MAGISTRATES COURT TASMANIA

MAGISTRATES COURT *of* TASMANIA

CORONIAL DIVISION

Record of Investigation into Death (Without Inquest)

Coroners Act 1995

Coroners Rules 2006

Rule 11

I, Olivia McTaggart, Coroner, having investigated the death of Kaye Maree Joyce

Find, pursuant to Section 28(1) of the *Coroners Act* 1995, that

a) The identity of the deceased is Kaye Maree Joyce;

b) Mrs Joyce died in the circumstances set out in this finding;

c) The cause of death was thermal burns; and

d) Mrs Joyce died on 26 August 2017 in Melbourne, Australia.

In making the above findings, I have had regard to the evidence gained in the comprehensive investigation into Mrs Joyce's death. The evidence includes;

- Police report of death for the coroner (Tasmania);
- Police report of death for the coroner (Victoria);
- Affidavits confirming life extinct and identification;
- Opinion of Victorian and Tasmanian forensic pathologists regarding cause of death;
- Toxicology report of Forensic Science Service Tasmania;
- Ambulance Tasmania records;
- Victorian medical records for Mrs Joyce following her burns;
- Tasmanian medical records for Mrs Joyce;
- Fire investigation report of Tasmania Fire Service investigator;
- Scene photographs, drone footage and 000 emergency call recordings;
- Housing Tasmania records relevant to the residence occupied by Mrs Joyce;
- Fire investigation report of the Electrical Safety Officer of Consumer Building and Occupational Services;
- Fire investigation report of TechSafe Australia;
- Affidavit of Mrs Joyce's general practitioner;

- Affidavit of a Forensic Services officer and accompanying scene photographs;
- Affidavits of five attending and investigating Tasmania Police officers;
- Affidavits of Matthew Joyce and Nicholas Joyce, the sons of Mrs Joyce; and
- Last Will and Testament of Mrs Joyce.

Background

Mrs Joyce was born on 11 May 1959 in Hobart and was 58 years of age when she died. She grew up in Hobart and, in 1978, she married David Joyce. There are two children from the marriage – Nicholas Joyce (Nicholas) and Matthew Joyce (Matthew). She separated from her husband in 1988 but was not legally divorced, and continued an amicable relationship with him. Before her marriage separation, Mrs Joyce had worked in a clerical role but did not continue paid work after the separation. She remained the primary carer of her children and undertook volunteer work with the Salvation Army.

Mrs Joyce suffered schizophrenia as well as several physical health conditions. In 1992 she was first admitted to the Royal Hobart Hospital (RHH) Department of Psychiatric Medicine following a period of increasingly unusual behaviour culminating in delusional beliefs. In August of that year she was formally diagnosed with schizophrenia. Subsequently, Mrs Joyce managed her condition with the assistance of various health professionals and supports, including her long-standing general practitioner, Dr Stephen Webber. She was admitted to the RHH with psychosis in 2002 and, upon discharge, was provided with a senior social worker who conducted monthly visits. Over the following years, Mrs Joyce's condition was subject to continued management by her general practitioner and other mental health professionals, who conducted risk assessments, medication reviews, and devised individual service plans for her.

In 2010, with her condition being stable, Mrs Joyce was discharged from the outpatient care of Hobart and Southern Districts Adult Community and Mental Health Services. Her condition continued to be monitored and treated by Dr Webber, with the option of referring Mrs Joyce for more specialised care through the mental health helpline, if necessary. Dr Webber stated in his affidavit that, for many years, he had observed Mrs Joyce correctly taking her prescribed medication with good effect and few side-effects.

In June 2016, Mrs Joyce suffered a relapse of her schizophrenia with a referral to the CAT team by Dr Webber. At the end of 2016, she underwent multidisciplinary review and she was started on paliperidone, an antipsychotic medication, as an oral preparation.

Unfortunately, Mrs Joyce's condition subsequently deteriorated noticeably in August 2017 with the CAT team again providing treatment. Her house was observed to be chaotic and

messy and she expressed concerns regarding her medication, which she appeared to be taking erratically. Increased care options, such as cleaning and food services, were considered and an arrangement was made for her medication to be administered via a Webster Pack. A plan was also made for her paliperidone to be administered by injection. It appears that this medication was administered in home visits on 14 August and 21 August 2017 with improvement noted.

On 24 August 2017 Mrs Joyce's son, Matthew, attended her house to help her clean. He said in his affidavit that she seemed to be in good spirits and that she "*had a laugh*" whilst he was cleaning out the kitchen.

Mrs Joyce was a long term smoker of cigarettes, which she smoked both inside and outside her residence. She consumed an occasional alcoholic drink but did not drink to excess. At the time of her death, she was in a reasonable state of physical health.

Incident causing death

At 12.30am on Friday 25 August 2017, Mrs Joyce phoned 000, requesting Tasmania Fire Service (TFS) from her land line at her residence of 34 Pine Avenue Kingston. She reported at this time that she was on fire as was her house. FireComm (TFS communications) shared the incident with Tasmania Police Radio Dispatch Services (RDS). Police and TFS units were dispatched to the residence.

At 12.38am two Kingston Uniform police officers initially attended the address. The officers observed thick black smoke emanating from the eaves of the roof at the front of the residence. As they approached the front of the residence, a small fire could be seen through the front window which had a large crack across the glass. At this time the officers smashed the window into the lounge room with a fire extinguisher and emptied its contents into the area where they could see flames. This action extinguished the flames on the lounge chair located near the window. Black smoke billowed from the smashed window. The officers called out to the occupant but were unable to hear a response from inside the residence. They observed flames engulfing other items and in parts of the living area. It appeared to attending officers that items were self-combusting due to the intensity of the heat.

At this point, the officers were forced back due to what they described as thick, black, toxic smoke. The front door was hot and locked. Attempts were made to enter through that door without success. The officers then moved to the rear of the residence where they saw through a window that Mrs Joyce was in the bathroom. They smashed the bathroom window and observed Mrs Joyce laying naked on the bathroom floor with the shower running. She was observed to have suffered significant burns to her body. The officers were

unable to access the bathroom due to excessive smoke and heat. They did not observe any flames in the vicinity of Mrs Joyce at that time. The officers were able to hear the sounding of a fire alarm within the residence.

A short time later, TFS firefighters arrived from the Kingston and Hobart brigades. As the police officers met the firefighters at the front of the residence, the front of the house was observed to be fully engulfed in flames. One of the police officers, Senior Constable Steven Bomford, was able to undertake checks of the two vehicles located in the driveway with Radio Dispatch Services (RDS) and ascertained they were both registered to Mrs Joyce.

Senior Constable Bomford then moved to the back door and was required to move large amounts of rubbish to access it. The door was locked. He was required to smash the window of the door with a garden shovel located at the back of the residence. He then reached in and unlocked the door and opened it. Again, the officers were unable to enter due to thick, toxic smoke. Senior Constable Bomford then observed a rear window combust and fly into the air. The officers moved back from the residence due to the highly dangerous situation. Shortly afterwards, firefighters using breathing apparatus were able to enter the residence by the back entrance and physically remove Mrs Joyce. Mrs Joyce was conscious and able to speak. She was asked and answered questions relating to her medical condition. However, it was apparent that she had suffered extensive burning on her skin.

Mrs Joyce was transported to the RHH by ambulance. Tasmania Police officers, (including CIB detectives), and firefighters remained at the scene. The fire was extinguished, the scene was processed, and a fire watch was established.

At the RHH, Mrs Joyce was assessed as having suffered extensive burns to her body and not likely to survive. Nevertheless, she was later flown to the Alfred Hospital in Melbourne for specialist burns treatment. There, she was assessed as having burns to 82% of her body and could not survive, even with further medical intervention. In consultation with her family, palliative care was provided and she passed away at 9.24am on 26 August 2017.

The Victorian and Tasmanian forensic pathologists who provided opinions for the investigation indicated that Mrs Joyce died as a result of extensive thermal damage to the outside of her body, loss of fluids and electrolyte balance, smoke inhalation and upper airway damage. Blood analysis revealed that Mrs Joyce had taken her prescribed medication in apparently usual doses and that was not contributory to her medical cause of death.

Investigation into the cause of the fire

The premises of 34 Pine Avenue is a three bedroom brick dwelling with a colour bond roof situated in the left-hand corner of the cul-de-sac. The main entrance of the residence leads into an alcove and then into a kitchen and living area. A small set of internal steps lead down to the bottom section of the house comprising the three bedrooms, bathroom and toilet.

During the morning of 25 August, after the fire had been completely extinguished, a full investigation commenced involving CIB detectives, Forensic Services officers and fire scene investigators. Initial conclusions of the detectives after scene examination and discussions with witnesses were that there were no suspicious circumstances contributing to the cause of the fire.

The fire scene investigators conducted an extensive internal and external examination of the residence. They noted that the lounge room on the top level of the house had the most severe fire and heat damage, with the greatest overhead damage to the structure being in this area. Relevantly, investigators formed the view that the fire had originated at the left wall of the living room which housed the heat pump. Additionally, the wall near where Mrs Joyce slept (away from the heat pump wall and close to the lounge room entrance) did not have the characteristics of fire origin. Many cigarettes were found at the back door of the residents, away from the fire, and was consistent with Matthew's evidence that Mrs Joyce almost always smoked outside. Neither Mrs Joyce's ashtray nor cigarette butts were recovered from inside the residence. Further examination of the downstairs area revealed that two of the three bedrooms which contained beds that were made and had not apparently been slept in. The third bedroom contained a television and cabinet. All bedroom windows were closed and all three bedrooms appeared to have smoke damage only.

The fire investigators and examiners noted that the greatest charring was evident on the timber wall studs and beams closest to where the heat pump pipework and wiring entered the structure through the brickwork. They noted a burn pattern below where the heat pump was located that moved in an upward and outward direction.

The fire examination revealed that the heat pump was the likely cause of the fire. The heat pump itself was severely damaged. The inside mounting bracket was burnt and dropped to the ground. It appeared to investigators that it had been affixed only to the plaster wall. The pipework had also been burnt and was located on the ground. The heavily fire damaged remains of the heat pump were located adhered to the carpet and too damaged to allow access to the internal components. Evidence of the burn and fire damage patterns tended to confirm that the fire originated in the wall mounted heat pump unit, with smoke and heat

filling the ceiling layers and then being forced downwards. During the fire's development, a smoke alarm was activated and alerted Mrs Joyce.

It appears that she then rose from her sleeping position on her lounge chair, suffering burns to her face and made a call from the wall mounted telephone near the heat pump.

As will be discussed, there were two smoke alarms within the residence – one in the lounge room and one at the bottom of the stairs. It is unclear which smoke alarm was activated, as heard by neighbours, but Mrs Joyce was not alerted to the smoke alarm until the fire was well advanced. This may well have been due to the effects of her prescription medication. After making the emergency calls, she managed to move to the bathroom downstairs, where she attempted to douse herself with water from the shower before she was located and retrieved.

Possible Issues with Mrs Joyce's heat pump

The heat pump in Mrs Joyce's residence was a Daikin reverse cycle, split system heat pump, model RXS71FBVMA. It was installed in June 2012. The heat pump consisted of an outdoor unit that incorporated a compressor, reversing valve and a coil of metallic pipe, with the indoor unit containing a similar coil and electric fan. The outdoor and indoor units were connected together by metallic piping that carried the refrigerant (gas) needed to heat or cool the room air. The heat pump was installed by a licensed electrical contractor together with a new electrical switchboard.

An investigation into the heat pump, including its installation and maintenance history, was conducted by Tony Millhouse, Electrical Safety Officer of Consumer Building and Occupational Services (Department of Justice). Mr Millhouse concluded, and I accept, that the heat pump was not installed in accordance with the requirements of the relevant electrical safety standard AS/NZS 3000:2007 *Wiring Rules.* This standard required the heat pump electrical circuit to be installed as stipulated by the manufacturer's installation manual. In this instance, The Daikin installation manual stated *"Be sure to install an earth leakage breaker"* and *"failure to install an earth leakage breaker may result in electric shocks or fire".* Mr Millhouse indicated that this instruction referred to the fitting of a residual current device (RCD).

An RCD is an electrical safety switch that monitors the flow of current in the electrical circuit and immediately disconnects the circuit if it detects current flowing to earth. An RCD safety switch is designed to protect equipment and also acts as a protection from the most frequent cause of electrocution, being a shock from electricity passing through the body to the earth. It can also provide protection against some, but not all, electrical fires.

Mr Millhouse noted in his report that, at the time of installation of Mrs Joyce's heat pump, there was uncertainty in the electrical industry about whether an RCD should be installed on a heat pump circuit. He reported that in 2014, an industry publication specified that electrical contractors must follow the manufacturer's instructions and also err on the side of caution by fitting RCDs to heat pump installations if uncertain. It is not clear whether, in 2012, the fitting of RCDs to heat pump circuits was a regular practice by electrical contractors.

I am, in any event, satisfied that in this particular case, an RCD should have been fitted in accordance with the specified requirements of the manufacturer's manual and therefore to also comply with the relevant safety standard.

The investigation revealed that there were two occasions after installation of the heat pump where Mrs Joyce had made complaints concerning its operation to Housing Tasmania, part of the Department of Health and Human Services, which provided and managed her residence.

The first complaint was made by Mrs Joyce in November 2012, when she told Housing Tasmania that the smoke alarm was being set off sometimes when the heat pump or radio was turned on. An electrical contractor attended and investigated the potential issue and found nothing defective about the heat pump. A contractor attending on this occasion noted that the house was smoky from cigarettes.

The second complaint was made in 2014 when Mrs Joyce again said that the activation of the heat pump also activated her smoke alarms. She also complained of being unable to turn on the heat pump. Again, the issue was investigated, this time by Parr Air Conditioning. The attending contractors arrived to find the heat pump control on *Time* setting and not running. They reset the unit and informed Mrs Joyce about how to use the heat pump controls. The contractors checked the operation of the heat pump and no defects were identified.

In February 2015, firefighters from the Kingston Volunteer Brigade attended Mrs Joyce's address as a result of her report of a faulty smoke alarm. The firefighters disconnected the smoke alarm, which was apparently hard-wired to the electrical circuit. It was noted that she still had one working smoke alarm in the residence, although I am not able to determine which smoke alarm had been disconnected (lounge room or downstairs) or whether the faulty alarm was still operational on battery power. Relevantly, Mrs Joyce told the firefighters when they visited on that date that power points around her home continued to "*spark and smoke*". The firefighters investigated and could not find any sign of this issue. The firefighters advised Mrs Joyce to follow up these issues with Housing Tasmania but the evidence indicates that she did not do so before her death.

It is difficult to determine the accuracy of the complaints made by Mrs Joyce regarding the connection between the heat pump and activation of the smoke alarms, and also the sparking and smoking of power points. If she was correct, then there may well have been an issue with the electrical circuit in the residence. I note that neither of her sons refer to their mother raising these issues with them.

Both of Mrs Joyce's complaints to Housing Tasmania were responded to by reputable and suitably qualified contractors. I accept that the heat pump unit itself was adequately inspected on each of these occasions. These inspections, however, may have been an opportunity for the contractors to recognise the absence of an RCD switch and to make arrangements to install one. However, given the uncertainty in the industry at the time as well as insufficient evidence investigation, I make no further finding or comment on the point.

An independent electrical inspection of the heat pump by qualified representatives of TechSafe Australia formed part of the coronial investigation. The resulting report provided the opinion that there were several possible causes of the ignition source within the heat pump. These were stated to include, but were not limited to, the following scenarios;

- Failure of the electrical connections;
- Seizure, failure or overheating of the fan; and
- Possible buildup of lint in the filters.

In relation to the possibility of a buildup of lint, Matthew provided evidence that he vacuumed the filters regularly for his mother, 6 to 10 times a year, and to his recollection they were never particularly blocked on these occasions. I accept his evidence and discount build-up of lint in the filters as a cause of the fire.

Otherwise, I am unfortunately unable to determine the reason for the fire starting within the heat pump or whether any of Mrs Joyce's previous complaints were linked to the issue.

I am also unable to say whether an RCD, if installed, would have prevented the fire, as this switch will only prevent certain categories of electrical fires.

The delay in Mrs Joyce being alerted to the fire was possibly due to the smoke alarm in the lounge room being non-operative. However, the fire investigator was of the view that if the alarm had been non-operative Mrs Joyce would have been overcome by heavy smoke before the smoke reached and activated the downstairs alarm. I cannot make a finding on this point.

It is certainly plausible that Mrs Joyce was slow to rouse to the lounge room alarm due to the effects of her medication and her deteriorating health generally.

Conclusion

The circumstances of the fire which led to the tragic death of Mrs Joyce have been thoroughly investigated over a lengthy period of time. Despite analysis and investigation by appropriate experts, unfortunately questions still remain concerning how the fire started in the heat pump. No similar incidents involving heat pump fires have been reported in Tasmania.

It is possible that the fire, and Mrs Joyce's death, could have been prevented by the operation of an RCD. I note that the electrical standards regarding the fitting of RCDs have been changed since the death of Mrs Joyce and now require RCDs to be installed in similar domestic electrical circuits. As such, I do not consider it is necessary to make any formal recommendations.

I extend my appreciation to investigating officer Inspector Rebecca Davis for her investigation and report in this complex investigation.

I particularly commend the efforts of the first police officers at the scene of the fire- Senior Constable Steven Bomford and First Class Constable Stephen Fry.

The circumstances of Ms Kaye Joyce's death are not such as to require me to make any comments or recommendations pursuant to Section 28 of the *Coroners Act* 1995.

I convey my sincere condolences to the family and loved ones of Ms Joyce.

Dated: 4 August 2022 at Hobart Coroners Court in the State of Tasmania.

Olivia McTaggart
Coroner