TARGA TASMANIA 2021 INVESTIGATORY TRIBUNAL

REPORT AND FINDINGS

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This Tribunal wishes to express its condolences to the families and friends of Shane Navin, Leigh Mundy and Dennis Neagle. The members of the Tribunal are all part of the motorsport "family" and understand that whilst everyone in it recognises there are inherent dangers that exist in the sport, it is no less distressing and saddening when we lose members of that broad family.

1. BACKGROUND

1.1. Targa Overview

1.1.1 Targa Australia Pty Ltd (ACN 092438992) has been the promoter and organiser of tarmac rally events and driving experiences across Australia since 1992. Each such event includes both a competition field comprising modern and classic vehicles and a non-competitive touring field, sanctioned by Australia's peak motor racing authority Motorsport Australia.

1.1.2 A "Targa" is a tarmac rally motorsport event where purpose-built rally cars compete on sealed road sections closed for competition. These are called "stages".

1.1.3 The organisers prescribe a "base time" for each stage. Meeting or bettering the prescribed base time for a stage incurs no penalties, exceeding the base time will incur penalty time. Starting at 30-second intervals, cars race against the clock with the winner being the car with the lowest total penalty time over all stages.

1.1.4 Each Targa event makes up the Motorsport Australia Targa Championship where over 250 different cars take part. These events take place in Victoria's High Country, Cairns in Far North Queensland and the longest and most challenging tarmac rally in the world, in Tasmania.

1.2. Targa Tasmania 2021

1.1.5 The 2021 Targa Tasmania event commenced on 19 April running until 24 April 2021. This event travels over 2,000kms across six days. The original itinerary contemplated 37 Targa stages. Rain prevailed, at times heavily on Legs 2 to 5 inclusive.

1.1.6 On Friday 23 April, at 10.02am, a single competitor, Shane Navin, aged 68 was fatally injured while competing in the fifth day of the event at Targa stage 26 – a long well-known stage named "Mt Arrowsmith" east of Strahan. He was driving Car Number 602, a 1979 Mazda RX-7 which left the wet road to the inside of a right-hand bend, where the vehicle rolled over, coming to rest upside down into a running creek. His co-driver Glenn Evans, aged 60, survived the incident with only minor injuries.

1.1.7 On the following day, 24 April, at approximately 11.40am, a double fatality also occurred during the event. Driver Leigh Mundy, aged 68, and Co-Driver Dennis Neagle, aged 59, were in Car Number 902, a Porsche 911 GT3 RS which lost control on Targa stage 33 “Cygnet” south of Hobart after negotiating a jump on what was a dry Targa stage, and crashed into large trees on the right-hand side of the road. Both passed away at the scene. Following this incident, the Targa stage 33 was cancelled as were the remaining 4 Targa stages scheduled to run that day.

2. APPOINTMENT OF TRIBUNAL, TERMS OF REFERENCE AND CONDUCT OF PROCEEDINGS

2.1. Investigatory Tribunal Appointment and Members

2.1.1. Following the aforementioned fatalities, Motorsport Australia through its CEO Eugene Arocca, established a special Investigatory Tribunal. Under Motorsport Australia's National Competition Rules (NCRs), the CEO has the authority to establish the Tribunal, which is purposed with investigating all aspects of the incidents and provide recommendations to the Motorsport Australia Board.

2.1.2. On the 30 April 2021, Garry Connelly AM, Motorsport Australia's Federation Internationale de l'Automobile (FIA) Delegate and Chair of the Australian Institute of Motor Sport Safety (AIMSS) was appointed as Chair of the Tribunal. Matthew Selley and Neal Bates were also appointed to the Tribunal with Motorsport Australia's General Manager of People and Culture, Tamara Joy, being appointed as the Tribunal's Executive Officer. Following her departure from Motorsport Australia, Ms Joy was replaced as Executive Officer by Curtis Deboy.

2.2. Terms of Reference

2.2.1. Terms of Reference were provided to the Tribunal by Motorsport Australia's CEO. The Tribunal held its first meeting on 3 May and reviewed and accepted the Terms of Reference proposed by Motorsport Australia, which are outlined below:

2.2.2. *The* Tribunal *is to conduct itself in accordance with the relevant procedures in Judicial Procedures,* Investigatory *Tribunals, of the Judicial Appendix of the Motorsport Australia Manual. The Tribunal shall:*

Consider information and submissions from various sources concerning the Incidents

Appoint experts to assist with investigation of the Incidents (involving cars 602 and 902 in the 2021 Targa Tasmania)

Call witnesses to provide evidence in accordance with Judicial Procedures

Consider and review any other incidents at the Event that the Tribunal deems appropriate

Make recommendations to the Motorsport Australia Board in relation to the Incidents and the conduct of Tarmac rallies generally

In addition, the Tribunal discussed additional information required and requested:

A number of *documents and other records and information from the Event Organisers*

Other information from third parties

Staff from Motorsport Australia to prepare an 'Expert Report' on the fatal crashes of cars 602 and 902 and provide that report (or an interim version) to the Tribunal by Friday May 14, 2021

The Event Organisers to make a submission on the two incidents and other incidents involving hospitalisation of drivers or co-drivers in this year's event.

2.3. **Method of conduct of Hearings**

The Tribunal conducted its investigations and hearings in accordance with the Judicial Appendix to the 2021 Motorsport Australia Manual and the guidelines therein.

Due to Covid 19 Restrictions, all hearings were conducted via video conferencing.

3. LIST OF HEARING DATES, WITNESSES CALLED, SUBMISSIONS RECEIVED AND EVIDENCE PRESENTED

3.1. Dates of Hearings

Hearings were held on:

- 23 June 2021
- 7 July 2021
- 15 July 2021
- 30 July 2021
- 6 August 2021
- 12 August 2021

3.2. List of Witnesses

The Tribunal met with and interviewed the following key stakeholders:

- Stephen Sims (RallySafe)
- Graham Malcolm (Course checker)
- Mark Perry and Hamish Marquis (Targa)
- Dr Rik Hagen (CMO) and Peter Rumball (Dr Hagen also made a written submission)
- Jason White (Competitor)
- Crew of the car behind 902 (Michael Minshall and Julie Winton-Monet). Another crew comprising of Stephen Thatcher and Phillip Parker were also invited to the hearing however didn't attend.
- Ross Tapper (Rally Organiser)
- Scott McGrath (Motorsport Australia) (Mr McGrath prepared a number of reports for the Tribunal on behalf of Motorsport Australia)
- Greg Crick (Experienced competitor and previous winner of Targa Tasmania)
- Ronda Matthews (Co-founder Targa Tasmania)
- [redacted]

The Tribunal also interviewed a number of international safety experts.

3.3. **List of Submissions and Reports Received**

Written submissions were received by:

Adam Spence	Allan Hines	Barry Smith
[redacted]	David Vervaart	Eddie Maguire
[redacted]	[redacted]	Jack Waldron
[redacted]	Jarrod Leonard	John Ireland
[redacted]	[redacted]	Michael Kyle
[redacted]	Peter Hellwig	Peter Marshall
Peter Rullo	Peter William Ullrich	Ronda Matthews
Robert Bryden	[redacted]	[redacted]

Some of these submissions were marked "Public" and some were marked "Confidential". The redacted names in the above table or in this document are of individuals who requested confidentiality.

The Tribunal also received a report from a highly respected professor in the field of Psychiatry, who assisted the Tribunal in understanding the potential behavioural effects of medications disclosed to the Event Organiser prior to the Event by crew members.

In addition, the Tribunal decided, as a courtesy, to advise Targa Australia ("Targa") of its proposed recommendations and to seek comment on those recommendations prior to the submission of this Report to Motorsport Australia.

The Tribunal met with Targa representatives on August 18 to discuss the proposed recommendations and on August 30 the Tribunal received, via Motorsport Australia, Targa's comments on the Recommendations. Those comments have been taken into account in this final version of the Report and the Tribunal includes additional commentary as a result, herein.

3.4. **Evidence presented (Reports, Documents, Photos, Videos, Data etc)**

The Tribunal received a number of reports, videos, photographs and data. A complete list of the evidence appears in Appendix A to this report.

4. REGULATORY REGIME UNDER WHICH THE EVENT WAS CONDUCTED

4.1. Regulatory Overview

Targa Tasmania 2021 was an invitational National Targa Rally sanctioned by Motorsport Australia and held under the FIA International Sporting Code including Appendices, the National Competition Rules of Motorsport Australia, the Motorsport Australia Tarmac Rally Standing Regulations (**Standing Regulations**), the TARGA Australia Technical Regulations 2020 to 2023 Version 1A (**Technical Regulations**), the Motorsport Australia TARGA Championship Sporting Regulations Version 1 (**Sporting Regulations**) and the Event Supplementary Regulations (**Supplementary Regulations**) and Bulletins. The Event was the subject of Motorsport Australia Permit No. 821/2404/01.

4.2. Licensing and Medical Requirements

4.2.1. The Sporting Regulations require each Driver and Co-driver in outright competitive categories to hold a "licence acceptable to Motorsport Australia". The General Appendix to the Motorsport Australia 2021 Manual (**the Manual**) specifies the licence requirements for a Rally event to be a "National Competition Rally Licence" for each Driver and the same for a Co-driver who, if they are not driving the competition, may have a "navigator only" endorsement.

4.2.2. Competitors in lesser "Restricted Competitions" forming part of the Event including average speed and speed limited categories are required to hold at least a Motorsport Australia Speed Licence.

4.2.3. The Tribunal was satisfied that each of the competitors involved in the fatal incidents held the appropriate Competition Licence.

4.2.4. The Motorsport Australia licensing regime for rallies does not require each applicant to undergo a medical assessment by a recognised medical professional prior to each renewal and to submit a report on that assessment to Motorsport Australia. Disclosure of pre-existing medical conditions of identified types, including mental health conditions, is required from applicants and renewing licence holders and in the event of such a disclosure Motorsport Australia licences assessors may request further information or require a medical assessment to be undertaken complying with the Motorsport Australia Medical Standards. Absent such disclosure and the requirement for a medical assessment in the discretion of the licence assessor, a medical assessment is not required.

4.2.5. The Tribunal notes that a medical assessment is required for International Licences in any discipline and is compulsory for National Circuit Licence applicants and at each renewal for such licence holders aged 45 years or over, irrespective of whether a disclosure of a pre-existing condition has been made. A significant proportion of competitors in tarmac rallies are aged 45 years or more.

4.2.6. The Tribunal received evidence that, independent of the Motorsport Australia licence application and renewal requirements, the Event Organiser requires each competitor in the Event to disclose any prescribed medications.

4.3. **Technical and Safety Regulations**

4.3.1. The Technical Regulations prescribe the eligibility requirements for vehicles in Competition and Restricted Competitions which include both safety equipment and the extent of modifications from a standard production car. Relevantly, the Technical Regulations mandate the fitment of a safety cage structure complying with Schedule J in the Technical Appendix in the Manual and safety harnesses complying with required standards. The Technical Regulations mandate the use of seats from a recognised motor sport seat manufacture. The fitment of "winged" seats in compliance with FIA Standards 8855-1999 or FIA 8862-2009 is highly recommended but not mandatory.

4.3.2. The Technical Regulations also mandate the use of tyres approved for road use in Australia with a minimum tread depth of 1.5mm. The Sporting Regulations prescribe a tyre limit of 6 tyres for each Event in the Targa Championship, including Targa Tasmania. A penalty of at least 10 minutes is imposed in the event an additional tyre is fitted to the car during the Event.

4.3.3. The Tribunal heard evidence that the majority of vehicles in the competition field use "R-compound" semi-slick tyres. Until recently, the only available tyres of this type approved for road use in Australia are intended for dry or, at worst, damp conditions. They feature a minimalist tread pattern to maximise contact with the road and are designed such that they require heat to engender grip. They generally wear quicker than a typical road tyre and their effectiveness will decline with multiple heat cycles. Now, a "full wet" road legal R compound tyre is available in the market in Australia. They feature a real tread pattern with voids designed to evacuate water.

4.3.4. The Tribunal also heard evidence that the R-compound tyres are not manufactured in sizes suitable for late model high-performance vehicles used in Targa events which use large diameter wheels exceeding 19 inches, such as the Nissan GTR35, Dodge Viper and Corvette. These cars use an ultra-high performance road tyre in Targa events, such as a Michelin Pilot Sport Cup. While not an R-compound tyre, they are similar to the dry version in that they have minimal tread.

4.3.5. As the longest tarmac rally in Australia, run over 6 days, managing tyre wear to avoid incurring time penalties is a critical strategy for competitors. Currently there is no opportunity for crews to fit a set of alternative tyres more appropriate for use when conditions are wet.

4.3.6. The evidence received from the Motorsport Australia Division Manager – Technical (Scott McGrath) confirmed that both vehicles involved in the fatal incidents complied with the Technical Regulations. The tyres on both cars complied with the Technical Regulations and had complying remaining tread depth. Cars 602 and 902 were both running dry R-compound tyres.

4.3.7. Car 902 was not fitted with "winged" seats. Further, the safety cage structure in Car 902, while complying with Schedule J, was of the "bolt-in" type. Photographs taken of Car 902 after its collision with trees revealed the seats to have distorted and a number of the front members of the safety cage structure to have distorted. However, the Tribunal is satisfied on the evidence that the speed and force of Car 902's impact with the trees was such that the fitment of winged seats and of a safety cage structure welded to the body would have been unlikely to have resulted in non-fatal injuries for both crew members.

4.3.8. The safety apparel requirements for competitors are prescribed by the Standing Regulations which cross-reference Schedule D in the Technical Appendix to the Manual. The Schedule mandates the wearing of a helmet, frontal head restraint, flame retardant overalls, socks and gloves (for Drivers only) complying with specified standards.

4.3.9. The Tribunal was satisfied that each of the competitors involved in the fatal incidents were wearing the requisite apparel.

4.4. **Tarmac Rally Standing Regulations**

4.4.1. The Standing Regulations set out in detail the safety protocols required for any Motorsport Australia sanctioned tarmac rally. They mandate that each crew be given the opportunity to reconnoitre the course in order to prepare and check their notes. They stipulate safety planning requirements for a tarmac rally including the preparation of a Safety Plan addressing compliance with medical service requirements, adequate Medical Intervention Vehicle/Ambulance coverage, and appropriate location of SOS points, spectator safety and crew safety. The Standing Regulations mandate course set-up requirements and road closure standards.

4.4.2. They stipulate that "*Course design should take into account the principle that no stage on a tarmac rally should exceed 132km/h in average speed*" and that "*on roads which will likely result in higher average speeds, measures can be taken to reduce average speeds. These ideally should be located in such a way so as to reduce top speeds, reduce entry speeds into corners which would otherwise have high-speed braking beforehand, and/or have some other feature which may deem the corner 'difficult'*". The Standing Regulations set out a number of approved methods of speed reduction on a Special or Targa Stage which are to be discussed

with and approved by a Tarmac Rally Safety Assessor appointed by Motorsport Australia to the event, in consultation with the appointed Event Checker, and include “virtual chicanes” or “restricted speed or restricted time zones” or a “maximum speed limit”.

4.4.3. The Standing Regulations provide that the Event Checker is appointed by Motorsport Australia. They perform an important safety role. Not only is it their duty to be satisfied that the event can be conducted in accordance with the National Competition Rules, the Standing Regulations, the Sporting Regulations and the Supplementary Regulations, they must also be satisfied that the event complies with the Motorsport Australia Public

Safety and Control Procedures Manual. The Event Checker’s duties are set out in detail in the Motorsport Australia Checker’s Manual.

4.4.4. That Manual mandates that the Checker must ensure that the proposed route instructions defined the intended route unambiguously and that the event is safe for the General Public, Spectators, Officials and Competitors. The Manual provides that the Checker must traverse the intended route and should not attempt to course check an event “sight unseen”. They are required to submit a written pre-event and post-event report to Motorsport Australia. The Standing Regulations recommend that the Event Checker be changed periodically after having performed the role at an event a number of times.

4.5. **Glossary of Certain Terms Used**

4.5.1. A “virtual chicane” is a section of a Special or Targa stage of a pre-determined length at some point in which each competition must have reduced their speed to a prescribed limit set by the organisers. Once that speed has been achieved, the car may accelerate.

4.5.2. A “restricted speed zone”, also known as a “restricted time zone”, (the latter description being more appropriate) describes a section of a Special or Targa stage of a pre-determined length for which a maximum average speed is set by the organisers which is converted into a minimum time allowed for a competition vehicle to pass through the zone.

4.5.3. Targa typically uses the “restricted time zone” as its preferred form of speed reduction measure. An analysis of the course details for Targa

Tasmania 2021 reveals that “restricted time zones” were incorporated into a number of Targa stages in the Event and in some instances, multiple zones on the one stage. Targa does not use a “maximum speed limit” as a speed reduction measure with the consequence that the terminal speeds achieved by competition vehicles is unlimited other than by the nature of the course. High terminal speeds are reached on straight or near straight sections within a Targa stage which do not feature a

“restricted time zone”. The Tribunal received evidence that during the

2021 Targa Tasmania a number of competition vehicles reached speeds on Targa stages in excess of 200km/h at times.

4.6. **RallySafe**

4.6.1. For a number of years Targa events, along with organisers of other Motorsport Australia sanctioned tarmac and gravel rallies, have used the world renowned “RallySafe” system, now used in the FIA World Rally Championship. This system was again employed for the 2021 Targa Tasmania and each competition vehicle in the field was fitted with a RallySafe unit which transmitted GPS data to the Event Rally Headquarters as to the precise location of the vehicle at any point in time displayed on a map.

4.6.2. The RallySafe system, providing the unit in the car is operating correctly and is receiving and transmitting a reliable GPS signal, and providing the entire RallySafe network for the Event as monitored in Rally Headquarters is operating correctly, allows the Clerk of the Course and his team of officials to know the precise location of every car in the field at any time. The system will show all cars on a Targa stage at any point in time, their positions relative to each other and SOS points and, if any car is stopped in a Targa stage, the exact position of that car.

4.6.3. The data received at Rally Headquarters includes the time elapsed since that car stopped and if it came to a sudden stop, the G-Force recorded (which might suggest a heavy impact likely to have resulted in injuries) or if the vehicle has rolled. Therefore, the RallySafe system provides “real time” tracking with extraordinarily precise detail. Provided it is functioning correctly it provides information to the Clerk of Course which is more accurate and reliable than a manual tracking system and does so much quicker than any manual tracking system could hope to achieve. However, because is it not infallible, a manual tracking system is used. This is an important tool to verify RallySafe tracking.

5. **HISTORY AND "CULTURE" OF TARGA TASMANIA**

5.1. The event was the creation of the former CAMS President, the late John Large, and renowned motorsport journalist Max Stahl, who in 1991 planned an event to replicate Italy's famous Targa Florio rally. Targa Tasmania was first conducted in 1992 and has been conducted every year since save for 2020 when it was cancelled due to COVID 19.

5.2. In 1992 Large and Stahl established a list of "Principles" for the event. These Principles are shown below:

1. To organise and conduct a unique, world standard and seriously challenging international motorsport competition on bitumen roads in the Australia state of Tasmania.
2. *To bring together an exclusive field of Sports Cars, Grand Touring Cars and other cars of distinction, representing the evolution of the sporting automotive from 1900 to the present.*
3. To use the competition as a focal point for a festival of functions, entertainment and associated activities to create an overall event attractive to all audiences.
4. *To develop the events into a high prestige occasion recognised throughout the world of automobile competition. as an essential annual activity for owners and serious collectors of sporting automobiles.*
5. To increase national and international awareness of Tasmania and in particular, to enhance Tasmania's status as a quality tourist destination.
6. *To ensure the continuing enthusiasm and support for the event from the Tasmanian community.*
7. To generate sufficient revenue to meet the expenditure needed to stage the event in accordance with these principles, and sufficient accumulated surplus to secure its long-term viability.
8. *To ensure that all involved in staging the event derive optimum satisfaction and enjoyment from their involvement.*

Source: Australian Rally History, Tom Snooks.

5.3. Ronda Matthews gave evidence that in the early years of the event, the focus was in attracting a range of distinctive classic and modern sports cars and a number of celebrity drivers. Entries were by invitation only with the organisers rejecting vehicles which were not considered representative of the exclusive spectacle they envisioned and rejected multiple entries of the same make and model. The breadth of modifications permitted to production vehicles was limited. While the event remains invitational, provided cars comply with the Technical Regulations, they are permitted. The Technical Regulations now permit more freedoms than were permitted historically. Further, there have been significant advancements in vehicle technology since the event first started. Modern production cars of choice for competitors are capable of significantly higher terminal and corner speeds than were even the most desirable GT or sports cars of the 1990s.

5.4. The event attracts a range of drivers with varying experience and skill levels. At one end of the spectrum are very skilled and experienced drivers whilst at the other are very inexperienced drivers who do not necessarily possess the skill levels desirable for an event of this type and the driving challenges it presents. Ms Matthews gave evidence that competitors in Targa Tasmania in the first 10 years or so of the event were obliged to provide evidence of sufficient motorsport experience, the organisers recognising that the event presented risks, particularly for novice drivers. She also explained that, in her observation, the only ambition of the vast majority of competitors in the field in those times was to win a Targa Trophy.

5.5. Such a Trophy was then, and continues to be, awarded to the driver and co-driver who complete each and every Targa stage in the event within the trophy time specified in the road book for their vehicle class. These times are easily achievable by amateur crews and remain so. The target times for a Targa Trophy are more generous if a Targa stage is declared “wet”. Competitors seeking no more than a Targa Trophy are focussed on finishing the event, not setting competitive times.

5.6. The Tribunal heard evidence that there has been a cultural shift within the competitor base with a much higher proportion of competitors who are focussed on setting competitive times. Further, the Technical Regulations and the competitive category divisions reveal a preference for modern and often expensive sports cars. Accordingly, the profile of many of those who compete could be classified as “wealthy enthusiasts”, and many of them are aged over 50 with some over age 65, often lacking in motorsport, particularly rally, experience. Some of them only compete in Targa Tasmania and many of them in only a handful of rallies each year. Few have expertise in car preparation or have an understanding of car set-up, particularly the differences in set-up for a rally compared to a racetrack.

5.7. Some of the vehicles entered are high-performance sports cars, with potential top speeds in excess of 300 km/h. These vehicles have rapid acceleration rates, and in general, are capable of high cornering speeds.

5.8. The route of Targa Tasmania provides many challenges. The Targa Stages are conducted on tarmac public roads, which are closed to the public during the event. These Stages run through forests, farmland and take crews through a variety of terrains from plains, rolling hills, to mountainous areas, visiting some of the most picturesque locations in Australia. Because many of the stages are quite remote from major cities, the roads used do not normally have an abundance of safety fencing such as Armco barriers. On almost every Stage, there are unprotected hazards, such as trees and telegraph poles, many of which are in potential run-off areas.

5.9. The Tribunal notes that unlike events conducted as part of the FIA World Rally Championship, where many of these hazards are identified and are required to be protected (with for example straw bales or tyre barriers), the number of such hazards present in Targa Tasmania’s current route would make this logistically and financially challenging, if not impossible.

5.10. Combined with this, the weather at the time of year when the event is conducted, frequently includes rain and cold conditions.

6. INCIDENT INVOLVING CAR 602

6.1. The Incident

6.1.1. Car 602 left the road during the running of the Mt Arrowsmith Targa Stage, a 53.13 km stage conducted in wet conditions on April 23, as the 26th stage of the event. The incident occurred 35.5 km into the stage, at 10.02am, in the area of Double Barrel Creek.

6.1.2. Car 602 entered a long right-hand bend of approximately 180 degrees, with a tightening radius towards the exit. Approaching that tightening radius, the driver lost control and the car went off the road and rolled approximately 6 metres down into the creek, landing upside down. The driver's window was completely immersed in water whilst the co-driver's side of the car rested on the bank of the creek.

6.2. Driver Experience and Skills

6.2.1. Car 602 was a 1979 Mazda RX-7, entered and driven by Shane Navin (deceased), co-driven by Glenn Evans. Evidence presented by Scott McGrath of Motorsport Australia shows that both Messrs Navin and Evans had a history of competing in Targa events including Targa Tasmania since 2016. Mr Navin was aged 68, Mr Evans aged 60. What information is available to the Tribunal of their recent competition activities suggests that they had not competed in any Motorsport Australia sanctioned tarmac rally in 2020 or 2021 prior to the 2021 Targa Tasmania. In February 2019 they had successfully completed in another Targa event, Targa North West, but in a different vehicle – a Porsche 944 Turbo. Apparently that vehicle was stolen and they next competed in April 2019 in the same vehicle they used in the 2021 Event – the Mazda RX7. That appears to have been the last rally they competed in before Targa Tasmania 2021. According to the results of the 2019 event, they did not finish, having left the road on Leg 3. The Tribunal has no evidence of the circumstances of that incident.

6.2.2. On-board video evidence from Car 602 in the 2021 event indicates that the crew was using "Safety Notes" provided by an external supplier.

6.2.3. On-board video from Car 602 clearly shows the circumstances of the incident. This has been described by Scott McGrath as follows:

> "*The car exits the preceding left-hand corner in a middle of road position at approximately 85km/h. From this midpoint of the road the car then takes an early line to the very inside of the approaching right-hand corner, with the car positioned on the right-hand side of the road as early as the gravel area well prior to what would be defined as the apex of the corner.*

The right-hand wheels of the car would appear to be on the very right of the road surface at this gravel area point and then, as the gravel area passes, the car hits a bump on this inside line on the verge of the road at approximately 91km/h. This bump instigates an understeer event, whereby the car proceeds to prescribe a straight-ahead line despite the applied steering input being to the right.

The car continues in this understeer event with the driver applying at least another full rotation of the steering wheel to the right. The speed of the car is reduced in this moment, and it is assumed (by the lack of engine acceleration noise) that this was a result of the driver releasing the throttle input. There is no confirmation of whether or not the driver applied the brakes. The car continues in understeer on a path towards the very outside (left) of the corner, whereby the speed reduces to approximately 60km/h, and at this time the car turns to the right abruptly changing course back towards the right-hand side of the road. The driver attempts to reduce the steering input to the right, with steering input now moving to the left by more than a full rotation of the steering wheel.

Despite the efforts of the driver the car proceeds across the road to the right where it now leaves the road at a slight angle to the road surface at a speed of approximately 50km/h. With the car now off the road it slides down the bank making forward impact with the embankment, created by the road construction and the watercourse below, rolling over to the right and coming to rest on its roof."

6.2.4. The Tribunal accepts the above as an accurate description of the incident, as confirmed by the video evidence.

6.2.5. Evidence from Greg Crick, an experienced winning driver from Targa Tasmania with many years of experience not only as a driver but as a driving standards officer for CAMS/Motorsport Australia, and a person whom the Tribunal regards as an "Expert Witness", indicated that the driver of car 602 appeared to make some fundamental driving errors in his throttle management and his handling of the car. Of particular note was the amount of right lock that was applied, which meant that when the car's speed reduced to around 60 km/h and traction for the front tyres was regained, the car made its abrupt turn to the right, ultimately causing it to leave the road. He also explained that the position of the car when it lost control was wrong – it was on the right side of the road when it should have been on the left in preparation for the turn-in for the tightening radius right. Consequently, when the bend tightened, the driver was faced with an even tighter turn than it needed to be.

6.2.6. The on-board footage in the lead up to the incident reveals the car to have been very unsettled with suspension settings unsuited to the wet conditions. As Mr McGrath observed, it was the bump on the inside line at the mid-point in the long bend that contributed to the car experiencing an understeer event.

6.2.7. It is the Tribunal's conclusion that the driver's driving ability and poor suspension set up were contributing causes of the incident.

6.3. **Pacenotes (or "Stage Notes") and Reconnaissance**

6.3.1. In gravel rallies in Australia and World Rally Championship events on both gravel and tarmac, these notes are prepared by the crew of a competing car during a reconnaissance of the route during a fixed window of time shortly prior to the start of the event with the aid of a road book issued by the organisers to the crews. Reconnaissance at any other time is strictly prohibited. They describe in great detail the route of a competition stage and are normally written by the co-driver based on input from the driver. When a car is competing on a stage, the notes are read back to the driver by the co-driver.

6.3.2. In tarmac rallies conducted in Australia, it is commonplace for crews to purchase notes prepared earlier by experienced commercial note providers rather than prepare their own. Usually, crews who purchase such notes will nonetheless undertake at least one pass of each stage in the event with the aid of these notes and make such adjustments as they consider appropriate, for example, to include cautions when having seen the road, they anticipate that a bend may be more challenging than another given the known characteristics of their vehicle and the driver's experience and ability to process the detail in the commercial notes.

6.3.3. Further, because tarmac rallies are conducted on what are otherwise open public roads, it is impossible to limit reconnaissance to a fixed window of time prior to the event because it is not possible to police access to the roads by competitors in the weeks and months prior to it. Therefore, reconnaissance is at the crew's leisure.

6.3.4. In Australian tarmac rallies the road book is not issued to crews until they complete documentation shortly before the commencement of the rally, by which time they will have already completed their reconnaissance. Because crews complete reconnaissance without the aid of a road book, the organisers will issue "Reconnaissance Notes" weeks prior to the start of the event as an aid for crews when undertaking their reconnaissance.

6.3.5. These Reconnaissance Notes provide the GPS co-ordinates for the start and finish of each Targa Stage, the precise distance from the start to the finish and stop point and, importantly, the precise locations of any

restricted time/speed zones and any "cautions" which might include crests which are followed by unseen bends or jumps which might unsettle a car. Identification of "cautions" in the Reconnaissance Notes is important because it means the crews know to look for them when undertaking recce, make a judgment about their severity and highlight them in their own notes. Reconnaissance notes were published by the Organisers for Targa Tasmania 2021 some months ahead of the event.

6.3.6. In this case, the crew of car 602 did not prepare their own notes, instead purchasing a set of notes prepared by experienced competitors Steve Glenney and Bernie Webb, operating under the name "Smoothline". Information provided by Scott McGrath suggests that they did not undertake any reconnaissance of the Mt Arrowsmith stage, but they had competed on that stage in previous years, last in 2018 apparently.

6.3.7. In the case of car 602 the on-board video evidence suggests that the co-driver, Mr Evans, was clearly communicating the notes to the driver during the Mt Arrowsmith stage and that Mr Navin was not experiencing any problem in hearing and understanding them. The particular note in relation to the corner where the incident occurred was, in the opinion of the Tribunal, correctly read to the driver, at the appropriate time prior to entry to the corner. Mr Evans can be heard to say:

"*Hug for a 7 Left, 7 Left coming up*

then care 7 Right long, is bumpy and tightens to a 6

6 opens ……"

6.3.8. The numerals above refer to the angle of the corner with a "10" being almost straight on, and a "1" being a very sharp hairpin. In the above, the driver is being told that after a medium left turn he should exercise caution as there will be a long medium right corner (the "7 Right Long"), which is bumpy and which tightens into a smaller radius turn (the 6).

6.3.9. The Tribunal considers the notes to accurately reflect the reality of the route at this point.

6.3.10. As discussed above, the on-board footage from Car 602 reveals it to have been in the wrong position on the road when the driver lost control. An experienced driver hearing the note called to him or her would know that the long and then tightening bend demanded care. It required the driver to carefully manage the application of the throttle and to position the car to the left side of the road to negotiate the tightening bend. Whether the driver did not understand how to position and drive the car having regard to the note, misinterpreted the note or

was paying insufficient attention and whether this was due to fatigue, cannot now be determined.

6.3.11. Nor can the Tribunal determine whether the driver would have approached the bend differently had the crew undertaken reconnaissance of the stage before the event.

6.4. **The Mt Arrowsmith Stage**

6.4.1. This stage has been regularly used in Targa Tasmania since the inception of the event and although there have been minor changes to its length over the years, it has basically remained the same.

6.4.2. The 2021 stage was 52.51 kms in length, and used the Lyell Highway in Southwest Tasmania, in a generally Easterly direction. The stage can be described as fast with the leading car in 2021 averaging 131.5 km/h over the length of the stage. There are many parts of the stage on which cars achieve quite high speeds.

6.4.3. During the 2021 edition, this stage was subject to rain (heavy at times), as can be seen by the on-board video of competing cars.

6.4.4. The stage is considered by many, including the organisers, as "iconic" probably due to its length and longevity as a part of the event.

6.4.5. However, like many of the Targa stages, it has a number of unprotected hazards namely trees, ends of ARMCO fencing and, in the case of car 602, a gully which unfortunately due to the rain, had water in it.

6.4.6. The stage also varies in character, from some sections where it is fast flowing with wide open tarmac across plains, to others where it is quite "technical" (challenging corners) through forest and very slippery when wet. Indeed, sections of the stage are typically wet in April/May even if it has not rained recently due to run-off from the adjacent forest. The incident involving Car 602 occurred on such a section.

6.4.7. It is noted that there were 6 cars that ran off the road and were unable to re-join, in the 6.1km portion of the stage in the vicinity of Double Barrel Creek (from 33.7km to 39.8km).

6.4.8. It is the Tribunal's conclusion that the nature of the stage combined with the wet conditions, were a contributory cause of the incident.

6.4.9. The Tribunal also considers it fortunate that the other 5 of the 6 cars which left the road in that portion of the Mt Arrowsmith Stage did not come into contact with unprotected hazards resulting in serious injury to any crew member.

6.5. **Tyres**

6.5.1. The report from Scott McGrath on behalf of Motorsport Australia, makes the following note in relation to the wheels and tyres fitted to the car, as examined post incident:

> The wheels fitted where aftermarket Simmons branded alloy wheels (multipiece construction) of 15 inch diameter and 6 inch width. The front and rear wheel sizes presented as being the same.
>
> The tyres fitted are Yokohama A050 205/50R15 86V M (M denotes Medium compound) with all tyres presenting with late 2019 manufacture date range (spare tyre is 4219, left hand rear is 4319 – whereby the 42/43 denotes week of the year and the 19 denotes 2019). Each tyre was measured post incident for tread depth as follows:
>
> LHF 3.6mm RHF 3.65mm LHR 3.75mm RHR 3.75mm.
>
> The tyres are compliant with the regulations for the event and are deemed to be road legal.

6.5.2. The on-board footage also reveals the driver to have been struggling for grip. As mentioned above, the car was using dry R-formula tyres which only provide grip with a degree of heat. Managing tyre temperatures on long damp and wet stages requires skill and knowledge. It seems clear from the on-board footage that the tyres on this car had little or no residual heat in the lead up to the incident. R-formula tyres will still provide grip on damp roads but negligible grip on wet roads, particularly if they have no residual heat in them.

6.5.3. The Tribunal has heard evidence and received submissions from numerous parties including competitors and the organisers, in relation to the tyre regulations for the event.

6.5.4. The Tribunal has considered the evidence before it and considers that there is a high probability that the R-formula tyres on Car 602 were unsuitable for the cool (the morning temperature in Strahan was 9 degrees) wet conditions and contributed to the loss of control of car 602.

6.5.5. It has been proposed to the Tribunal that consideration should be given to banning R-formula tyres and to making “road tyres” mandatory. It has also been proposed that crews should be permitted to change to either a wet R-formula tyre or to a road tyre in wet conditions without penalty and to allow them to revert to dry R-formula tyres when conditions improve. The mandating of a standard road tyre for all cars in the field would be a potential reduction in cornering speed and probably better traction in wet or unusual road conditions. One other effect is the manner in which a car would behave on landing after leaving the ground on a crest. This is dealt with by expert evidence in section 7.2.5 below.

6.5.6. One difficulty the mandating of standard road tyres presents, however, is that what is a production road tyre for high performance vehicles with large diameter tyres is for all intents and purposes the equivalent of a

dry R-formula tyre which would yield a competitive advantage for such cars in the dry over cars with smaller diameter wheels for which similar tyres are not commercially available. This will not resolve the safety risk in wet conditions unless this type of production tyre is also prohibited and a standard road tyre with a different tread pattern was mandated.

6.5.7. The Tribunal considers that the current 6 tyre limit presents a safety risk in that it effectively prohibits competitors from changing to a tyre suitable for wet conditions. There is no evidence that the use of dry spec R-formula tyres presents a safety risk in dry conditions, particularly if the hazards presented by jumps are addressed. The use of such tyres is a feature of this type of competition and the Tribunal does not consider it necessary to prohibit them. What is needed is freedom to use a more suitable tyre in wet conditions without penalty with a strong recommendation to crews that they prepare for this contingency.

6.6. **Fatigue and Driver Concentration**

6.6.1. The Tribunal noted a significant number of submissions from current and former Targa Tasmania competitors which referred to issues with the schedule of the 2021 event. The issues referred to a much "tighter" schedule with less time allowed on touring stages (the liaison sections between Targa Stages). These, combined with the pressure of competition over significant distances each day, and early starts, in the view of the Tribunal, meant that drivers (and probably co-drivers) would most likely have been fatigued in the latter half of the event. Many of the crew members were aged over 60, with some on medication for a range of issues including mental health, heart conditions and high blood pressure.

6.6.2. The Tribunal notes that one driver who considers himself quite fit and to have physically prepared himself well for the event, found the event "took a toll on me and I am only 34". Some drivers spoke of the "stress" of the schedule and lack of time to rest, refresh and to carry out proper inspections of their cars during the running of each day's competition.

6.6.3. It is the Tribunal's conclusion that it is likely that driver fatigue and lack of concentration, due to multiple factors including age, the event scheduling, and personal physical condition and fitness contributed to the cause of this incident.

6.7. **Other factors considered**

6.7.1. *Inability of Co-driver of 602 to obtain assistance*

a. Car 602 left the road at 10.02am. As detailed in the report of Scott McGrath, car 602 left the road and rolled into Double Barrel Creek. The car landed with the driver's side fully submerged, and the co-driver's side resting on the bank of the creek. The water

was approximately 1.2 metres deep and 4.5 metres wide. The car was not visible from the road.

b. It was not until 10.34am that assistance in the form of the crew of car 999 (the official "sweep" car that traverses the stage at the end of competition on a particular stage) arrived at the scene. Regretfully there was nothing that could be done by this time.

c. This raises the important question of why it was that almost 60 competing cars went past the location of the crash of car 602 yet none of their crews were able to be utilised in any rescue attempt. It is highly likely that at least 4 cars would have driven past the location within the 2 minutes following the incident.

d. Both the Sporting Regulations and the Supplementary Regulations include Safety Procedure instructions to crews. These instructions are consistent with protocols which have been applied in rallies universally for many years. They require the crew of a stopped car to immediately exit the car (if they can) and put out safety triangles they are required to carry in their vehicle on the road ahead of the vehicle to warn oncoming cars. They also require the crew to display the SOS/OK sign (which forms part of the road book) to oncoming vehicles. If they display the OK sign, competitors are permitted to pass the stopped car. If the SOS sign is displayed, the next car must stop and render assistance. The next car to the scene must also stop, gather information and report to the next SOS point or the end of the stage. Very importantly, this procedure demands that if a crew sees a stopped car on a stage and no OK or SOS sign is displayed and no safety triangles have been put out, they MUST stop at the stopped car on the assumption that the reason why no OK sign is displayed is because the crew are trapped or injured.

e. Crews are routinely reminded of this procedure in crew briefings at which every competitor must be in attendance held before the start of any rally. Indeed, it is one of the key messages conveyed at such a briefing.

f. Typically, at a crew briefing for a rally utilising the RallySafe system, a pre-recorded video will be displayed on a screen reminding crews how to operate the RallySafe unit and what buttons to press in the event that their car is stopped.

g. There was no crew briefing for Targa Tasmania 2021 because Covid-19 restrictions prohibited the very large competitor group from all being in attendance within a shared space. Because of the Covid restrictions the Organisers prepared a pre-recorded video briefing which was sent to every competitor. This video did

include a reminder of the safety procedure. However, the Organisers had no system which could confirm that every competitor had viewed it or that those who had viewed it, had absorbed the information conveyed, for example, by requiring the competitor to complete a multiple choice questionnaire after viewing it.

h. The absence of a crew briefing attended by all competitors at the one time was unfortunate. The collective briefing of all competitors is important. Not only does it ensure that important messages are received by a captive audience, it also allows competitors to hear questions posed by others and the answers given by the organisers. There is also a solemnity to a collective briefing at which invariably the organisers representatives will remind competitors that the event carries risk for them.

i. An unusual feature of the Targa Safety Plan is that it expressly contemplates that a Medical Intervention Vehicle (**MIV)** can be despatched into a "live" Targa stage and sets out a protocol to be followed by competing crews should they encounter an MIV on a stage. In most rallies, a stage will be stopped before an MIV enters it. The Targa procedure enables a mid-stage MIV to get to an incident quicker than would be the case were that mid-stage MIV be required to wait until every car which had already started the stage has passed the SOS point where it is stationed.

j. In the minutes following the car 602 incident, the co-driver tried to rescue the driver but was unable to do so. He then climbed the embankment to the roadway to attempt to flag down other vehicles, but none stopped. The crew of cars which passed the incident gave evidence that they saw a person in a race suit waving their arms but did not interpret it as a call for assistance, rather a gesture to keep going. The co-driver had not put safety triangles out. He had not brought the OK/SOS board with him up to the road. The Tribunal accepts that the co-driver was in an extremely stressful situation and also that the OK/SOS board may not have been easily removed from the car. As noted above, Car 602 was so far off and below the road that the crews of the cars that passed could not see it.

k. The co-driver then returned to the car and made several attempts to extricate and assist the driver. His attempts were in vain and he finally returned to the roadway and was able to flag down car 999. The on-board camera footage from Car 999 shows the co-driver of Car 602 standing on the opposite side of the road to where Car 602 lay and some distance up the hill in the direction of the start of the stage. He was waving a piece of cloth in his hand to attract attention. He told the co-driver in Car 999 that his

driver had passed away and Car 999 immediately made a radio call for an MIV to be despatched. That occurred and an MIV arrived at the scene a few minutes later, as did the Chief Medical Officer in a separate vehicle. The MIV crew confirmed the driver as deceased.

l. Car 602 like all competing cars, was fitted with the RallySafe System. The key feature of RallySafe is the ability for cars to be GPS-tracked and for various warnings to be sent to other cars and, most importantly, Rally Command.

m. In this case, car 602's RallySafe unit transmitted a "Slow car hazard" at 10:02:55 followed by a "Rollover hazard" at 10:02:56. The following is an extract from the report of Scott McGrath:

> The RallySafe report indicates that the Rollover Hazard message was received by "Race Control" at 10:04:11, with this Hazard being repeated through a number of other vehicles passing the scene. In comparison the Rally Command Log indicates that a Manual SOS was noted at 10:07 – and further that a phone call was made to the Finish Location (TS26) to seek information.
>
> The RallySafe report continues to describe the Repeat Hazard – Rollover Hazard until 10:13:44 (relayed from car No. 709). It then shows Repeat Hazard – Manual SOS at 10:18:28 (relayed from car No. 554) and then at 10:20:17 Manual SOS Received at Race Control. Repeat Hazard – Manual SOS is again relayed at 10:22:04 (from car No. 902). The RallySafe report then describes that Race Control sends "RU OK?" message to 602 (the RallySafe unit is able to have a TEXT message sent to it, with a Yes or No response request), and there is no response to this message.
>
> At 10:34:52 the 999 vehicle sends a Manual SOS from their RallySafe unit, and then a Manual SOS Medical at 10:36:50 and it is indicated that this message was received at Race Control at 10:39:19. It is also noted that the 999 vehicle commenced the stage at 10:13:15 with this also recorded in the Rally Command Log.

n. It is mandatory for each competition vehicle in the field to be fitted with a RallySafe unit with both an external and internal GPS aerial. The unit is typically mounted to the roll cage in front of the co-driver. If a car stops in a live Targa stage for any reason, the screen of the unit in the vehicle will immediately prompt the co-driver to indicate whether the crew is "OK", or whether emergency assistance is required by pressing one of two alternative buttons. Further, signals from the unit in each car will repeat off the units in nearby cars.

o. This means that if a car is stopped in a Targa stage, the RallySafe unit in an approaching car will flash up a screen which will indicate that a car is stopped on the course nearby and, depending on what (if any) response to the prompt screen has been pressed by the co-driver in the stopped car, will notify the co-driver in the approaching car whether the crew in the stopped car are OK or whether, albeit OK there is a hazard because, for example, the stage might be fully or partially blocked by the stopped car, or if the crew are NOT OK and require assistance.

p. In this incident, the co-driver in Car 602 did not respond to the prompts on the RallySafe unit in that car. It seems that, consequently, when other cars which started behind it on Stage 26 approached the accident location, their units displayed a yellow “hazard” warning.

q. The Tribunal heard evidence that these “hazard” warnings appearing on the screens of following cars are often ignored. They are ignored only because in a Targa event it is very common for one or more (and sometimes several) cars in what is a huge field to be stopped in a stage. Every time a following car passes a stopped car, a “hazard” warning will appear. It occurs so often that it becomes an unwanted distraction rather than an alert and an unwanted distraction when the crew is trying to devote their full attention to competing at speed. In contrast, if a car is stopped and is in the line of sight of a following car, it is easy to take in the information and check for an OK sign and warning triangles.

r. Moreover, because Car 602 was upside down in the creek with its external GPS aerial facing downwards and because the car was below the road surface, the RallySafe unit in Car 602 did not repeat to the cars which were on the stage behind it until just before those cars had reached the incident location. It was only at that point that the “hazard” warning flashed up on their screens. The Tribunal received evidence that following crews will usually see a hazard warning on their screens approximately 200m before the stopped car. In this case the crews in the following cars had insufficient warning of the hazard to have enabled them to look for and find Car 602 before they passed it and the RallySafe system is programmed to remove the hazard warning off the passing car’s RallySafe unit once they have passed the stopped car. These crews therefore kept competing on the stage without knowing what the momentary hazard warning had been for.

s. In the circumstances, the Tribunal makes no criticism of any of the crew members in any of the cars that passed the location where Car 602 had left the road. Nor does the Tribunal make any criticism of the co-driver of Car 602. While the Safety Procedure was not followed, the circumstances in which the co-driver found himself must have been extraordinarily stressful. The vehicle was upside down and submerged. He was focussing his efforts in trying to rescue the driver. It may have been impossible for him to locate the SOS sign in the submerged car. Regular rally competitors are reminded of the Safety Procedure before every rally. It occurs so frequently for them that they know it instinctively. The crew in Car 602 had not competed in a rally for

2 years. Long intervals between competitions are not unusual for tarmac competitors. That serves to reinforce the imperative of ensuring that every competitor is reminded of Safety Procedures before they start an event.

t. There is a manual "back-up" system for RallySafe. This is common practice throughout the world, because although RallySafe is used for example in the World Rally Championship, it is accepted that an additional system is necessary in case of a failure in the RallySafe system.

u. The "back-up" system for Targa Tasmania is described in its document "SOS Point Manual". The procedure used in this system could be described as "passive monitoring" of competing cars. The Start of each Stage radios to the Finish and any SOS points in the Stage, cars in groups of 4 when they start (so approximately every 2 minutes). Each point in the Stage writes these car number onto a sheet in rows of 4, and then uses that to monitor the passage of cars past their point.

v. On the other hand, most rallies in the World Rally Championship and other major events, use "positive tracking". This involves a "ripple effect" radio system starting with the Start officials radioing the number of each car as it starts, then each SOS point and Finish, following immediately with a radio call listing the car or cars that have passed their respective location.

w. The Tribunal notes that Targa Tasmania has many challenges in the area of communications due to the nature of the terrain it traverses. Communication within each stage is conducted by local 2-way radio (presumed to be VHF band). Communication between Rally Command and the Start and Finish of each stage is by mobile phone. There is no reliable system by which Rally Command can communicate directly with locations or official vehicles within each stage (other than for some vehicles which have satellite telephones).

x. There was an SOS point located approximately 3 kms after the scene of the incident involving car 602. There was another SOS point located approximately 6 kms prior to that location.

6.7.2. *Lack of positive tracking*

a) The Tribunal is of the view that had Positive Tracking been used and had there been constant radio communications between Stage Finish or Stage Start which was also able to copy in the Positive Tracking details, then Rally Command, on receiving the Hazard Rollover message at 10:04 am could have verified with the Positive Tracking System that 602 had not passed the SOS point 3

kms past its crash scene (approximately 2 minutes driving time). Independently of the RallySafe System, this could have then triggered some form of intervention, with the logical option being to send in MIV 9 (the Medical Intervention Vehicle at the SOS point 6 kms prior to the scene).

b) Rally Command could also have initiated an SOS signal to cars in the vicinity of car 602.

c) The Tribunal concludes however that none of the above actions would have, in all probability, made any difference to the outcome of this unfortunate incident.

d) Although at the time of writing this report, no official cause of death has been advised to the Tribunal, based on evidence given and review to date, it is most likely, that in view of the fact that the cabin of car 602 was largely undamaged, the driver died because of being submerged in the creek. It is unlikely that effective intervention could have arrived in time, no matter what event systems were used.

e) Notwithstanding the above, the Tribunal will, in its Recommendations, propose improvements to the tracking and communications systems and the Rally Command protocols and procedures, for this event.

6.8. **Conclusion**

6.8.1. The Tribunal concludes that this was a unique and rare occurrence of contributing factors that combined to result in a tragic and unfortunate fatality.

6.8.2. Any one of many actions would have led to a different outcome. For example, if the road authorities had placed a guard rail on this particular corner (in view of reportedly prior incidents of members of the public leaving the road in this place), then car 602 would not have rolled into Double Barrel Creek. Likewise, if the driver had approached the corner differently, or had not applied so much right lock after the initial understeer, car 602 would not have lost control in the first place. It is also highly likely that a more experienced driver would have released the right lock as the car reduced speed, thus avoiding the final movement of the car to the right.

6.8.3. A softer tyre compound may also have prevented loss of control, a wet weather tyre almost certainly would have.

6.8.4. Driver inattention, ability and/or fatigue may also have played a role.

7. FINDINGS IN RELATION TO THE FACTORS WHICH CONTRIBUTED TO THE INCIDENT INVOLVING CAR 902

7.1. The Incident

7.1.1. The crash of car 902 occurred at the 6.2km mark of Targa Stage 33 "Cygnet", a 15.69 km stage in the Cygnet area south of Hobart. The stage has a tarmac surface in generally good condition. The stage itself was declared dry, with mostly clear but cool conditions. The time of the incident was recorded as 11:43. The Cygnet stage has been conducted at Targa Tasmania events for at least the last 7 years.

7.1.2. In his report to the Tribunal, Motorsport Australia's Scott McGrath describes the location and its characteristics as follows:

> *"The location is further defined as just prior to the intersection of Wattle Grove Road and Cygnet Coast Road. The road at the scene of the incident appears to be quite straight, however it does divert ever so slightly to the right. The road is subject to elevation change with a crest located approximately 145 metres prior to the impact scene and following the crest the road drops in elevation to a dip before rising again just prior to the junction. The crest is also slightly varied in its cross elevation being slightly higher to the centre and right in its profile, as is the nature of this road, and with the crest being right on a drive to a property to the right."*

7.1.3. Mr McGrath then describes the incident:

> *"The car has approached the crest on this section of road at a speed of 170 to 175 km/h, after reaching a speed of 188 km/h on the preceding section of straight road. The car has become airborne over the crest, appears to travel to the left-hand side of the road, which induces a yaw moment to the left (rear of the car moving left) where despite the efforts of the driver the car leaves the road making impact with the trees on the right-hand side of the road."*

7.2. Types and Behaviour of Vehicles Competing

7.2.1. Targa Tasmania attracts a wide range of vehicles, from historic classic cars to modern GT cars. Car 902 was a 2019 Porsche GT3 RS with optional Porsche Clubsport package.

7.2.2. This is a high-performance car, which according to Porsche has a power unit which develops 383 kW (520 brake horsepower) and has a top speed of 312 km/h. Mr McGrath, in his Preliminary Investigation Report TT21 902, reports that the car appears to have competed in an unmodified condition.

7.2.3. The Tribunal has heard from a number of witnesses about the suspension of such cars (not just this make and model) and the fact they are set up for driving smooth tarmac roads or competition circuits.

7.2.4. In particular, the Tribunal finds the evidence of a highly qualified and respected motorsport safety engineer, with a Masters Degree from Leeds University and 15 years' experience as a race engineer, as extremely compelling and insightful.

7.2.5. The engineer gave the following evidence:

"In review of the document "Preliminary Investigation Report TT21 902" (authored by Scott McGrath), and following discussion in the meeting held on 15th July, we would note the description of the crest in the road (included on Page 10 of the report) which Car 902 negotiated shortly before the accident as potentially significant to the understanding of the contributory factors for loss of control.

In broad terms it can be summarised that the rate at which a vehicle will yaw, i.e., rotate around it's centre of gravity, is a function of an imbalance in the forces, lateral and longitudinal, generated by the tyres, and that the lateral and longitudinal force a tyre can generate ("grip") is strongly linked to the vertical load between the tyre and the road surface. Considering these generalised descriptions of the vehicle and tyre behaviour highlights that significant and rapid changes in vertical load on the tyre, as is seen when a vehicle negotiates a crest or dip in the road, can consequently generate significant and rapid changes in lateral and longitudinal forces from each tyre.

In the case that each tyre on a vehicle experiences a simultaneous and similar change in vertical load, for example in a vehicle negotiating a level crest on a flat road without steering applied, the total unbalanced force acting to yaw the vehicle is likely to remain low. However, any circumstance or disturbance to the vehicle that results in the tyres experiencing different or "out of phase" significant changes in vertical load can result in large, unbalanced forces acting to yaw the vehicle. The quicker the change in load between tyre and road surface the more sensitive the system will become to disturbance, in particular, with respect to the time at which each tyre experiences the change in load.

It can also be generalised that the maximum unbalanced force acting to yaw a vehicle is a function of the maximum forces available from each tyre; thus, in nominally low "grip" conditions the amount of force the tyres can exert to yaw the vehicle will be lower so the rate of yaw will typically be lower, and hence it is logical to suggest more controllable. Conversely with high grip /

high force tyre road surface combinations the yaw acceleration and rate can be higher and hence more difficult to control.

It should be noted that whilst a "jump", where the tyre completely loses contact with the road surface, is a visually obvious indication of significant and rapid change in vertical load between the tyre and the road surface, it is important to note that the same rapid change in vertical load can be present even if the tyres remain "just" in contact with the road surface. In general, contact versus non-contact of the tyre with the road surface does not represent a state change in the situation."

7.2.6. Car 902 was equipped with Specification R tyres which provide high grip. Mr McGrath reports that there was adequate tread depth. The road conditions were dry at the time.

7.2.7. Video evidence shows that car 902 left the ground at a crest 6.2km from the Start of the Cygnet Targa Stage. The speed of the car, according to the RallySafe data, was 188 km/h on the straight approaching the crest and estimated at between 170 and 175 km/h when it reached the crest.

7.2.8. The video shows car 902 landing to the left-hand side of the road. This induces a yaw movement to the left (rear of the car moves left) before the car leaves the road (at high speed) to the right, impacting two trees, fatally injuring both crew members.

7.2.9. In view of the expert evidence, the Tribunal concludes that in the case of car 902, and indeed probably many other cars in the event, the configuration of the suspension is not appropriate for the type of road conditions encountered in a road rally such as Targa Tasmania.

7.2.10. The Tribunal further concludes that this suspension set-up, combined with the use of R tyres, induced the yaw when car 902 landed after leaving the ground at the crest, was the major contributing cause of the incident.

7.2.11. By way of contrast, the Tribunal notes that the suspension set-up and tyres used in other rallies where rally cars achieve considerable "altitude" over jumps, and land safely, are vastly different to those in this and other tarmac events.

7.2.12. The Tribunal also noted expert opinion that a depression in the road could have the same effect on a car such as car 902, as a crest. Having noted the large number of occasions where competing cars leave the ground over a crest in this event, and the circumstances surrounding a similar crash after a crest, in the 2013 edition of Targa Tasmania resulting in the death of John Mansell (aged 71), the Tribunal is of the view that there is strong evidence suggesting a significant number of

drivers do not understand the manner in which their car will behave in certain circumstances when suspension limits are challenged.

7.3. **Jumps in Stages**

7.3.1. There are a number of locations in Targa Tasmania where jumps or crests exist. Not only have these resulted in fatalities such as this one and the 2013 death of John Mansell, there have also been a number of crashes on crests, resulting in serious injuries and/or major car damage.

7.3.2. The Tribunal concludes that the crest at 6.2km into the Cygnet stage was a significant contributing factor to this crash, however this was only the case when combined with other factors such as the suspensions set-up of the car, and the actions of the driver (refer below).

7.3.3. It is also noted that frequently photographers gather at jumps or crests in order to obtain photos of the cars in the air. Evidence from competitors and others suggests that the presence of the photographers is an "encouragement" to drivers to attempt to get their car as airborne as possible and that this in turn increases the likelihood of a loss of control and subsequent crash.

7.4. **Terminal Speeds and Use of Speed Limiting Systems**

7.4.1. The 30 years since the inception of Targa Tasmania have seen the development of (especially) GT cars where acceleration and top speeds have increased significantly.

7.4.2. The Porsche GT3 RS is for all intents and purposes, a circuit racing car. As referred to herein, it, and many other cars entered in the event, are capable of speeds approaching or even exceeding 300 km/h.

7.4.3. It is noted that for competitions on circuits where such speeds are achieved, and such cars are driven, the world governing body (the FIA) and Australia's relevant governing body Motorsport Australia, require circuits to meet very high safety standards. In particular these include smooth and consistent (level) tarmac surfaces, run off areas often filled with gravel to slow cars down, and safety fences that can absorb the energy of an impact of a car at high speed.

7.4.4. Rallies, by their very nature, provide no such protection.

7.4.5. For most rallies in the world, because of this lack of protection, terminal speeds of competing cars are restrained by one or more of the following methods:

- Technical Regulations which limit final drive ratios or provide for speed limiters

- Selective choice of the route, to avoid long straights where high speeds could be achieved

- Virtual restricted speed zones (or similar, for example Restricted Time Zones such as are used in Targa Tasmania)

- Physical or virtual chicanes to slow cars down

- Fitment of speed limiting devices

- Imposing penalties if prescribed speed limits are exceeded.

7.4.6. The Tribunal heard that some experienced (or cautious) drivers in the event, when approaching a crest, deliberately slow in order to avoid the wheels of the car leaving the ground (or the suspension being pushed to its limits), to minimise loss of control.

7.4.7. The Tribunal concludes that the speed of car 902 on the approach to the crest at 6.2km into the Cygnet stage was a major contributing factor to the crash and the resulting fatalities.

7.4.8. The RallySafe data shows the speed of car 902 at impact with the trees, was 153 km/h.

7.4.9. It is important to note that based on the opinion of International motorsport safety experts in evidence, no safety feature in any modern rally car would have enabled a person to survive an impact of this nature, at that impact speed.

7.4.10. The Tribunal also noted that during the event, the organisers did use a number of Restricted Time Zones. Evidence indicates that these have mainly been used to slow cars down in order to achieve an average speed for a Targa Stage below the prescribed maximum of 132 km/h.

7.4.11. The Tribunal is of the view that these would be an ideal mechanism to slow vehicles prior to jumps, crests, dips of other obstacles. Refer Recommendations.

7.5. **Driver Contribution to the Incident**

7.5.1. The driver of car 902 was aged 68 and, having not competed for several years, had resumed in the year prior to the incident competing in a number of tarmac rallies before Targa Tasmania 2021.

7.5.2. The Tribunal also heard that the crew of 902 had been posting videos which indicated that the driver had possibly been driving the car beyond his limits or beyond the car's limits bearing in mind its design, purpose and the Targa Tasmania stage environment.

7.5.3. The Tribunal notes the evidence of Adam Spence in his submission, that on the day prior, the driver of car 902 told him that he would have to withdraw from the event if he did not get new suspension for the car, as "the car was behaving like a pogo stick". It is unknown if the suspension was replaced but the Tribunal considers it highly unlikely that it was.

7.5.4. The Tribunal concludes that taking into account the fact that other drivers successfully traversed the crest, even in cars that probably also had suspension set-ups that were not "fit for purpose", and that some very experienced drivers slowed down for this particular crest, sadly in this case, the driver of car 902 contributed to the incident.

7.5.5. As noted above, the incident involving Car 902 occurred upon it landing after a jump on a crest approximately 6.2 kilometres into the Cygnet stage. The Organiser's Reconnaissance Notes published to all competitors some weeks before the event as an aid for competitors to undertake reconnaissance at their leisure, included a warning in the following terms:

"*6.23km !!CAUTION Jump on Crest.*"

7.5.6. The Tribunal was also provided with a photograph of the Cygnet stage taken on the straight in the direction of travel which clearly showed "*!!*" caution boards on either side of the road approximately 50 metres prior to the jump.

7.5.7. Article 2.2 of the Motorsport Australia National Rally Standing Regulations (Special Stage Rally) 2021 is in the following terms:

"*2.2 CAUTIONS*

(a) Wherever the word "caution" is used in an instruction, its degree should be indicated by the use of exclamation marks.

(b) One exclamation mark (!) indicates a hazard where no significant reduction in speed is required but where difficulty might be encountered if Crews were unaware of the hazard. It is not necessary to use the instruction "CAUTION" with this indication. A red triangle sign may be displayed as an alternative to a single exclamation mark.

(c) ***Two exclamation marks (!!) indicate a situation where damage to a vehicle or Crew could result from negotiating the hazard at speed. This indication should be used in conjunction with the instruction (CAUTION).***

(d) *Three exclamation marks (!!!) indicate a severe hazard which cannot be negotiated without a signification reduction in speed. This indication should be used in conjunction with the instruction "extreme caution".*

(e) *Whenever exclamation marks are used in a diagram, the instruction must describe the hazard.*

(f) *Whenever two or three exclamation marks used or in the instructions the hazard must be marked on the course by caution boards displaying the same symbols as red or black exclamation marks on a white background."*
(emphasis added)

7.5.8. In the Tribunal's opinion, the attribution of a "double caution" to this jump by the Organisers and the Checker was appropriate. At page 206 of the Road Book a tulip clearly depicting the jump with the "double caution" warning appears. Article 2.2 of the National Rally Standing Regulations was complied with in terms of the characterisation of the hazard, the tulip in the Road Book and by the erection of "double caution" boards immediately prior to the jump before competition commenced.

7.5.9. The "double caution" boards which were clearly visible to the driver of a car on the stage served as a warning that the jump presented a risk of damage to the vehicle or the crew if the driver attempted to negotiate the hazard at speed. As noted above, shortly before Car 902 hit the jump, it was travelling at 188km/h and had only reduced speed marginally to between 170 and 175km/h when it reached the jump.

7.5.10. It follows that the driver of Car 902 failed to heed the clear warning published in the Reconnaissance Notes and given by the "double caution" boards, which were clearly visible to the driver.

7.6. **Conclusions**

7.6.1. "Risk" is a function of two variables – the "Likelihood" of something happening, and the "Consequence" if it does happen.

7.6.2. Because of the nature of Targa Tasmania (and indeed rallies in general), the consequences of leaving the road at high speed (or even, as in the case of car 602, at low speed) can be serious injury or death.

7.6.3. In evidence to the Tribunal, one International safety expert witness made the following observation:

"*The consequence of loss of control (in this event) is more severe than other events around the world. If you combine this with a high probability of loss of control, the result is fatal or serious injury*."

7.6.4. The Tribunal therefore concludes that because there is little if anything that can be done to mitigate the consequences of loss of control in many places in Targa Tasmania, it is essential to reduce the likelihood of a loss of control.

7.6.5. The Tribunal believes this can best be achieved through a combination of:

- Refined consideration of acceptance of entries (is the driver qualified for the type of car entered?)
- Avoidance of hazards or use of Restricted Time Zones (or virtual chicanes) on approach
- Improved crew "education" on the risks (both pre-entry, pre-arrival and during event briefings)
- Determining if the entered car is "fit for purpose" i.e. for competition on road surfaces and conditions such as those experienced in Targa Tasmania.

7.6.6. The above will be addressed in "Recommendations".

8. FINDINGS IN RELATION TO FACTORS CONTRIBUTING TO OTHER INCIDENTS AT THE EVENT (AS REQUESTED IN THE TERMS OF REFERENCE)

8.1 The Tribunal notes that, typically, there were a number of incidents at the event, including some that required hospitalisation.

8.2 The Tribunal, having considered the evidence presented, including the many written submissions, concludes that factors contributing to other incidents were in the main similar to those considered in relation to the incidents involving cars 602 and 902 namely:

- Driver experience (or inexperience) or simply, the level of appropriate driving ability to handle the challenges of this event

- Driver "fitness" and the potential for someone who is physically or even mentally unfit to compete in a long-distance event, which requires stamina, concentration and extremely quick reaction times especially if driving a high-performance competition car

- High speed combined with the large number of unprotected obstacles (i.e., "likelihood of loss of control" and "consequences of leaving the road"). It is noted that many of the stages are in the same or similar configuration as they were 30 years ago, yet car speeds and performance in the faster categories have developed significantly in that period

- The type and number of tyres available to competitors, often combined with wet and/or slippery road conditions and a long event involving many kilometres of competitive driving

- Some of the vehicles entered in the event were beyond the capacity of their drivers to cope with the challenges presented by the event, and/or had suspension characteristics that made them unsuitable for a tarmac rally situation

- Competitive (Targa) Stage selection. The Tribunal finds difficulty in rationalising the use of sections of straight road, where speeds frequently well exceed 200 km/h (as evidenced by numerous on-board videos) and there are hundreds of unprotected objects immediately adjacent to the road. A loss of control, which could be caused by something as simple as a tyre failure, would result in serious injury or death

- The Tribunal is aware that irrespective of the safety systems that may be built into a competition car, a side impact between the A and B pillar, with an object such as a tree or telegraph pole, is not survivable if the impact speed is more than approximately 60 km/h and probably less

- Further, in relation to Stage selection the Tribunal questions the selection of a competition route that results in a car crashing into an unprotected privately-owned building, which had only minutes previously been occupied by a resident (as was the case of car 627). The point made by the owner of the aforementioned property, Mr William Hilston, about the need for a proper risk assessment rather than relying on the absence of previous crashes in that location, is in the Tribunal's view, a valid one and is addressed in our Recommendations. It should also be noted that in this case, the car ran off the road on the inside of the corner. The same occurred in the case of car 602

- Adequacy and effectiveness of Competitor Briefing and Novice Competitor Briefing. The Tribunal notes that due to COVID 19 restrictions these briefings were not conducted face-to-face and that the Organisers were unable to verify if the important warnings and information normally contained within these briefings were able to be successfully conveyed to the competing crews

- Length and schedule of the event. The Tribunal notes a number of submissions which referred to fatigue and lack of time to refresh (drink and food) and also perform safety inspections on cars, during the running of each day, due to the scheduling of the event.

9. RECOMMENDATIONS ADDRESSING INCIDENTS FROM THE 2021 TARGA TASMANIA

9.1. Introduction

9.1.1. In presenting these Recommendations, the Tribunal is conscious of its responsibilities to provide guidance to the sport's governing body concerning the overall safety of the event whilst concurrently balancing this with its desire, and that of the Targa Tasmania's many stakeholders, to see the event continue in a safe and sustainable manner, and to retain wherever possible, the traditions of the past, and the many unique features of the event embedded by its founders.

9.1.2. The Tribunal's Recommendations are presented in four sections

- Course Design
- Vehicle Preparation, Suitability and Related Issues
- Driver/Crew Licensing, Preparation and Suitability
- Safety Systems and Processes

9.1.3. It should be noted that the order of the Recommendations below is not to be interpreted as the order of their respective importance or priority.

Course Design

9.2. Recommendation 1 – Identified Risk: High terminal speeds achieved in Stages

That the Organisers, when designing the route, avoid wherever possible, sections of road where speeds of 200km/h or more can be achieved. Where this is not possible, some form of speed limiting system or device should be utilised.

9.2.1. The Tribunal accepts that this may mean some "iconic" stages have to be broken up into smaller stages however, it believes that speeds in future will only increase as car design improves, and unless action is taken, it is sadly only a matter of time before further injuries and deaths occur.

9.2.2. Where it is not possible to achieve such a speed limit through route selection, the Organisers should consider some method of ensuring that such speeds are not achieved, either through the application of speed limits, technical regulations which require cars to be geared so as not to be able to exceed this speed (which is acknowledged as probably not realistic considering the large range of cars entered), or the use of chicanes or other devices.

9.2.3. The Tribunal notes that some competitors have submitted that the implementation of speed limits will cause crashes, as drivers will be distracted by looking at their speed instead of the road. The Tribunal

believes these concerns are unfounded on the grounds that the co-driver could monitor the speed, and that there are audible speed warning devices readily available.

9.2.4. The Australian Rally Commission of Motorsport Australia, through a Tarmac Rally Working Group, is a body that would be well suited to work with the organisers in solutions that will result in the successful and safe implementation of this Recommendation.

9.2.5. The Tribunal notes that neither car in the two fatal incidents reached speeds of 200km/h immediately preceding, or during, the incidents. This report seeks to address broader tarmac rally safety items, and the Tribunal believes that this Recommendation can assist in avoiding serious incidents in future.

9.2.6. The accident involving car 902 demonstrates conclusively that, even at a speed under 200km/h, a collision between a car and a roadside obstacle will be fatal.

9.2.7. One of the recommendations of the Australian Institute for Motor Sport Safety ("AIMSS") in its November 2016 Review of Safety in Rallying in Australia (Recommendation 14) was the introduction of a maximum terminal speed of 190 km/h during any Australian rally competition. That recommendation was made by AIMSS following its analysis of extensive data collected regarding rally accidents worldwide over a number of years.

9.2.8. The Motorsport Australia Tarmac Rally Standing Regulations (Article 6.12 (iv)) specifically provides for the imposition of a maximum speed limit in a Tarmac rally. The Tribunal's recommendation of a maximum speed limit of 200 km/h is not novel. The FIA Cross Country World Cup Sporting Regulations impose a maximum terminal speed on any special stage of 180km/h. The 2021 Targa NZ Tarmac Rally Championship Series Regulations (Article 12.1) impose a maximum speed on all special stages of 200 km/h and penalties are prescribed for exceeding that limit ranging from 30 seconds for a first offence up to exclusion where the limit is exceeded by less than 10 km/h. If the 200 km/h speed limit is exceeded by 11-20 km/h, a penalty of 5 minutes is imposed for a first offence and any infringement over 20 km/h results in exclusion. The Tribunal understands that the organisers of the Motorsport Australia Targa West Series of tarmac rallies impose a 200 km/h speed limit on all competition crews.

9.2.9. Although the FIA World Rally Championship does not impose a specified maximum speed limit, the terminal speeds of vehicles are controlled by the technical regulations such that the vehicles are not capable of exceeding 200 km/h.

9.2.10. Targa submitted to the Tribunal that the WRC effective speed limit of 200 km/h is distinguishable because WRC rallies are conducted on "*narrow goat tracks and dusty lanes*", compared to the wide open, flowing and generally smooth roads used by Targa. The Tribunal respectfully disagrees. WRC Finland, while a gravel surface, is renowned for its wide, smooth and flowing stages. A number of stages in WRC Deutschland, a Tarmac rally, are of a similar character, as are several sections in the recently run WRC Rally Belgium. The Tribunal also notes that in 2016 the Australian Rally Commission re-introduced a requirement for air turbo inlet restrictors in 4WD turbo cars for the sole reason of ensuring that the terminal speeds of what were then unrestricted turbo 4WD vehicles were reduced to below 200 km/h.

9.2.11. Although the Tribunal has noted that most serious rally accidents occur at speeds less than 200 km/h, one of the key reasons the Tribunal has recommended a speed limit is because it is difficult for non-professional drivers to accurately judge the speed of their vehicle after reducing from a very high speed. If a car has been travelling at over 200km/h, a major speed reduction of, say, 70km/h, will seem to the inexperienced driver to have been a reduction of much more, yielding a false sense of low speed when the actual speed (150km/h) is too high for an approaching bend.

9.2.12. The Tribunal notes that, almost without exception, competitors in Targa rallies are amateur drivers, a handful with extensive Tarmac rally experience but the majority of the field not so. While it is one thing for an amateur driver to be driving on a racetrack featuring tyre barriers and runoff zones at 200km/h, it is quite another for vehicles competing on closed public roads with roadside hazards to be driving at that speed.

9.2.13. Targa submitted that the imposition of a 200km/h speed limit would require the introduction of an additional 80 speed zones across the course is concerning for the Tribunal. The FIA Rally Safety Guidelines, while not imposing a maximum speed limit, contain numerous references to the need to avoid long high-speed sections in course design. The Tribunal considers that if so many vehicles in Targa Tasmania events are so regularly moving in excess of 200km/h, the design of the course is inappropriate and/or the Technical Regulations which permit vehicles with power to weight ratios significantly in excess of WRC cars, require revision.

9.2.14. Targa also submitted that the introduction of additional virtual chicanes to avoid a 200km/h speed limit to be exceeded would see increased wear on tyres and brakes creating a safety risk. However, meeting a terminal speed limit of 200km/h does not necessarily require the addition of a virtual chicane. Where a long stage features a fast section where speeds in excess of 200km/h might be achieved, the organisers can consider "*splitting*" the stage to delete the fast section.

Alternatively, while the Tribunal is not in favour of a rule which would require drivers to constantly monitor their vehicle's speedometer, the RallySafe system could be programmed to signal a terminal speed warning on screen when a speed approaching 200km/h has been achieved. Further, the Targa Tasmania course already features a number of restricted time zones. Targa's suggestion that additional zones may lead to brake or tyre failure more than likely to result in a crash of some sort is dramatic and disproportionate. If that were true, such a risk arises from the existing restricted time zones.

9.2.15. The Tribunal is left with the impression from the Targa response that Targa is willing to introduce a speed limit of 210km/h. This is proposed on the basis that it will affect fewer cars than a speed limit of 200km/h. The Tribunal takes the view that if Targa is willing to introduce a speed limit of 210km/h for some cars, there is no logical reason why it cannot introduce a speed limit for 200km/h.

9.3. **Recommendation 2 – Identified Risk: High terminal speeds achieved in Stages**

That artificial speed reduction methods such as chicanes (physical and virtual) and Restricted Time or Restricted Speed Zones, <u>not</u> be used <u>solely</u> as a means of artificially reducing the average speed of a Targa Stage.

9.3.1. The Tribunal notes that the use of the above in such circumstances does nothing to improve the safety of competitors if the sole purpose is simply to reduce the average speed, where elsewhere in the same Stage, competitors can achieve speeds of 200km/h or more.

9.3.2. Since the provision of its draft report to Targa, the Tribunal has become aware that, until now, vehicles competing in speed limited categories in Targa events have been exempt from the requirement to obey virtual chicanes. If, as Targa suggests, many restricted speed zones are placed to protect corners at the end of long straights, that rationale applies not just to vehicles in the unrestricted competition field but also to those in the speed limited categories, particularly given that they have lower safety requirements. If a corner after a long straight is deceptive and hazardous, it presents the same risk for a vehicle travelling at 130 km/h on entry.

9.4. **Recommendation 3 – Identified Risk: High terminal speeds achieved in Stages**

That no Targa Stage should be permitted to have an average speed exceeding 132 km/h. Should a stage average exceed this maximum the stage must not be used without modification acceptable to the Safety Assessor, in a following year.

9.4.1. This limit is mandated by the FIA for International Rallies and is widely accepted globally. It is achieved by responsible and considered course design, notwithstanding "tradition" and "historical iconic stages".

Stages which have high average speeds by their very nature tend to have sections of road where terminal speeds exceed 200km/h. In an event such as Targa Tasmania, where the stages are lined with large trees and also electricity or phone poles, often on the outside of corners, this presents an unacceptable risk to competing crews.

9.4.2. Targa submitted that Recommendations 1, 2 and 3 should be implemented concurrently. The Tribunal concurs. Targa submitted, however, that Recommendation 3 is unnecessary because it is already implemented. The Tribunal disagrees with the suggestion that Recommendation 3 is not required given that data from Targa Tasmania 2021 demonstrates that the 132kph average speed limit was exceeded in a number of instances. Where that occurs, the stage should not be permitted to run again in the same configuration. The Tribunal's recommendation is entirely consistent with the Motorsport Australia Tarmac Rally Standing Regulations in this regard.

9.5. **Recommendation 4 – Identified Risk: Car leaving the ground or encountering another feature which results in loss of control through suspension design**

That without exception, the organisers implement Restricted Time Zones prior to any potential hazard (crest/jump, dip) which could potentially cause a car to reach its suspension limits.

9.5.1. The Tribunal accepts that this will effectively mean the elimination of cars getting "air" and hence some photo opportunities will be lost, however for as long as there is evidence that these situations have the potential for serious crashes, there appears no other suitable solution. A significant number of competitor submissions proposed this solution.

9.5.2. The Tribunal notes the importance of identifying such locations. It considers this could be done in two ways. Firstly, by the Safety Assessor (refer Recommendation below) and secondly through the use of technology such as that presented in the very detailed submission by Mr Peter Rullo, CEO of the IS Group. It is further strongly recommended that the Organisers review Mr Rullo's submission.

9.5.3. The Tribunal also notes that Mr Rullo's proposal is very similar to that proposed in Recommendation 20 of the AIMSS Review of Rally Safety 2016.

9.6. **Recommendation 5 – Identified Risk: Complacency due to Familiarity with Route**

That the organisers dispense with the concept of running a route each year which closely replicates that of previous editions, instead designing a route which has variants in both stage and itinerary design.

9.6.1. The Tribunal notes a number of submissions that indicate a certain "familiarity" with running essentially the same route each year. It has been submitted to the Tribunal that this encourages complacency and less desire to perform reconnaissance. It is also noted that Targa New Zealand frequently changes stage configurations, runs some stages in the reverse direction to the previous year and introduces new stages.

9.6.2. The Tribunal also notes that this would provide a greater incentive for crews to complete reconnaissance each year, thus familiarising them with stage conditions that are "current".

9.6.3. The Tribunal's recommendation is based on evidence received by the Tribunal that many competitors in Targa Tasmania choose not to undertake reconnaissance of the entire route, instead choosing to rely on the fact that they undertook reconnaissance of an apparently unchanged stage in prior years and use pace notes purchased from a commercial provider. Road surfaces deteriorate over time. Bumps or holes might have appeared since the last time the stage was run. A roadside obstacle may have been erected since the stage was last run even though the road itself is unchanged.

9.6.4. The Tribunal does not intend to prohibit the re-use of stages in exactly the same format in successive years where alternative options are not available. The Tribunal is acutely aware that the Targa High Country event presents very limited opportunity for course variation. The Tribunal's recommendation should be understood as aspirational. Where possible, safe and appropriate, the reversing of direction of just one stage in each leg of the course would normally require crews to undertake reconnaissance of the reverse stage and because they need to travel to get to that stage, they are more likely to undertake reconnaissance of even unchanged stages on that leg.

9.6.5. The Tribunal also recognises that major changes in route and itinerary require extensive forward planning and that it may not be possible to make significant changes to the route from year to year. However, the Tribunal is of the view that it is not overly burdensome on an organiser for them to be requested to consider the use of a side-roads off an existing stage or the splitting of long stages into two as a means to introduce some level of change to incentivise reconnaissance.

9.7. **Recommendation 6 – Identified Risk: Driver Fatigue**

That the Organisers revisit each day's scheduling to increase the time allowed on Transport Stages and to also allow for sufficient time for crews to take refreshments, plus time to carry out appropriate checks on their vehicles, whilst avoiding where possible, making the duration of each day, and the event in general, any longer.

9.7.1. The Tribunal recognises that this may mean the dropping of certain stages.

9.8. **Recommendation 7 – Identified Risk: Hazards that exist off the edge of the road**

That in designing the route, the Organisers should attempt to identify any major hazards that are located in potential run off areas. These would include ravines, lakes, dams and water courses, and buildings such as those in the car 627 incident. In each case the Organisers should conduct a Targeted Risk Assessment to determine the likelihood of a loss of control, and the consequences of same.

9.8.1. Where the risk is high or extreme, it should either be eliminated or mitigated against, either by minimising the likelihood of loss of control or by protection of the relevant hazard. In the case of significant water hazards (and it is not implied that Double Barrel Creek falls into this category), some form of emergency rescue resource should be considered.

Vehicle Type and Preparation and Related Issues

9.9. **Recommendation 8 – Identified Risk: Car or its set-up not "Fit for Purpose"**

That the Organisers embark on a significant pre-entry educational campaign informing potential competitors of the risks involved with the entry of some types of vehicles or types of suspension set-ups.

9.9.1. Ideally this would take the form of a very short video presented by a high profile, credible experienced driver. The video could be prepared in conjunction with Motorsport Australia and be used for all tarmac rally events.

9.9.2. It should be noted that the Tribunal has not considered limiting the types of vehicles that are eligible for this event, however it does hold serious reservations about the use of some modern GT or sports cars which are set up primarily for circuit use, by inexperienced or unqualified drivers.

9.9.3. The Tribunal has recommended the re-establishment of the Tarmac Rally Working Group and suggests that Targa and other major tarmac rally organisers should be represented on that Group. Such a Working Group will be well qualified to design an appropriate education campaign of the kind suggested by the Tribunal. The Tribunal considers that the cost burden of such a campaign should be shared by Motorsport Australia and event organisers. Targa Tasmania in particular is unique in that the course is much longer than other tarmac rallies and the road and surface conditions tend to vary more than they do for events such as Targa West and Adelaide Rally. The Tribunal also considers that Targa, along with other rally organisers, share in the responsibility of educating competitors.

9.10. **Recommendation 9 – Identified Risk: Car or its set-up not "Fit for Purpose"**

That the Organisers in conjunction with Motorsport Australia, investigate the development and implementation of a system where vehicle set-ups can be independently assessed for suitability, well prior to an event and that a written report be provided with recommendations where necessary.

9.10.1. The Tribunal recognises this will potentially entail issues of liability, however encourages the parties to endeavour to find a means of implementing such a system.

9.11. **Recommendation 10 – Identified Risk: Loss of Control of Car**

That the regulations for Tarmac Rallying be amended to permit entrants in Targa Tasmania to use an additional 4 "wet weather tyres", as defined by Motorsport Australia.

9.11.1. The Tribunal considered the banning of R Specification tyres and their replacement with "road tyres" (in addition to the allowing of 4 wet weather tyres), noting that these would reduce cornering speeds and potentially extend tyre life. It also noted that banning R Specification tyres was a preference of the Organisers. However, whilst this would be a suitable solution in most cases, for some vehicle types, due to wheel size, an appropriate "road tyre" would effectively have the characteristics of an R Specification tyre, thus defeating the purpose of the exercise and providing those vehicles with a competitive advantage.

9.11.2. Having noted the large number of cars that ran off the road in the wet Mt Arrowsmith stage and noted similar occurrences in previous editions of the event on numerous stages, it is the Tribunal's strong belief that wet weather tyres should be permitted if the Organisers wish to run competitive stages in wet weather.

9.11.3. The alternative would be to require any wet stage to be downgraded.

9.11.4. Targa submitted that to allow additional tyres suitable for wet conditions will increase risk because it will enable higher corner speeds when the current tyre restrictions mean that crews must "manage" a limited number of tyres for the duration of the event. Targa also submitted that a change to the tyre rules is unnecessary and that the lack of grip in wet conditions is more likely explained by crews choosing to start the event on worn tyres.

9.11.5. The Tribunal respectfully disagrees with Targa's objections to this Recommendation. The Tribunal received overwhelming evidence in the form of videos and expert opinion that dry weather R compound tarmac rally tyres are not suitable for use in wet (as distinct from damp) conditions. The Tribunal reviewed numerous videos which depicted cars losing traction on wet roads when using such tyres. The event leader,

Jason White, crashed out of this year's event on day two when his car hit a river of water running across the road 200 metres from the finish line on the Moorina Stage.

9.11.6. The Tribunal remains firm in its conclusion that dry weather R compound tarmac tyres are not suitable for use in tarmac rallies where water has pooled on the road surface. The Tribunal sees no merit in Targa's suggestion that crews be required to start Targa Tasmania with new tyres because there is no evidence received by the Tribunal that the unsuitability of R compound Tarmac tyres is attributable to a choice by competitors to start the event on used tyres. The Tribunal would be surprised if many competitors elected to do so in any event. The tyres on car 602 when examined were within their wear limit, as were the tyres on car 902, videos of which showed the driver to have been experiencing significant control issues in wet conditions.

9.11.7. It is well understood to be unsafe for a car to be driven on slick tyres on a race circuit which has been specifically designed to ensure water runoff, unlike a tarmac rally stage. In wet conditions on circuits, competitors are permitted the option of using a purpose designed wet or intermediate tyre.

9.11.8. The Tribunal recognises that its recommendation will present some challenges for reasons identified by Targa. Some crews may not have the support resources to change to wet tyres and back to dry tyres between stages on a given leg. However, the Tribunal disagrees with Targa's suggestion that to permit competitors to use an alternative tyre more suitable for wet conditions will give them an unacceptable sporting advantage. If they choose a wet R compound tyre, it will wear quickly if conditions dry, thereby limiting the performance of the car. If they choose a traditional road tyre for wet conditions, that tyre will have a sporting disadvantage compared to a dry tarmac tyre when used on a dry road if conditions dry.

9.11.9. The problem identified by the Tribunal is that the current tyre restrictions effectively demand that competitors use a "hard" dry R compound tyre which is completely unsuitable for wet conditions.

Driver/Crew Preparation and Suitability

9.12. **Recommendation 11 – Identified Risk: Driver Skill not Matching Potential of the Car**

That the Organisers and Motorsport Australia, through its Australian Rally Commission and National Medical Committee, develop a tiered licensing system for Tarmac Rallying, that takes into account the very high-performance vehicles that are eligible to compete in such rallies and which considers and assesses a driver's experience, ability to drive such a car, and physical state to manage the demands of driving such a vehicle in tarmac rally competition.

9.12.1. The Tribunal is strongly of the view that it would be irresponsible to continue to allow a driver who is inexperienced or not in possession of the necessary skill, to drive a high-performance car, primarily designed for circuit use, with upwards of 500 horsepower, at an event such as Targa Tasmania.

9.12.2. The Tribunal also notes that in the early years of Targa Tasmania there was a requirement for a driver's ability to be assessed and for driver training to be mandatory for certain drivers lacking the necessary experience.

9.12.3. In the development of a tiered licensing system, consideration should also be given to an assessment of whether or not a driver who is moving from one discipline of motorsport (such as circuit racing or gravel rallies) is competent to make the transition to tarmac rallies.

9.13. **Recommendation 12 – Identified Risk: Driver Personal Medical Condition**

That the National Medical Committee of Motorsport Australia, working with the FIA Head of Medical and Rescue, investigate the appropriateness or otherwise, of drivers in Tarmac Rallying being assessed prior to being granted a license to compete.

9.13.1. The Tribunal notes that this is a sensitive subject, that it would require a determination by Motorsport Australia as to at what level of competition this would be required (e.g., possibly based on potential vehicle performance, age of driver etc).

9.13.2. Based on submissions received, the Tribunal believes there is strong support for this within the competitor base, and that both physical and mental health factors should be included in any assessment.

9.14. **Recommendation 13 – Identified Risk: Driver Personal Medical Condition**

That the Chief Medical Officer (and/or, if the position is created – see below – the Medical Delegate) have access to the medication report submitted by each crew member to the Organisers, and that this be supplemented with an allergy report.

9.14.1. This recommendation is based on the submission of Dr Hagen who noted that the availability of such information can be important for a medical crew intervening at an incident.

9.14.2. It is important that Motorsport Australia ensure that each individual's privacy is appropriately protected and therefore this item should be included in the investigation of the National Medical Committee referred to in Recommendation 12.

9.15. **Recommendation 14 – Identified Risk: Driver and Co-Driver Preparation and Awareness**

That the Organisers in conjunction with Motorsport Australia, prepare series of short video educational tools, with the ability to track who has watched them, to assist in the preparation for, and awareness of the risk of competing in, Tarmac Rallies. These videos should come in modules focused on the challenges of events like Targa Tasmania, personal and vehicle preparation (see also Recommendation 8), writing and interpreting pace notes, operation of the RallySafe System, seeking assistance after a crash etc. (Refer also Recommendation 15).

9.16. **Recommendation 15 – Identified Risk: Inability to seek assistance on course**

That a standard "signal" be agreed upon by the Organisers and Motorsport Australia, which a driver, co-driver or official can use to indicate to following competing cars, that urgent rescue or medical assistance is required.

9.16.1. The Tribunal notes most rally cars carry an OK sign and an SOS sign. However, in some cases, especially in an emergency such as that experienced with car 602, it is not possible to retrieve a sign from the car. Therefore, a simple, easily recognised signal needs to be agreed upon.

9.16.2. In the case of car 602, the co-driver attempted to wave down at least one following car. However, it appears the crews of the following cars believed he was simply warning them of another car off the road (but not in danger).

9.16.3. It is suggested that consideration be given to using crossed arms as such a signal.

9.16.4. This could be used for all rally and off road events in Australia.

Safety Systems and Processes

9.17. **Recommendation 16 – Identified Risk: Potential Hazards on Route and Stage Safety**

That Motorsport Australia, on advice from the Australian Rally Commission, restructure the process for pre-event checking of each tarmac rally, with a division of responsibilities between an Administrative Checker and a Safety Assessor. The Administrative Checker would be responsible for most of the activities currently performed by the Event Checker. The Safety Assessor, who would be an experienced tarmac rally driver, would, well in advance of the release of the route each year, drive every stage and assess suitability of a stage from a speed, hazard and safety of crews, officials and general public perspective. Risk mitigation procedures or initiatives would be determined by the Safety Assessor. Both the Administrative Checker and Safety Assessor would

be responsible to Motorsport Australia and not to the event Organisers. A position description including roles and responsibilities should be drafted for each of the above.

9.18. **Recommendation 17 – Identified Risk: Potential Hazards on Route and Stage Safety**

That the creation of the positions of Safety Delegate and Medical Delegate be considered by the Australian Rally Commission of Motorsport Australia, for appointment to each Tarmac Rally. These two positions would have oversight responsibility "on event" and would be responsible to Motorsport Australia. The Safety Delegate would have power to downgrade or cancel a Stage. The Medical Delegate would have the responsibility to approve the event medical and rescue plan. A position description including roles and responsibilities should be drafted for each of the above.

9.18.1. The Tribunal understands that Motorsport Australia is already considering changes which are consistent with the above two recommendations.

9.19. **Recommendation 18 – Identified Risk – Crew Members not understanding RallySafe Operation**

That the Organisers, Motorsport Australia, Rally Organisers in general and RallySafe work together to create an effective (preferably video-based) educational tool to ensure that every crew member in a car equipped with RallySafe fully understands its operation and the processes to be employed in the event of an incident.

9.20. **Recommendation 19 – Identified Risk – Officials not understanding RallySafe Operation**

That the Organisers, Motorsport Australia, Rally Organisers in general and RallySafe work together to create an effective (preferably video-based) educational tool to ensure that every official, particularly those involved in incident management both in the field and at Rally Command, fully understands its operation and the processes to be employed in the event of an incident.

9.21. **Recommendation 20.– Identified Risk – Crews not performing reconnaissance**

That Motorsport Australia ensures Organisers enforce the requirements of Article 13.5 (e) of the Motorsport Australia Tarmac Rally Standing Regulations viz: "Each crew that is using Safety Notes must declare that they have conducted as a minimum a single reconnaissance of each Targa Stage in the event."

9.21.1. The Tribunal notes that a significant number of competitors use Smoothline "Safety Notes". It has heard evidence that because of the repetition of stages from year to year, many crews do not perform reconnaissance of each stage of the event. The Tribunal sees great merit

in requiring all crews who use these Notes to perform a full reconnaissance every year. Refer also Recommendation 5.

9.21.2. Targa submitted that prior to the 2021 Targa Tasmania event a number of competitors were unable to enter Tasmania earlier to undertake reconnaissance of the route. The Tribunal notes and understands Targa's response about the challenges presented by the Covid-19 pandemic. However, if border restrictions prevent crews in the unrestricted competition field from undertaking reconnaissance, the Tribunal is of the view that the event should be deferred until they can do so.

9.21.3. The Tribunal recognises that it is not possible for the organiser to police and verify when and by whom reconnaissance is conducted. The Tribunal agrees that competitors in the unrestricted competition field should be required to sign a statutory declaration. The declaration should require each competitor in the unrestricted competition field to confirm that they have undertaken one pass of reconnaissance of each and every stage in the event as a precondition to being permitted to start. The declaration should require the competitor to declare the date on which they undertook reconnaissance of each stage.

9.21.4. The Tribunal considers that mandatory reconnaissance may be unnecessary for competitors in speed limited categories. However, a clear warning of the risk of competing without having undertaken reconnaissance should be given and a disclaimer signed.

9.21.5. Crews in the unrestricted competition field who do not wish to undertake reconnaissance or who have not signed the requisite declaration, should be transferred to a speed limited category.

9.21.6. The Tribunal is strongly of the view that there is no occasion for a prospective competitor in an unrestricted tarmac rally competition to elect not to undertake reconnaissance, however time consuming

9.22. **Recommendation 21 – Identified Risk – On-event Communications**

That Targa Tasmania conduct a thorough review of its Communications Network and implement, by the 2022 Event, an effective and efficient Communications Network which comprises at least the following:

A. Radio communications between Rally Command and each Start and Finish of each Stage, plus each Medical Intervention Vehicle and Course Car, in the Field

B. Internal Stage Communication to ensure that every Start, Finish and SOS Radio Point can communicate with each other

C. A system that enables the manual Positive Tracking of Cars within each stage to be replicated at Rally Command

9.22.1. The Tribunal understands the challenges that the terrain of Tasmania presents in relation to communications. However, this event is a high risk, high profile major event. As was identified in the incident involving car 602, internal stage communications were intermittent, there was no ability except by satellite phone (which was not always reliable) to communicate from within a stage to Rally Command (something which the Tribunal regards as essential) and communications between stage Starts, Finishes and Rally Command was typically by mobile phone (which the Tribunal regards as not ideal for on-event management).

9.22.2. On some days of the event, implementation of Recommendation 21 will probably entail the deployment of a fixed wing IFR aircraft carrying a series of radio repeaters. This will obviously incur significant cost to the Organisers, however in the interest of safety, the Tribunal cannot see any alternative. It would not be unreasonable to cover this additional cost through a levy on competitors who are the ultimate potential beneficiaries of the deployment of such a system.

9.23. **Recommendation 22 – Identified Risk: Failure to Identify, and be able to Intervene for, a Missing Car**

That the Organisers implement a Positive Car Tracking System to be approved by Motorsport Australia and that consistent with Recommendation 21, this system be replicated at Rally Command. Further, that cars be positively tracked at each SOS point which as a general guideline, should be no more than 10 kms apart. Medical Intervention Vehicles should be stationed generally no more than 15kms apart however because the stages are generally fast, this could be extended to 20 kms.

9.23.1. Currently the event implements a tracking system that positively reports the departure of each car at the Start of each Targa Stage. However, there is no system in place that positively reports the passage of each car past each SOS point. In the Tribunal's view, this is a serious issue. Technology such as RallySafe has made rallies much safer than in the past, however technology is not infallible. The implementation of a genuine Positive Tracking System such as employed at Rally Australia, using the "ripple" radio call system, would ensure that, provided SOS points are sensibly located, a missing car would be identified within minutes independently of the RallySafe system.

9.23.2. When combined with point C of Recommendation 21, this would provide the Clerk of the Course at Rally Command with essential information that could well save a life.

9.23.3. It is strongly recommended that the Organisers consult with experienced WRC Officials such as Mr Adrian Stafford, who could assist

in providing details of how such a system could easily be implemented at Targa Tasmania.

9.23.4. The Tribunal notes that currently the distance between “tracking points” (which can be between the Start and SOS points, of between adjacent SOS points) varied, but is often in excess of 12 kms. The international standard is 5km. However, in the case of Targa Tasmania where the transit time between points is quite short, a distance of 10kms could be considered as reasonable.

9.23.5. In his report, the Chief Medical Officer comments on the desirability of having two additional Medical Intervention Vehicles. It is quite likely that if these are to be stationed no more than 20 km apart, more Medical Intervention Vehicles may be required.

9.23.6. Targa submitted that the positive tracking requirement in the Standing Regulations (adopting the definition in the National Rally Standing Regulations (NRSR)) was complied with at Targa Tasmania 2021. The Tribunal respectfully takes issue with this assertion. The Tribunal refers to the Targa SOS Point Procedure Manual. This manual describes a "*passive tracking*" system. The tracking procedure set out in section 4 of that manual does not conform to the NRSR in two important respects. First, article 1.9(b) of the NRSR suggests that it is expected that where the interval between cars is less than two minutes, this would be the maximum reporting interval at all times, and ideally reporting should be at least every minute. In Targa events, cars start at 30 second intervals. The Start Tracker calls a group of 4 cars after 4 cars have started and waits to receive a radio transmission from the Finish Tracker that those 4 cars have completed the stage. Targa Tasmania features a number of long stages, the longest of which is Mount Arrowsmith with a stage length of over 52kms. The fastest car completed that stage in nearly 24 minutes, the slowest car in over 34 minutes. It follows that under the Targa procedure nearly 34 minutes could elapse before the absence of a car which commenced that stage is noted. While the Targa procedure contemplates Intermediate Trackers at SOS points, their role is to listen and record numbers in the same format. The procedure merely attributes a recording function to the Intermediate Trackers, not a responsibility to confirm a "*line*" or *"group*" of cars to the Start and Finish Trackers. Moreover, the evidence received by the Tribunal revealed that there were no radio communications operating between the Start and Finish Trackers on the one hand and Rally Headquarters on the other, let alone between the Intermediate Trackers and Rally Headquarters.

9.23.7. Although Targa suggests that the positive tracking procedure was conformed with on the stage that saw the fatality in car 602, there is no evidence that the Intermediate Tracker at SOS 3 (the SOS point following the incident location) reported the absence of car 602 to the

Start or Finish Tracker on that stage or that there was any other communication from any tracking point to Rally Headquarters of the absence of car 602 until it was discovered by the 999 crew.

9.23.8. The key function of positive tracking is to identify missing cars and their location to Rally Headquarters because the decision to dispatch an emergency response crew lies with the Clerk of the Course. In the absence of prompt communication of information by the stage trackers to Rally Headquarters, any tracking undertaken is of little assistance.

9.24. **Recommendation 23 – Identified Risk: Intervention in the case of a Missing Car**

That the Organisers document precisely, the procedure to be followed within Rally Command, in the event of a suspected missing car, as identified either through the RallySafe System or through Positive Car Tracking System. This procedure should, in particular, take into account the case where it can reasonably be suspected that a car is missing and no "OK" report has been received, that a Medical Intervention Vehicle can and should be dispatched immediately.

9.24.1. The Tribunal notes that the Organisers have documented a very precise procedure for the dispatch of a Medical Intervention Vehicle (Safety Plan, commencing page 46). Similar documentation should be prepared for actions that are to be taken in Rally Command and the timeframe for each action.

9.24.2. It is noted that it is a lot easier in Targa Tasmania than in other events, to dispatch a Medical Intervention Vehicle because the Organisers have developed a system whereby the stage is not necessarily stopped. This is outlined in the Safety Plan commencing on page 46.

9.24.3. The Tribunal is well aware that the advent of the RallySafe system has meant that Rally Command now has the benefit of "*real time*" tracking of cars. However, manual positive tracking is an important "*backup*" and verification tool. The fact that car 602 was stopped and had transmitted a rollover signal, yet no response crew was dispatched to car 602's known position before the 999 crew arrived, only serves to reinforce the Tribunal's position on the need for such a backup system.

10. RECOMMENDATIONS CONCERNING THE CONDUCT OF TARMAC RALLIES IN AUSTRALIA

10.1. The Tribunal considers that its 23 Recommendations herein broadly cover issues that potentially could arise at other Tarmac Rallies in Australia.

10.2. However, there is one issue on which the Tribunal wishes to make comment. During its conduct, a (small) number of competitors expressed the view that they are well aware of the dangers of competing in an event such as Targa Tasmania, and that therefore it was up to them, as individuals, to decide the level of risk they will tolerate and expose themselves to.

10.3. This Tribunal holds a contrary view. It does so not only on a "philosophical" basis but also on a pragmatic one. It believes it has a responsibility to comment on this.

10.4. The reasons this Tribunal believes that is it not solely the right and responsibility of each individual to decide the level of risk they are willing to be exposed to, are as follows:

10.4.1. The death or serious injury (including total and permanent incapacity) does not just impact the deceased or injured party. It impacts their immediate family both emotionally and financially. It also impacts their friends, and it impacts others involved in the event, in particular the intervention teams and organisers. The financial demands in the case of a totally and permanently disabled person are extremely high, on family, community and society in general.

10.4.2. A death or serious injury also impacts the image of motorsport, rallying and this event in particular. The sport relies on the support from many external sources, from individuals, local and state governments and corporations. Frequent fatalities or serious injuries have the potential to lead to a loss of support, or worse (as has been seen in other countries, and in New South Wales in 1968) prohibitions and restrictions on the conduct of the sport.

10.4.3. Of a pragmatic nature, each death or serious injury involves not only financial hardship for the family concerned, it also comes with great cost to the organisation and the governing body. Insurance premiums inevitably rise as a result of claims and this cost is borne, ultimately, by all competitors. In a worst-case scenario, cover may become unobtainable for some events or types of events, which could see their demise.

10.4.4. Government legislation is applicable to many incidents. An enquiry by a government authority can be extremely time consuming for all parties involved. Around the world, such legislation has developed to a stage where there are potentially severe penalties that could be applied.

10.5. The Tribunal notes that until approximately 10 years ago, the Australian Rally Commission had a Tarmac Rally Working Group which provided it with

experienced and expert advice on tarmac rallies. The recent restructure of the Commission has resulted in a smaller commission comprising a number of Commissioners with experience as either a tarmac rally organiser or competitor. The Tribunal believes it logical that Motorsport Australia should encourage the Commission to re-establish a Tarmac Rally Working Group and to ensure it is involved in the drafting and implementation of any regulatory or procedural changes arising from its Recommendations, that Motorsport Australia ultimately adopts. The Working Group could comprise some members of the current Australian Rally Commission, supplemented by a small number of specialists including an additional organiser and an additional experience competitor. This would ensure that the Commission was appropriately advised on matter pertaining to the regulation of Tarmac Rallies in Australia.

11. TIMEFRAME FOR IMPLEMENTATION OF RECOMMENDATIONS

11.1. It is recognised by the Tribunal that the implementation of many of its Recommendations will not be immediately possible. Therefore, it is proposed that Motorsport Australia consider implementation with effect from March 1, 2022.

11.2. In the interim however, it is proposed that Motorsport Australia work with Organisers to attempt to implement as many of the Recommendations as are possible, and where it is not possible, to conduct a targeted risk assessment in order to determine what if any mitigation processes need to be put in place.

12. **IN CONCLUSION**

12.1. It is acknowledged that the adoption of some of the Tribunal's recommendations will entail significant costs to the Organisers which ultimately will most likely need to be passed on to Competitors. Whilst this will be unpopular, the Tribunal believes that these improvements are essential to save lives, serious injuries and, from a financial perspective, to minimise the destruction or damage of vehicles and property which, if 2021 is to be taken as an example, would approach or even exceed seven figures.

12.2. Finally, the Tribunal would like to express its sincere appreciation to those who appeared before it at Hearings, those who made written submissions (each of which was carefully examined and noted) and those who submitted other items of evidence. We particularly note the contribution and cooperation of the Organisers and those witnesses who were very close to the deceased parties, [redacted]

12.3. The Tribunal also acknowledges and applauds the valiant efforts of Mr Glenn Evans in trying multiple times to rescue his fellow crew member of car 602.

12.4. We also wish to place on the record our thanks to our Executive Officer Tamara Joy and her replacement Curtis Deboy, and Motorsport Australia's Scott McGrath and David Stuart for their very detailed reports.

The Tribunal

Matthew Selley

Neal Bates

Garry Connelly

1 September 2021

APPENDIX

Appendix A - Evidence presented (Reports, Documents, Photos, Videos, Data etc)

The Tribunal received many reports, videos, photographs and data pertaining to the event and specific incidents. A complete list of the evidence is below, containing 829 such pieces of evidence (numbers indicated in parentheses where applicable).

A large volume of email correspondence was also received. Due to the sheer volume and confidential, sensitive nature, these have been excluded from the below list and have been filed confidentially.

Unless otherwise stated, all evidence should be considered private and confidential due to the sensitive nature of the incidents.

Item	Type
Multiple written submissions and attachments (31)	Voluntary written submissions
Detailed submission by Targa Australia to the draft Report and Findings of the Tribunal	Organiser response to proposed Recommendations of the Tribunal
Entrant details, licence, registration, medical, claim form (6)	Competitor and vehicle data
Incident reports (2)	Official report
Incident video (1)	Video
Incident photos (10)	Photo
Scrutineer form	Official report
Start and finish tracking sheets	Official report
Targa Tasmania Briefing Presentation	Organiser communications
Various Stewards reports and paperwork (starting orders, classifications, infringement notices, penalties, bulletins) (36)	Stewards' reports
999 in-car footage	Video
999 car report	Official report
Entrant details, licence, registration, medical (6)	Competitor and vehicle data
Photos of incident and scene (133)	Photo
RallySafe incident list	Screenshot
Road book pages (2)	Stage information
Condition blue form	Stage information
Rally command log excerpt	Official report
Scrutiny tracking form	Official report
Stewards log	Official report
Photos of stage prior to incident (13)	Photo
Vehicle inspection photos (146)	Photo
Pre-event reconnaissance report	Word document
Motorsport Australia Preliminary Investigation Report Car 602	Motorsport Australia report
Motorsport Australia Critical Incident response Car 602	Official report
Various RallySafe data pieces (8)	RallySafe data

Incident (and relevant) videos (4)	Video
Entrant details, licence, registration, medical (6)	Competitor and vehicle data
Motorsport Australia Critical Incident response Car 902	Official report
Rally command log excerpt	Official report
Stage map	Stage information
Road book page	Stage information
Road Stewards Log	Official report
Scrutineering form	Official report
Service Crew Disclaimer	Vehicle and crew paperwork
Stewards Log Car 902	Official report
Rollcage and log book information	Vehicle information
Photos of incident and scene (169)	Photo
Vehicle inspection photos (162)	Photo
Motorsport Australia Preliminary Investigation Report Car 902	Motorsport Australia report
Motorsport Australia Car Inspection Notes	Motorsport Australia report
Various RallySafe data pieces (9)	RallySafe data
Cygnet Stage information (13)	Stage information
Incident (and relevant) videos (3)	Video
CMO Report	Official report
Various Medical Reports (11)	Official report
Recovery Team Photos	Photo
Safety plans, regulations, operations manuals (12)	Organiser information
Reconnaissance notes, road books, maps (5)	Stage information
Reports and video on top and average speed (7)	Car speed information
Incident report	Official report
Rally checker's pre-event report	Official report
Rally checker's post-event report	Official report
Competitor Medical Information	Medical information
Responses to Tribunal Questions by Targa	Responses from event organiser
Targa event timeline	Timeline

TARGA TASMANIA 2021 INVESTIGATORY TRIBUNAL

ADDENDUM REPORT

Investigatory Tribunal Appointment of Members

1. On 30 April 2021 the Motorsport Australia CEO, Eugene Arocca, established a special Investigatory Tribunal under Motorsport Australia's National Competition Rules.

2. Garry Connelly AM, Motorsport Australia's *Federation Internationale De L'Automobile* Delegate and Chair of the Australian Institute of Motor Sport Safety was appointed as Chair of the Tribunal. Matthew Selley and Neal Bates were appointed as Members of the Tribunal.

3. The Tribunal remains so constituted.

Terms of Reference

4. The Terms of Reference issued to the Tribunal by Motorsport Australia's CEO directed the Tribunal to investigate and report on fatal crashes involving Cars 602 and 902 in the 2021 Targa Tasmania event and to make recommendations to the Board of Motorsport Australia for steps to be taken to mitigate the risk of death or injury to participants in Tarmac Rallies conducted in Australia.

Method of Inquiry

5. The Tribunal has conducted its investigations and hearings in accordance with the Judicial Appendix to the 2021 Motorsport Australia Manual and the Guidelines therein.

Report 16 September 2021

6. On 16 September 2021 the Tribunal published a detailed report on its investigations to the Board of Motorsport Australia (**First Tribunal Report**).

Post-report submission received from Mr Glen Evans

7. On 28 October 2021, following the publication of the First Tribunal Report, Glenn Evans, the co-driver in Car 602 in the 2021 Targa Tasmania Event, wrote to the Motorsport Australia CEO to express his misgivings that he had not been invited by the Tribunal to give evidence to it, before the Tribunal published the First Tribunal Report. Mr Evans also submitted that some of the

observations made by the Tribunal in the First Tribunal Report regarding the context and circumstances of the fatal incident involving Car 602 were incorrect.

Tribunal Reconvened

8. Upon receipt of Mr Evans' submission to the CEO, the Tribunal determined to reconvene to consider Mr Evans' submission and to afford Mr Evans an opportunity to present evidence to the Tribunal, should he wish to do so.

9. The Tribunal took evidence from Mr Evans via video link at a hearing on 12 November 2021. At the same hearing the Tribunal received further evidence from Mr Stephen Sims, the principal of RallySafe.

Mr Evans' submission and evidence and the Tribunal's response

10. Mr Evans' submission dated 28 October 2021 to which he spoke at the hearing on 12 November 2021, raised the following propositions, the Tribunal's response to which appears below.

A. Mr Evans observed that he was not expressly identified in the Tribunal's first Report as a witness despite having been interviewed by Mr Scott McGrath, Division Manager – Technical Motorsport Australia, on 6 May 2021.

11. The Chairman of the Tribunal explained to Mr Evans at the hearing on 12 November 2021 that the Tribunal elected not to expressly invite Mr Evans to appear before the Tribunal to give evidence earlier, only because the Tribunal was aware that Mr Evans had been interviewed at length by Mr McGrath on 6 May 2021 and the Tribunal had received a detailed account of that interview by way of a written report from Mr McGrath.

12. The Chairman explained that the Tribunal had proceeded on the understanding that what Mr Evans had shared with Mr McGrath reflected his recollection of events and observations as to the cause of the accident and perceived shortcomings regarding the response to that accident, and assured Mr Evans that this information had been carefully reviewed by the Tribunal.

13. The Chairman further explained to Mr Evans that the Tribunal was sensitive to the fact that the incident must have been traumatic for Mr Evans and concluded that, unless Mr Evans specifically sought an opportunity to present evidence to the Tribunal, the establishment of which had been

widely reported, the Tribunal did not wish to cause distress to Mr Evans by requiring him to re-live the events in question.

14. The Tribunal had also noted that it had not received a written submission from Mr Evans after the call for written submissions from interested parties had been publicly announced on 17 July 2021. The non-receipt of a submission from Mr Evans had confirmed the Tribunal's expectation that Mr Evans did not wish to have any input beyond the account that he had given to Mr McGrath.

15. The Tribunal acknowledges that Mr Evans was the only eyewitness to the incident involving Car 602 and that his observations as to what occurred are unquestionably important and the Tribunal apologises to Mr Evans for any offence which may have been caused by the omission in the First Tribunal Report, of an express reference to the evidence he gave to Mr McGrath.

16. The Tribunal expresses its appreciation for the assistance Mr Evans provided to the Tribunal by participating in the detailed interview by Mr McGrath and for his subsequent contribution by the submission and the evidence he gave at the hearing on 12 November 2021.

B. Mr Evans submitted that the Tribunal's observation in the First Tribunal Report that Mr Evans sustained minor injuries in the accident is incorrect.

17. The Tribunal's observation in the First Tribunal Report that Mr Evans sustained minor injuries in the incident was drawn from Mr McGrath's Report. According to that Report, Mr Evans had been transported from the scene of the accident by ICV to Derwent Bridge and then transported by another MIV to the Hobart Hospital for observation. An injury to his finger was noted. It was that injury to which the Tribunal was referring. The Tribunal notes the submission by Mr Evans that the injury was caused trying to free the driver of Car 602 from the car, rather than during the crash itself.

C. Mr Evans submitted that the suggestion in the Tribunal's first Report that Car 602 rolled down an embankment into Double Barrel Creek is incorrect.

18. The Tribunal respectfully disagrees with Mr Evans' submission that Car 602 did not roll into Double Barrel Creek. In arriving at its findings and compiling the First Tribunal Report, the Tribunal had the advantage of viewing in-car camera footage from Car 602 which includes footage up to and

including the point at which Car 602 left the roadway. Mr Evans acknowledged that he had not seen that in-car video. The Tribunal also received photographs of the accident scene which showed Car 602 upside down in the creek with only its wheels and undercarriage visible. Respectfully, the Tribunal stands by its finding that Car 602 rolled into the creek.

D. Mr Evans submitted that some observations made by the Tribunal in its first Report regarding Mr Evans' and the late Shane Navin's (the driver of Car 602) experience and recent competition history are incorrect.

19. Some of the information on this topic which appears in the First Tribunal Report was drawn from Mr McGrath's Report. It was otherwise gleaned from the "rallyresults" webpage for Motorsport Australia sanctioned tarmac rally events and the Tribunal concluded from the apparent absence of a reference to Mr Navin or Mr Evans in the timed competition results of a number of such events that neither of them had entered those events. The Tribunal accepts, unreservedly, Mr Evans' account that he and Mr Navin had participated in the 2019 Targa Great Barrier Reef, 2019 Targa High Country and 2021 Targa High Country events. However, the Tribunal considers that the omission of a reference to those events has no material bearing on the conclusions it reached with respect to the incident involving Car 602 at Targa Tasmania 2021 or to any of the recommendations the Tribunal has made.

E. Mr Evans disagreed with the Tribunal's observation that Mr Navin's steering input immediately preceding the incident were consistent with an unsettled car and lack of control.

20. In his evidence to the Tribunal Mr Evans steadfastly maintained that there were no shortcomings in the set-up of Car 602 and that the incident was not attributable to driver error by Mr Navin. Mr Evans was complimentary of Mr Navin's driving and told the Tribunal that he could vividly recall the car sliding on the wet road before it left the road but Mr Navin having applied corrective steering and having regained control. He told the Tribunal that he could recall telling Mr Navin over the intercom "Nice catch, mate!", confirming in his mind that Mr Navin had regained control. He then looked down at this pace notes and was taken by surprise when the car slid, driver's side first, off the right-hand side of the road. He suggested that the Tribunal's observations after viewing the in-car video that Mr Navin had made multiple and incorrect steering inputs was wrong and likely explained by the camera's optical image stabilisation system.

21. The Tribunal accepts that Mr Evans was genuinely relating his best recollection of the moments before the incident. However, the Tribunal is not persuaded that its findings with respect to the incident are incorrect. Mr Evans frankly conceded that he had not seen the in-car video. The Tribunal cannot accept that the camera's optical image stabilisation system is capable of depicting movement that did not in fact occur. The video was analysed in detail by each of the Tribunal members, particularly multiple Australian Rally Champion Driver and multiple Targa Tasmania winning Driver, Neal Bates, and an independent expert competition circuit and rally driver and instructor, Greg Crick. Mr Crick's observations as to the poor suspension set up on Car 602, the inability of the driver to control the car on the wet road, exacerbated by the use of dry compound R-spec tyres, incorrect placement of the vehicle on the road by the driver and ill-judged steering and throttle applications are established clearly by the video.

F. Mr Evans submitted that the Tribunal's observations regarding driver fatigue and concentration are not sustainable.

22. Mr Evans suggested that the Tribunal's observation that fatigue and lack of concentration may have played a role in the incident is speculative. However the Tribunal's conclusion was based upon evidence received from a number of other competitors in the same event, including much younger and more experienced competitors, who told the Tribunal that the itinerary was exhausting and that they were suffering from fatigue. The Tribunal cannot definitively conclude that fatigue was a factor in the incident involving Car 602, but equally the Tribunal cannot dismiss it as a likelihood given the consistent themes from other competitors. What matters, in the Tribunal's submission, is that regardless of whether fatigue was the causative element with respect to the Car 602 incident, there is a need to recognise the potential for fatigue to cause or contribute to incidents in future and it is for that reason that Recommendation 6 in the First Tribunal Report was made.

G. Mr Evans submitted that Rally Command failed to respond in a timely manner to the Car 602 incident to render emergency assistance.

23. Mr Evans was highly critical of the Organiser's failure to direct intervention from a rescue crew earlier. As is evident from Sections 6.7.1, 6.7.2 and 9.24.3 of the First Tribunal Report, the Tribunal concurs with Mr Evans that it is regrettable that Rally Command did not direct that a nearby FIV

be despatched to the accident scene following the receipt of a Rollover Hazard warning from Car 602. However, as discussed below, in some respects Mr Evans' assumptions as to the information conveyed by the RallySafe unit in Car 602 to other competitors and Rally Command is incorrect.

H. Mr Evans submitted that the Tribunal failed to fully investigate the organiser's failure to render emergency assistance earlier.

24. The Tribunal respectfully rejects Mr Evans' criticism that the Tribunal did not fully investigate the fact and reasons for the failure of Rally Command to despatch an emergency intervention vehicle to the accident scene earlier. These matters were the subject of a very detailed investigation by the Tribunal with the assistance of Mr Sims and the co-operation of the Clerk of Course of the event. Recommendations 18, 19, 21 and particularly 22 and 23 all stem from that investigation and the Tribunal steadfastly stands by each of those Recommendations. A detailed discussion of the evidence regarding the delay by Rally Command in responding to the incident appears at Section 6.7.1 of the First Tribunal Report.

25. Having taken further evidence from Mr Sims, the Owner and Principal of RallySafe, the Tribunal wishes to correct one finding of fact in the Tribunal's First Report. At paragraph 6.7.1.m on page 26 of that Report the Tribunal quoted from a report compiled by the Division Manager – Technical Motorsport Australia, Mr McGrath, which suggested that Rally Command had received a manual SOS signal from Car 602 at 10.07am, approximately 4 minutes after the accident and approximately 3 minutes after a Rollover Hazard warning had been received, the latter being a warning automatically generated by the Rally Safe unit in Car 602 after sensors detected the car was inverted.

26. The time of the manual SOS signal referenced by Mr McGrath was taken by him from a Rally Command Log which was tendered in evidence before the Tribunal. It also appeared to be confirmed by a screen dump from the RallySafe system which the Tribunal also received. According to Mr Sims, a manual SOS was activated on the RallySafe unit in Car 602 (by Mr Evans) but not at 10.07am, rather at a point in time which Mr Sims cannot now precisely confirm from the data but at between approximately 10.14am and 10.18am. Mr Sims was adamant that a manual SOS was not activated on the RallySafe unit in Car 602 before 10.14am.

27. With good reason in the Tribunal's opinion, in his evidence to the Tribunal Mr Evans was critical of the conflicting time data. Given his intimate understanding of the RallySafe system and undoubted qualifications to interpret the data it captured, the Tribunal defers to Mr Sims' explanation. In the event, the precise time at which Mr Evans pressed the manual SOS button matters little. By that time Mr Navin had sadly passed and, as the Tribunal explained in the Tribunal's First Report, steps ought to have been taken to investigate the earlier Rollover Hazard warning and, in the absence of any response from the crew of Car 602, to despatch the nearby FIV to the scene.

I. Mr Evans submitted that the Tribunal's conclusion that the RallySafe signal in Car 602 was compromised by damaged external aerial, water immersion or the location of the car is wrong.

28. Mr Evans suggests that the Tribunal's observation that communication from the RallySafe in Car 602, when the car was inverted in the creek, to Rally Command and other competition cars approaching it on the stage are conjecture.

29. In order to confirm the validity of the findings it expressed with respect to these matters in the First Tribunal Report, the Tribunal heard further evidence from Mr Sims on 12 November 2021. That evidence demonstrated unequivocally that the Tribunal's observations with respect to this topic in the First Tribunal Report were correct

30. Mr Sims told the Tribunal that, because of the damage to the external RallySafe aerial on the roof of Car 602 caused in the rollover, and the inversion and submersion of the supplementary interior RallySafe aerial in the flowing creek, there was no direct communication from the RallySafe unit in Car 602 to Rally Command after Car 602 had rolled into the creek. However, the RallySafe system uses the RallySafe units in nearby vehicles as "repeater" units such that those units are capable of receiving a signal from a stopped car's RallySafe unit and transmitting it as a repeated signal to Rally Command. Mr Sims' evidence to the Tribunal is corroborated by the data which reveals that the Rallysafe communications from Car 602 following the accident were received at Rally Command only as repeated communications from other competition cars as they passed Car 602's location. Moreover, the Tribunal received in evidence the incar footage recorded by the camera in one of the cars which started the Mt Arrowsmith stage after Car 602. The RallySafe screen in that following car is clearly visible in that video. Hazard warnings were flashed on that screen at several points in the stage where other vehicles were stopped, one only a kilometre

before the Car 602 accident site. However, no hazard warning appeared on the screen when that car approached and passed the Car 602 accident site.

31. Mr Sims explained to the Tribunal that the ability of the RallySafe unit in another vehicle to receive a signal from a stopped car depends on distance, terrain and elevation. On level ground and when one unit has an uninterrupted "line of sight" of the other unit, the RallySafe unit in an approaching car would typically receive a signal from the unit in the stopped car ahead of it approximately 500 metres before it. However, if the signal is impeded by buildings or trees or the stopped vehicle is over a brow or at a different elevation, the distance at which the approaching car will receive the signal is significantly compromised.

32. According to Mr Sims, in this case, because Car 602 was approximately 4 metres below the road surface and both its aerials were compromised, it is highly unlikely the RallySafe units in any of the multiple cars that passed the accident scene, unaware of Mr Evans' and Mr Navin's plight, emitted any warning display to the crew of those cars at all. He explained that if the signal is not received until the point at which the approaching car passes the stopped car, or the approaching car is already passed the stopped car, no hazard will be displayed on the RallySafe unit in the passing car even though the RallySafe unit in that car has repeated the hazard warning from the stopped car to Rally Command.

J. Mr Evans submitted that features of the RallySafe system did not work as they should, or at least as competitors had come to expect over the years.

33. Mr Evans told the Tribunal that over several years of participating in Tarmac Rallies and using the RallySafe System, he has held the understanding that in the event that a car is involved in a high "g" impact or rollover in a live stage and no response is given by a crew member to a prompt on the RallySafe unit requesting advice if the crew is okay or requires assistance, the RallySafe unit will automatically default from a "hazard" warning to an "SOS" warning. He told the Tribunal that he expected that the RallySafe unit in Car 602 would have automatically defaulted to an SOS signal because he never pressed "OK" on the unit in the car after the incident. He suggested to the Tribunal that each of the following cars should therefore have received an "SOS" signal from Car 602 on approach to Car 602, and Rally Command should have received an SOS signal from Car 602.

34. The Tribunal has reconfirmed with Mr Sims that the RallySafe unit will only automatically default to an SOS signal in the event that the unit has recorded a g-force of at least 14G. Because the incident involving Car 602 did not occur at high speed, and the roll into the Double Barrel Creek was relatively gentle, the g-force recorded on the RallySafe unit in Car 602 was only 7G – insufficient to trigger the automated default SOS signal. According to Mr Sims, this default trigger threshold in the RallySafe system has remained unchanged for some years.

35. The Tribunal also notes, again, that Mr Evans' conclusion that the RallySafe units in approaching cars must have displayed a warning with respect to Car 602, is misplaced, given the position of Car 602 and the fact that both of its aerials were compromised.

K. Mr Evans told the Tribunal that after the accident the screen on the RallySafe unit in Car 602 did not function.

36. Mr Evans gave evidence that following the incident the screen on the RallySafe unit in Car 602 went "black" such that he could not see anything displayed on the screen and had to judge what buttons to press by memory.

37. According to Mr Sims, it is highly unlikely that the screen on the unit in Car 602 went "black" as Mr Evans suggests, although this possibility cannot be definitively excluded given that the unit was impounded by Tasmania Police and has not been available for analysis by RallySafe or the Tribunal. According to Mr Sims, the RallySafe unit in Car 602 continued to transmit data correctly following the incident, suggesting that it was not damaged. He told the Tribunal that he has never known of a screen on a RallySafe unit to fail unless the unit has sustained obvious and heavy damage or has been destroyed by heavy impact or fire.

L. Mr Evans submitted that the Driver of Car 602, Shane Navin, may have suffered a head injury that might explain a loss of consciousness making it impossible for Mr Navin to extricate himself

38. Mr Evans told the Tribunal that when he went to attempt to assist Mr Navin to exit the car, he noticed that Mr Navin's belts were undone, and his helmet was against the roof of the inverted car. Mr Evans suggested that there may have been insufficient clearance between Mr Navin's helmet when in normal seated position in the car and the roll cage and that Mr Navin's helmet

may have struck the roll cage in the rollover causing a head injury which had not yet led to a loss of complete consciousness at the time he unfastened his harness, but did so shortly thereafter.

39. The Tribunal is not privy to the Coroner's findings as to the cause of Mr Navin's passing nor post-mortem details which may or may not confirm a head injury. The Chief Medical Officer told the Tribunal that he had concluded that the most likely cause of death was drowning. Detailed photographs of Car 602 taken after it was recovered from the accident site show minor damage to the roof skin on the driver's side but no apparent damage to the roof frame or roll cage. It is impossible for the Tribunal to now form an accurate conclusion from those photographs of the distance between what would have been the top of Mr Navin's helmet and the roof or the roll cage. However, the photographs do depict roll cage padding on the longitudinal roll car adjacent to the top of the driver's seat.

40. Article 13.1 of Schedule J of the Motorsport Australia Manual mandates that for a rally vehicle the top of the main roll bar tubing shall be a minimum of 50mm above the top of the driver's helmet when in the normal seated position. As discussed above, the Tribunal has no way of knowing whether this Article was complied with. Mr Evans submitted that Schedule J should also specify a minimum distance between the top of crew member's helmet to the nearest point of any roll cage. The Tribunal considers that this suggestion is best considered by the Motorsport Australia Technical Department but we note in this case that, as recommended by Motorsport Australia, Car 602 was fitted with winged type FIA approved seats such that it would seem unlikely that the helmet of an occupant, if wearing a frontal head restraint system (as Mr Navin was), could have struck the padded longitudinal bar to the right of the top of his helmet assuming that Mr Navin's harness was properly secured, and it being clear from the photographs that the roll cage around Mr Navin's helmet was not compromised in the accident.

M. Mr Evans submitted that the First Tribunal Report does not mention whether competition cars following on the stage received a "SOS" or "hazard" signal on their RallySafe unit.

41. Mr Evans submitted that the Tribunal failed to investigate whether following cars received an "SOS" or "hazard" warning on the RallySafe unit in their cars and failed to heed any such warning. The Tribunal respectfully rejects that submission. What may, or may not, have been displayed on the screens in following cars was investigated by the Tribunal at first instance and was the subject

of evidence from competitors in at least one other vehicle. As explained above, confirmatory evidence was received from Mr Sims that it is highly unlikely that the RallySafe unit in any approaching car displayed any warning given the position of Car 602.

42. Mr Evans also told the Tribunal that shortly after the incident he had repeatedly pressed the manual "SOS" button on the RallySafe unit in car 602. That evidence is not consistent with the data transmitted by the Car 602 RallySafe unit. According to that data, a manual SOS was not pressed on the RallySafe unit until at the earliest 12 minutes after the incident. The fact that a manual SOS was triggered at some point between 12 minutes and 17 minutes after the incident is confirmed by the RallySafe unit data, but the precise time the button was pressed cannot now be established.

43. The triggering of the manual SOS on the RallySafe unit caused a text message to be sent to Mr Evans' phone from Rally Command enquiring if he was "OK"? However, given the absence of mobile phone reception in the area of the incident, that message was never received. The Tribunal agrees with Mr Evans that, in the absence of a response to that text message, an FIV ought to have been dispatched to the scene. However, it is obvious that by then so much time had elapsed that there was no prospect of a response crew extracting Mr Navin from Car 602 in time to save his life.

N. Mr Evans submitted that the "backup" tracking system employed by Targa was insufficient.

44. Mr Evans' submission is consistent with the Tribunal's findings in the First Tribunal Report regarding the "manual tracking" of vehicles and explains the Tribunal's inclusion of Recommendation 22.

O. Mr Evans submitted that three additional recommendations should be adopted by the Tribunal:

"*Investigation of Erroneous Downgrading of Car 602's 'SOS' Signals*"

45. Mr Evans' submitted that Motorsport Australia should investigate why, and how, the automatic 'SOS' and 'Manual SOS' signals from Car 602's RallySafe unit were downgraded to "Hazard", when both the RallySafe Competitor User Manual, Version 2.0 dated 09/02/2021, and the RallySafe "Briefing Video Tutorial" state that 'Cancel' (or 'OK'?) must be selected to cancel an 'SOS'.

46. As discussed above, there was no “Automatic SOS” activated by the RallySafe unit in Car 602 because the g-forces in the accident were low. Further, according to Mr Sims by reference to a detailed timeline he produced for the Tribunal, after Mr Evans pressed the “Manual SOS” at between 10.14am and 10.18am, the Rollover Hazard warning was not repeated.

“RallySafe: Add ‘Rescue’ Option to ‘Medical’ and ‘Fire’ on SOS Response Screen.”

47. The Tribunal invites the Motorsport Australia CEO to refer Mr Evans’ suggestion in this regard to the Australian Rally Commission (ARCom) and to the Tarmac Rally Working Group (TRWG) for consideration.

48. Mr Evans submitted that in all cases when a car is involved in a rollover, and the RallySafe unit displays a hazard warning, it should automatically default to an SOS signal. That is to say, Mr Evans suggested that the default SOS trigger caused by a high g-force reading should be reviewed and that in all cases a default SOS signal should be emitted whenever a crew member of a stopped car does not press "OK".

49. While the Tribunal sees some force in Mr Evans’ suggestion, the Tribunal received evidence from the Organisers and Mr Sims that a failure on the part of a crew member to press "OK" after a vehicle stops on a stage is commonplace even when no assistance is required, and the car is stopped due to a mechanical failure. Were the RallySafe unit to automatically default to SOS in such circumstances, FIV's would have to be dispatched unnecessarily resulting in the possible cancellation of the stage unjustifiably. The Tribunal considers that this issue would be best considered by the ARCom and the TRWG.

“*In-Car Reflective Triangles: triangles should be carried where they can be accessed easily when the door is closed.”*

50. Mr Evans told the Tribunal that he did not erect a warning triangle up on the roadway ahead of the accident scene because the safety triangles in Car 602 were strapped to the roll cage behind the seats in a position which he could not reach. Mr Evans submitted that the Tribunal should make a recommendation requiring safety triangles to be within reach of the crew at all times. Again, the Tribunal considers that this suggestion is best considered by ARCom and the TRWG.

51. The Tribunal also notes that, in relation to the Car 602 incident, it seems unlikely that the absence of a safety triangle before the accident scene contributed to the unfortunate delay in Mr Evans receiving assistance. Indeed, the erection of a safety triangle before Car 602 may, on its own, have only conveyed to approaching cars that a stopped car in the vicinity did not require assistance, because one crew member at least had exited the car to erect it. What was needed in the case of car 602 was for Mr Evans to have held up an "SOS board" or to have otherwise used a hand signal or gesture to alert oncoming crews that he required assistance. The Tribunal has recommended the adoption of a universal gesture to address this issue – refer Recommendation 15.

The Tribunal

March 14, 2022

Garry Connelly, Matthew Selley and Neal Bates