel for Penny and Giles Ltd, manufacturers of the control unit fitted to the wheelchair, indicated she would be leading no evidence.

[96] Counsel for Sunrise Medical led evidence. His first witness was Thomas William Forbes, UK Quality manager for the company. He has a BSc in mechanical engineering

and has worked in the motor and defence industries as a quality controller before moving to his present employers. He has been involved with Sunrise Medical since 1994 and in 2005 became quality manager at the company's Dundee factory. After the fire in August 2013 he was asked by the company to carry out investigations on their behalf. Defence Production 1 is his Report.

[97] Thereafter he talked largely to his Report which is in process. His evidence, in short, was that he examined the chair in question on two occasions, in company with Mr Colquhoun, who was also a witness. He did not disagree with other witnesses about the nature, degree and location of damage to the chair. He had been unable from his examination to identify where the fire could have started. The damage was extensive and parts of wiring appeared to be missing. He was shown IPP2-2. He confirmed this had been the lead to the joystick. He agreed there were copper globules present. These could be the result of electrical activity or fire damage; he could not say which. On IPP3 he could see no copper speckling, he had examined through a magnifying glass and could see nothing of significance. IPP4 he agreed was part of the circuit board from the control unit. He could see no sign of electrical activity.

[98] When he had seen the Reports produced by Prometheus and the SFRS he had been concerned about mentions of electrical activity and in January 2016 he had re-examined the chair and the removed articles with Mr Colquhoun. His opinion had not changed.

[99] He was shown the repair record of the chair; it was nothing extraordinary. He was asked about the cables to and from the control unit. The two larger cables carried

the main current when the chair was charging, the smaller ones operated the controls and carried very little current. The cables could be damaged by, for example, crushing, but any damage would require to be severe before causing arcing, the cables would need to be almost cut in half. The reported problem with the joystick could be caused by mechanical damage to that cable but such damage could not generate sufficient electrical activity to start a fire due to the very low current ever present in these cables. He confirmed there had been discussions with NHS Highland after the accident about the cables and control console fitted to the Salsa Quickie M type wheelchair. NHS Highland had wished modifications made which the manufacturers thought were a reduction in design quality. The type of control console supplied to NHS Highland was changed.

[100] In cross-examination by the Crown he advised that a full risk assessment of the chair and the control unit had been carried out after the accident and nothing had been found that caused the company to alter the design or specifications of the chair. The chair was designed to, and did, meet all UK and EU standards.

[101] The final witness for Sunrise Medical was John Colquhoun. He is employed as a forensic investigator by a firm called Hawkins. He produced a report which is now Production 2 for Sunrise Medical and is with the process. He has, *inter alia*, qualifications in electrical engineering. His CV is annexed to his Report, there was no challenge to his qualifications and ability to speak to the matters covered by his report.

[102] His Report describes the various examinations of the wheelchair and photographs of the locus he carried out, largely with Mr Forbes, the previous witness. His conclusions on this were similar to those of Mr Forbes. He had also perused the

reports prepared by Mr Lahey of SFRS and Mr Peck of Prometheus, lodged by the Crown.

[103] His conclusion about where the fire started was that the seat of the fire was likely to be in the area near the right front of the wheelchair. He did not think it likely that the wheelchair was the origin of the fire for a number of reasons. Firstly he was of the view that the “arc” of fire damage from which the origin of the fire could be deduced was more likely to be nearer floor level than at the height of the arm of the wheelchair. He came to this conclusion from studying the photographs of the bedroom and observing where the carpet and bed were most affected by fire and where the wheelchair was most damaged. There was, he noted, significant damage to the carpet and the bed in front of the wheelchair and below the level of the arm. Unlike Mr Lahey he did not ascribe this to falling debris but was of the opinion that it indicated a seat of fire at or near floor level near the front of the wheelchair.

[104] He pointed out various pieces of what could be electric cable leading to and from this area. This material had not been retained or examined by the initial investigators. He was frank in that he could not identify an alternative source from the material and information supplied to him.

[105] Matters did not end there though. He also gave extensive and detailed evidence about the capability of the electric components of the wheelchair to fail in such a way as to lead to the fire which undoubtedly happened. He was of the view that when the wheelchair was switched off and was not being charged there was insufficient electrical

activity within the chair to allow any fault or arcing that might develop to generate enough energy to set off a fire.

[106] In conclusion while he could not identify definitively either the seat or the cause of the fire he could, he opined, exclude the wheelchair as the cause.

[107] When the Inquiry resumed on 15th August evidence was led from Ms Janice Margaret Baird, Director of Adult Care for NHS Highland. This role involves *inter alia* overall responsibility for the Telecare system. She explained that when NHS Highland and Highland Council decided in 2012 to transfer responsibility for social care from Highland Council to NHS Highland, Telecare had been part of the assets transferred. On transfer NHS Highland took over the running and maintenance of the Telecare system. The system which was in place was that inherited from Highland Council with persons such as Mr Grainger, who had previously given evidence remaining in place.

[108] After Ms Anderson's death there had been an audit of the Telecare system and it was discovered that the system in place was not adequate. There was no proper record of the location and installation of units, no record of asset numbers, and concern about the safety of the system, prompted by the accident which led to Ms Anderson's death. The Chief Executive of NHS Highland had convened a group (which included the witness) to identify all clients of the system, check all the systems and properly record all assets. Responsibility for all installations, replacement and maintenance was transferred to the Handyperson Service of Cairn Housing. By May 2014 all users had been visited and full records were in place. The system was now in the day to day hands of the Handyperson Service. She was unaware of any other instances of unconnected

smoke alarms or other peripheral devices being discovered but accepted that that information may not have reached her.

[109] She accepted that the audit and changes were because of Ms Anderson's accident. When social care had transferred to NHS Highland they had been aware of issues around the quality of care being delivered but had not been aware of safety issues.

SUBMISSIONS

[110] Written submissions were submitted by all parties. I will refer to these written submissions as appropriate during the **DISCUSSION** part of the Determination. In short the Crown accepted that the cause of the fire could not be established. They submitted that they had showed defects in the Telecare system but that these had not contributed to Ms Anderson's death or the accident and evidence showed steps had been taken to rectify the faults identified. Ms Tonner, for Penny and Giles was content, by and large, to adopt the Crown position regarding the cause of the fire and submitted that the terms of her instructions did not extend to the Telecare aspect of the case. Mr Grant-Hutchison, for Sunrise Medical, adopted much the same position as Ms Tonner for his clients. He went further than the Crown however and submitted that when the evidence of the Crown witnesses who had examined the locus and the wheelchair was looked at in light of Mr Colquhoun's evidence the proper conclusion to draw was that the cause of the fire was unknown but could not be attributed in any way to the wheelchair. Mr Reid, for NHS Highland was content to adopt the Crown position

regarding the cause of the fire and to emphasise the prompt steps taken by his client to rectify identified defects in their systems. He did not, as I understood him, seek to submit that NHS Highland's arrangements for the supply and delivery of Telecare were satisfactory at the date of the accident. He did submit that the changes to the system and the checks instituted as a result of the fire were such as to reduce the chances of a similar system fault developing.

DISCUSSION

[111] I begin by restating what was stressed in court by Mr Main for the Crown. The purpose of a Fatal Accident Inquiry is not to establish fault or blame but to carry out a dispassionate examination of the facts surrounding a fatal accident, so far as that is possible, and thereafter to see what, if any, lessons can be learned and steps taken to prevent or reduce the chances of similar accidents in the future.

[112] It is, I think, convenient to look at the issues raised in this Inquiry in four stages, first the cause of the fire, second the maintenance of the wheelchair, third the Telecare system and finally steps taken to remedy any identified defects in systems or procedures surrounding the Telecare system. Before that however I should record that I found all witnesses to be credible and reliable. I had the lasting impression that all came to court to give their evidence frankly and truthfully even when that evidence did not reflect particularly well on them. In any Inquiry which hears evidence over 6 days there are bound, I think, to be differences in recollection. Those there were I put down to the passage of time and the fallibility of memory and such differences as there may be I do

not think impact greatly on my conclusions. Where experts differed I found, on close examination of the Reports lodged and the evidence given, that the differences were largely of emphasis rather than content.

The cause of the fire

[113] Miss Anderson died in the bedroom of 8 Leyton Drive, Inverness occupied by her. The cause of her death was the combined effects of kyphoscoliosis due to spina bifida and smoke inhalation in the fire which was burning in that bedroom.

Kyphoscoliosis is a reduction in lung capacity which is an effect of the spina bifida suffered by Ms Anderson. When the fire started is unknown. What is known is that the alarm was raised by Ms Scott, the deceased's neighbour, at or about 07.44 hours on 6th August 2013. From other evidence it appears the deceased sat up past midnight on the evening of 5th August 2013. Mr Lahey was of the opinion that the fire would have been slow to start, smouldering for some time before erupting in flame. He based that opinion on the nature and extent of fire and smoke damage seen in the relevant bedroom and smoke damage elsewhere in the house. Given the evidence I heard the only conclusion I can come to is that the fire probably started up to two hours before Ms Scott raised the alarm and that Ms Anderson was probably dead by the time the alarm was raised. She was certainly dead when the FRS entered the flat shortly after receiving the 999 call made by Ms Scott. I am aware of Ms Scott's evidence of hearing noises from the flat. Whatever they were I exclude the possibility of these sounds being made by the deceased. Evidence from Laura Smith, the FRS officer who entered the house, was that

the fire had begun to burn itself out by then, again indicating it had been burning for some time. In that circumstance I cannot hold that Ms Anderson was still alive when Ms Scott raised the alarm.

[114] I am unable to reach any conclusion about the source of the fire. From the evidence I heard it is clear that suspicion focussed on Ms Anderson's electric wheelchair as a possible source from early in the investigation. The evidence, from Mr Lahey, Mr Morton and Mr Peck, was that the fire started near the right front of the wheelchair, in the area of the control console. Mr Colquhoun was of the view that the fire may have started in that area but lower than the level of the console. The reason he gave for this conclusion was the damage to the floor and bed near the wheelchair. Mr Lahey acknowledged the presence of this damage but put it down to falling debris, although none was identified. It is accepted by the Crown, and I agree with their assessment, that on the evidence led it cannot be established exactly where the fire started or what the cause was.

[115] Mr Colquhoun went further than other witnesses in that he was of the view that the wheelchair could be excluded as the source of the fire. The reasons he gave for this conclusion were based on his expertise in electrical engineering, an expertise that Mr Peck did not have to the same extent. Mr Colquhoun was of the concluded view that when the wheelchair was not in operation and not charging, as the evidence indicated was the case here, there was simply not enough power available to set up the sort of short circuit or arcing event that could generate sufficient heat to cause the wheelchair or any part of it to ignite. Mr Peck and Mr Morton were of the view, as I understood them,

that the only way the fire could have started in the wheelchair or the console was if a short circuit or arcing event had happened either in the cable leading to the console or in the console itself. They thought that even when turned off there was sufficient power in the relevant cables to generate the heat required to start a fire if a short circuit happened. In this respect there was a difference of opinion between the experts led by parties. My concluded view is that I prefer the evidence of Mr Colquhoun on this point. He has a background and expertise in matters electrical and fire investigation combined which lead me to the view that his opinion on this point is to be preferred.

[116] The situation was complicated by the possible presence of melted copper in parts of the mechanism. The significance of this however was greatly diminished by the acceptance of all the witnesses involved in this aspect of the case that the melted copper could be a consequence of the fire rather than a source of it. Of the two possibilities neither could be excluded. In addition I am of the view I can take into account the evidence I heard from Mr Forbes of the number of similar chairs in existence, the safety requirements intrinsic in the design of such equipment and the lack of similar incidents to agree with Mr Colquhoun that the wheelchair was not the cause of the fire.

[117] It was clear from the evidence that the wheelchair having become, as it were, the prime suspect in the cause of the fire other possibilities were not investigated. I heard evidence of other pieces of wire being found in and around the bedroom. These items were capable of conducting electricity but no effort was made, or none I heard about in any event, to identify what they were and if appropriate, to exclude them.

[118] The deceased having naked flames in the bedroom, for example by having smoking materials or candles and a deliberate external source having been effectively eliminated by Mr Lahey, the cause of the fire must remain unknown.

The maintenance of the wheelchair

[119] The Inquiry heard quite a bit of evidence about the reported difficulty Ms Anderson was having with the control console of the wheelchair and the lack of response to her call requesting attention be given to this. Given the conclusion reached that the wheelchair, and its console, were not the cause of the fire much of this evidence can be put aside and certainly need form no part of the Determination. That said it is of note that Ms Anderson's death did prompt an examination by NHS Highland of the system for dealing with requests from assistance to ensure they were properly dealt with. I also note NHS Highland's prompt response to concerns about the console and steps taken with regard to that.

The Telecare system

[120] Telecare is a system which allows persons with disabilities and handicaps to remain in their own homes. It does this by providing access to assistance should this be required. It is a system that had been used by Ms Anderson for a number of years. The evidence in this case left me in no doubt that in this case Ms Anderson was badly served by Telecare and its providers, NHS Highland.

[121] From the evidence I heard it would appear that Ms Anderson became a user of Telecare in about 2000. In or about 2008 smoke detectors were installed in her property and were properly connected to the Telecare system. The effect of this was that if there was an incident in Ms Anderson's property which led to the smoke detectors being activated, the Telecare hub would be alerted to this and respond appropriately. There was evidence that in or about 2011 there was an activation of the smoke detectors and the system worked as planned.

[122] It would appear to be an inescapable inference from the evidence I heard that the smoke detectors in the flat were not connected to the Telecare hub on 6th August 2013. The evidence is that there was no call sent to the hub until a "mains failure" alert was received. The smoke detector in the flat was almost certainly sounding when the FRS arrived, Laura Smith heard it, although she could not be definite it was from Ms Anderson's flat and Susan Scott was alerted to the fact of a fire by hearing the alarm. The Joint Minute lodged on 15th August 2016 establishes there were no smoke detectors in the common parts of the block. This leads me to the conclusion that the smoke detector was operative but not linked to the Telecare system. There is a disjunct in the evidence, I accept, between the evidence of Ms Scott and Mr Lahey. Ms Scott was sure there was no alarm sounding until after she had been up and about for some time, she heard it just before she dialled 999 at 07.44 hours. Mr Lahey was of the opinion that the alarm would have gone off considerably earlier than that given the nature of the fire, the smoke damage to the property and the stage it had reached when FRS attended. I am unable, on the evidence, to reconcile this save to suggest that Ms Scott perhaps only became

aware of the alarm after a little time. Nothing turns on this given Mr Lahey's evidence, which I accept, that the fire had been burning for up to two hours before the alarm was raised.

[123] The question raised by the preceding paragraph is, of course, why was the smoke detector not linked to the Telecare system? The evidence showed that the base unit was replaced in January 2013. This was done by Sandra Lockhart. She understood that she was to install a basic Telecare system in Ms Anderson's flat. She did not remove an old base unit, as she recollected the event. She was trained only in fitting basic installations, i.e. those without peripheral equipment such as smoke detectors. Had she been asked to connect a smoke detector she would have had to seek assistance or advice. There was evidence from Mark Hewitt of Cairn Housing's Handyperson Service that when he was in the flat in late January 2013 a Mr Fergus from Signpost noted the lack of a link between the smoke detector and the base unit but nothing seems to have been followed up on that.

[124] The preceding paragraph sets out my factual conclusion as to how the smoke detector and the Telecare system were not linked. The next stage is to enquire how that came about. From the evidence led I can only conclude that it was due to inadequacies in the record keeping system used by those administering the Telecare system. It was clear from the evidence that NHS Highland, whose responsibility this was as at August 2013, did not have full records of what equipment was installed where, what peripheral devices were connected to each system and what checks had been carried out on the peripheral equipment to ensure it was linked. The evidence I heard was that the Telecare

system was transferred from Highland Council to NHS Highland in about 2012. This change came about because of an agreement between the two bodies that NHS Highland would be responsible for the social care of those chronically sick and disabled persons they provided health care to. This was designed to give a better service provision. The management structure in place when NHS Highland took on this role remained in place and this unfortunate event has shown up the inadequacies of that system.

[125] The accepted and discovered defects in the Telecare system however, in my view, had no part to play in either the accident which led to Ms Anderson's death or the death itself. The evidence showed that the fire that started in Ms Anderson's bedroom was probably one which smouldered for some time before breaking into flame, whatever it was that started it. This conclusion is based largely on the evidence of Mr Lahey. When the smoke alarms first registered that something was amiss is unknown, the only evidence on that comes from Ms Scott, who did not recall hearing the alarm until just before 07.44 hours and Ms Till who did not hear an alarm when she left the building some time before that. By that time, on Mr Lahey's evidence Ms Anderson was almost certainly already deceased. The Telecare system triggering the base unit to alert the hub therefore is not likely to have prevented the death and certainly would not have prevented the fire.

[126] That said, the defects in the Telecare system which the Inquiry revealed to be present in Ms Anderson's flat, and from the evidence of Mr Grainger, to be present in the homes of other Telecare users are such that a similar tragedy could be avoided if

corrected. That is why I have made comment in terms of section 6(1)(e) in this Determination.

Steps taken

[127] Evidence of this aspect of the inquiry came largely from Janice Baird, the final witness, who gave evidence on 15th August. She explained that when NHS Highland had taken over the Telecare system as part of the social care package that had been transferred to them by Highland Council. NHS Highland had been aware of deficiencies in the quality of the care being provided. They had been taking steps to remedy these at the time of the fire. The administration of the Telecare system had been transferred to NHS Highland *en bloc* from Highland Council. It had not been realised that there were problems with the running of the scheme and that these deficiencies had led to a lack of safety in the system. It was unfortunate, but accepted by NHS Highland, that it had taken the death of Ms Anderson to bring these deficiencies into sharp focus.

[128] As a result of the accident a thorough audit of the system has taken place. All equipment has been identified and recorded. The peripherals supplied to each user are now fully documented. All installations and replacement of equipment is now in the hands of the Handyperson Service of Cairn Housing and proper procedures are in place to record all work done and changes made. These were all changes which had been occasioned by the accident and were a consequence of it.

[129] I conclude by repeating the condolences offered at the conclusion of the Inquiry to those close to Ms Anderson. It was clear from the evidence I heard that Ms Anderson bore gracefully and cheerfully the handicap she suffered from. Despite her physical restrictions she lived a full and productive life. It is unfortunate, in the extreme, that what could and should have been a long and happy retirement was cut so short in such a terrible and tragic way.

JOINT MINUTE OF AGREEMENT

In the Fatal Accident Inquiry into the circumstances surrounding the death of Barbara Ann Anderson

Main, Procurator Fiscal Depute for the Crown; Reid, Counsel for the Highland Health Board, Grant-Hutchison, Counsel for Sunrise Medical Limited and Toner, Counsel for Penny & Giles Controls Limited hereby concur in stating to the court that the following facts are agreed and should be admitted in evidence:

1. Barbara Ann Anderson was born on 5 August 1962 and was 51 years of age at the time of her death. She resided alone at 8 Leyton Drive, Inverness, a two-bedroom ground floor flat in a block of four.
2. She worked as a Courts and Warrants Assistant with Northern Constabulary from 1979 until she took early retirement in 2011.
3. Barbara Anderson had spina bifida and used a wheelchair. When lying down in her bed, her ribcage would compress her lungs which would give her difficulty

breathing through the night. Due to this, she was issued with a machine that regulated her breathing when sleeping. She had to wear a full face mask that she put on as soon as she went to bed. The machine was run by electricity and was located on top of a bedside cabinet right beside the bed at the headboard end. The machine was plugged into the socket adapter that was placed underneath her bed. The lead for the machine had an on/off switch which she used to turn it on and off – the plug always remained in the socket. She also plugged the lead that charged the wheelchair into this adapter. All she had to do to charge the wheelchair was connect the three prong adapter attached to the charging unit into the wheelchair that was located underneath the seat area – she was capable of doing this herself. She would always charge her wheelchair next to her bed in front of the chest of drawers. She did not charge said wheelchair every night and did not do so on the night before her accident. Also plugged into the adapter was a bedside light which sat on top of the bedside cabinet next to the machine that assisted her breathing. She had also recently had an electrical hoist fitted to a bedroom. It was wired into the electricity supply and had a backup battery in case the electrics failed for any reason. Her bed was also electric and could be adjusted for use.

4. Barbara Anderson was attended to by a Home Carer twice a day: once in the morning and once in the evening. The Home Carer attended seven days per week. The Home Carer would help Barbara Anderson with washing, toileting and dressing. A nurse also attended Barbara Anderson on a daily basis. The nurse came from the Cairn Medical Practice. She attended to a bed sore that Barbara Anderson had on her leg. A cleaner attended Barbara Anderson twice a week. The cleaner was organised privately by Barbara Anderson.
5. Ian Anderson is the cousin of said Barbara Anderson and would visit her two or three times each week. He was aware that her wheelchair would occasionally require to be repaired due to her knocking into walls at her flat. This had caused minor damage to the controls which would cause the wheelchair to cut out. Ian Anderson understood that Barbara Anderson would report the wheelchair when it needed repaired. The wheelchair was repaired in response to such reports. On 5 August 2013, Ian Anderson went round to Barbara Anderson's flat at about 7.30pm with a present for her as it was her birthday. She had a key safe located outside the communal door which he had the code for – the key was kept there so that carers and nurses could let themselves in. They spend the evening together watching the television. About 8.45pm, a home carer, Pauline Johnstone,

visited. She helped Barbara Anderson to the toilet and got her undressed so that she could put on her nightie. About 12.30a.m., Ian Anderson left the flat to go home. He said good night to Barbara Anderson and she said "I won't be long behind you" which he took to mean that she was going to her bed. She locked the door as he left and he then went home.

6. At 0744 hours on 6 August 2013, a 999 call was received by Scottish Fire and Rescue advising of a fire at 6 Leyton Drive, Inverness and that someone was within the house. Two appliances with ten firefighters attended and arrived approximately five minutes later and established that the fire was within 8 Leyton Drive. The first team entered the flat and noted that it was filled with smoke with no visibility whatsoever. Firefighters Donald MacDonald and Gareth Masson entered the first room on the right hand side. Masson spotted a small amount of smouldering and gave two short jets from the hose to put that out. Masson then shouted that he felt something on the bed. They established that they were in a bedroom and it was clear it was a casualty, lying on their front on the far right-hand side of the bed next to the wall. They spoke to and shook her but got no response. The body was badly burnt and clearly dead. MacDonald then completed a search of the premises and ventilated it. The only seat of fire he found in the address was a foot or so to the left of the bed. Robbie MacDougall, Watch Manager, entered the premises when the smoke was cleared and noted that the worst area of the fire damage was around the bed where the body had been found.
7. On 6 August 2013, Doctor David McKeith attended at said 8 Leyton Drive at the request of the Police. He was shown to the rear bedroom there where he was shown a person, subsequently identified as Barbara Anderson, who was clearly deceased. He pronounced life extinct at 0940 hours that day.
8. After it was confirmed that Scottish Fire and Rescue had extinguished the fire and made it safe for others to enter, Detective Constable Andrew Thomas of Police Scotland entered the flat. He noted that Barbara Anderson was lying on her left side on the left-hand side of her single bed. She was facing the wall with the lower half of her body positioned between the bed and the wall. She had sustained extensive burn injuries to the rear of her head and torso.

9. He noted that the flat had suffered considerable smoke damage throughout. However, the fire appeared to have been contained to the rear bedroom which Barbara Anderson had used. There was extensive fire damage caused to the area of the floor in front of her electric wheelchair and other indicators suggested the possible seat of the fire could have been in this area. It was also noted that there were three fire alarms/ smoke detectors within the flat, two in the hallway (which had suffered extensive heat damage) and one in the sitting room.

10. On 8 August 2013, a post mortem examination of said Barbara Anderson was conducted by Vijay Sharma, Specialist Registrar under the supervision of Doctors Rosslyn Rankin and Natasha Inglis, Consultant Pathologists. The conclusion was that she died from the combined effects of kyphoscoliosis due to spina bifida and smoke inhalation in a domestic fire. Kyphoscoliosis refers to a spinal deformity which decreases lung capacity; in this case, there was curvature to the rear and side. The level of carbon monoxide found in her blood – 13% - is a level which is significantly lower than that which in itself would result in death. If she was using her respiratory support at the time, this may have contributed to the low level. The low level of carbon monoxide also clearly indicated that she inhaled smoke. Doctor Rankin concluded that there was no evidence to suggest that Barbara Anderson survived any time in the fire or her carbon monoxide level would have been higher. The medical certificate of cause of death was completed as follows: 1(a) Combination of kyphoscoliosis due to spina bifida and smoke inhalation in domestic fire. A copy of their full report is produced as *Crown Production 1* and a copy of the associated toxicological report produced as *Crown Production 2*, the terms of which are accepted as true and accurate.

11. The Medical Physics Department of NHS Highland provides wheelchair and seating services to patients with disabilities. It provides both manual and electric wheelchairs depending on the patient's needs. The Department supplied Barbara Anderson with a Sunrise Medical 'Quickie Salsa M' electric wheelchair - Serial No. SALM 11041390; NHS Highland ID Plate No. 10624 - which was first issued to her on 31 May 2011. The 'Quickie Salsa M' is the NHS Highland wheelchair of choice for patients requiring an electric wheelchair. NHS Highland had experienced no previous issues with the operation of those chairs. All patients that are provided with an electric wheelchair are also provided a manual wheelchair as a backup. The wheelchair has power lift and tilt and all the motors

are electrical – there are no hydraulics. The wheelchair is powered by rechargeable batteries located in the chair itself. The patient is responsible for the recharging of the batteries and provided with the equipment to do this by the Department. It is charged using a charger provided by the manufacturer. The socket for the charger lead is located underneath the controller. The on/ off switch is also in the controller. The Department is responsible for the maintenance of the wheelchairs it issues. The intention was that there be a programme of planned maintenance. Planned maintenance should take place annually. In addition, maintenance would be done by technicians in response to reported faults with individual chairs.

12. *Crown Production No. 8* is a copy of all the work instructions relating to Barbara Anderson's wheelchair detailing all faults or concerns reported to the Highland Health Board (also known as NHS Highland) by her and work carried out between 25 April 2011 and 9 July 2013. There were 20 work instructions between those dates. All of the repairs were of a routine nature. The controller was changed in September 2012. Sunrise Medical did not supply said control panel or wiring to the Department. They did not install same. The wiring was repaired or replaced in September 2012. The batteries were replaced in May 2013. Planned preventative maintenance was undertaken on 18 June 2013.
13. On 7 August 2013, a voicemail message was found by Gordon Gray on his telephone at Wheelchair Services, Raigmore Hospital, Inverness from Barbara Anderson from a call made by her on 1 August 2013 at 12.14 p.m.. Gordon Gray had been on annual leave the previous week. The message was "Hi, it's Barbara Anderson here from 8 Leyton Drive in Inverness. I've just got a wee problem with my chair. The lights on the control panel are flashing off and on from time to time. It feels as though it might be a loose connection maybe to the control panel. I was just wondering if someone could maybe come out and have a look for me. Thanks, bye".
14. *Crown Production No. 22* is an album of photographs taken by Ian Anderson of the Scottish Police Authority at 8 Leyton Drive, Inverness when he attended there about 0922 hours on 6 August 2013. The photographs show the following (all photographs are of 8 Leyton Drive, Inverness):

1 – entrance door

2 – smoke detector in the hallway

- 3 – view from the hallway towards the living room
- 4 – the bathroom
- 5 – the kitchen
- 6 – smoke detector cover on the living room floor
- 7 to 9 – views of the living room
- 10 – smoke detector in the living room
- 11 – view from the hallway towards the main bedroom
- 12 – the spare bedroom
- 13 – wiring hanging from the hall ceiling
- 14 to 17 – the master bedroom from the four corners
- 18 and 19 – the remains of an electric wheelchair
- 20 and 21 – the bed in the master bedroom
- 22 and 23 – a hoist mechanism in that room
- 24 and 25 – a battery charger on the bedroom floor
- 26 – the bedside table in the bedroom.

15. *Crown Production Nos. 23 to 25* are three albums of photographs taken by Kevin Brett of the Scottish Police Authority at 8 Leyton Drive, Inverness in the course of the fire investigation which commenced at 1441 hours on 6 August 2013. The photographs are as follows:

- 1 – fire damage to the bedroom. The bed is on the right-hand side of the photograph and an electric wheelchair in the centre. A ceiling track is at the top of the photograph and the position of a hoist can be seen at the end of the track at the upper centre of the photograph, between the wardrobe and window.
- 2 – the bedroom showing the wheelchair and a bedside table
- 3 – fire damage to the area around the bed
- 4 – the bedroom doorway
- 5 – the bed and bedside table
- 6 – a general view of the bedroom
- 7 – fire damage to the bed
- 8 – fire damage to the edge of the bed and mattress
- 9 – a handrail towards the foot of the bed
- 10 and 11 – fire damage to the wheelchair
- 12 and 13 – fire damage to the edge of the bed and mattress
- 14 – a table and items on the floor next the wardrobe
- 15 – a bedside table and surrounding area

- 16 – items on top of the bedside table. A fire-damaged lamp can be seen at the front right and a nebuliser can be seen to the rear right behind it
- 17 to 19 – fire damage to electric wheelchair
- 20 – the electrical cupboard
- 21 to 24 – fuse boxes and electric meters
- 25 – fire-damaged hoist and overhead track, situated between the wardrobe and window
- 26 – fire damage to the area around the bedside table
- 27 – fire damage to the bedside table and wardrobe doors
- 28 – fire damage to the bedside table and bed
- 29 – fire damage to the floor in the area between the wheelchair, bed and wardrobe
- 30 – fire damage to the ceiling
- 31 – fire damage the ceiling above the bed and the wall next to it
- 32 – fire damage to the bed and surrounding area
- 33 – fire damage to the bed
- 34 – an electric motor at the foot of the bed
- 35 – the inner surface of the bedroom door
- 36 – the position of electric sockets on the wall next to the bed
- 37 – a close-up view of the electric sockets
- 38 – fire damage to the right side of the wheelchair
- 39 – fire damage to the front of the wheelchair
- 40 and 41 – fire damage to the lower part of the front of the wheelchair
- 42 and 43 – taken looking within the lower part of the wheelchair at the front and showing fire damage within
- 44 to 46 – fire damage to the lower part of the front of the wheelchair
- 47 to 50 - taken with the wheelchair removed to show the area of carpet it sat on
- 51 – fire-damaged items on top of the bedside table
- 52 – the wheelchair charger on the floor in front of the bedside table
- 53 - fire debris on the floor between the bed and bedside table
- 54 - the area between the bed and bedside table
- 55 - the bedroom floor after the wheelchair and furniture below the window had been removed
- 56 - the bedroom floor in front of the wardrobe and bedside table
- 57 - the wheelchair charger in front of the bedside table and electrical adapters on the floor between the bedside table and wardrobe
- 58 to 60 – electrical adapters on the floor between the bedside table and wardrobe
- 61 – the position of sockets on the wall next to the cupboard in the corner of the room
- 62 – a close-up of the sockets

- 63 to 65 – the base control unit for a phone in the living room
- 66 - the area of floor in front of the bedside table. The wheelchair charger is at the top of the photograph, with the connector cable and plug seen at the lower centre
- 67 – the wheelchair charger
- 68 – the wheelchair charger plug
- 69 – the nebuliser
- 70 – taken with the nebuliser opened to show the inside
- 71 to 73 – tea lights in the kitchen
- 74 – fire damage to the wardrobe
- 75 - taken with the bedside table removed and shows fire damage to the bed
- 76 – fire damage to the floor in front of the bed
- 77 – the carpet under the bed
- 78 – taken with the mattress and bed base removed and shows fire damage to the carpet
- 79 – shows the edge of a pattern of burning to the carpet below where the edge of the bed had been
- 80 – the electric motor at the foot of the bed
- 81 – taken close-up to show the electric motor at the foot of the bed
- 82 – electric sockets on the wall to the rear of the bed
- 83 – taken close-up to show the electric sockets on the wall behind the bed
- 84 – the ceiling track above the bed
- 85 and 86 – show burn patterns to the carpet next to the bed, near the foot end of the bed
- 87 and 88 – the underside of the wheelchair

16. *Crown Production No. 26* is an album of photographs showing a Quickie Salsa M Wheelchair which has been constructed by Wheelchair Services, Medical Physics Department, NHS Highland to the original specification of the wheelchair used by said Barbara Anderson. The only difference between this chair and the one used by said Barbara Anderson is that the ABS shell and foam cushion are missing. These were made up specifically for that wheelchair and were a unique fit.

17. *Crown Label No. 1* is a DVD containing photographs taken during the examination of the wheelchair used by said Barbara Anderson by Iain Peck and Emma Wilson, the findings of which are detailed in *Crown Production No. 16*.

18. That all copy documents are true and accurate copies of the originals and should be treated as originals.

