

ACT AUDITOR-GENERAL'S
PERFORMANCE AUDIT REPORT
PROCUREMENT OF A HYBRID ELECTRIC FIRE TRUCK

REPORT NO. 4 / 2023

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The Speaker
ACT Legislative Assembly
Civic Square, London Circuit
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Dear Madam Speaker

I am pleased to forward to you a Performance Audit Report titled 'Procurement of a hybrid electric fire truck' for tabling in the Legislative Assembly pursuant to Subsection 17(5) of the *Auditor-General Act 1996*.

Yours sincerely



Michael Harris
Auditor-General
30 June 2023

The ACT Audit Office acknowledges the Ngunnawal people as traditional custodians of the ACT and recognises any other people or families with connection to the lands of the ACT and region. The Office acknowledges and respects their continuing culture and the contribution they make to the life of this city and this region.

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SUMMARY

On 1 September 2020 the ACT Emergency Services Agency signed a contract with Rosenbauer Australia Pty Ltd (and S.K. Rosenbauer Pte. Ltd of Singapore) for the supply of urban pumpers (i.e. fire trucks). Four fire trucks have been ordered through the contract:

- three diesel fire trucks, at a cost of \$813,155 (GST ex) each (*including* import duty, training and delivery); and
- one hybrid electric fire truck, at a cost of \$1,524,387 (GST ex) (*excluding* import duty, training and delivery).

The procurement of the hybrid electric fire truck was initially pursued throughout 2019 through a limited market approach (previously referred to as a single select process). When this did not proceed, because of the impact of the COVID-19 pandemic on the Territory's Budget processes, the procurement of the hybrid electric fire truck was incorporated into another 2020 public procurement process for the supply of urban pumpers.

The audit considered the effectiveness of the ESA's processes for the procurement of the hybrid electric fire truck.

Overall Conclusion

The procurement of the hybrid electric fire truck was poorly conducted. The ESA did not adequately assess the value for money of the vehicle, prior to ordering it in January 2021.

Chapter conclusions

PARTNERSHIP FOR THE DEVELOPMENT OF THE CONCEPT FIRE TRUCK

The procurement of the hybrid electric fire truck was initially pursued through a limited market approach, through which the ESA sought to 'engage [Rosenbauer] to partner in the development, design, compliance, delivery and testing' of the vehicle. An exemption from the *Government Procurement Act 2011* requirement to invite public tenders was granted.

There was poor documentation to support the identification and selection of Rosenbauer as the preferred supplier. The ESA asserted that research was conducted into potential suppliers of alternative fuel source fire trucks and that a feasibility study was undertaken. No reports or artefacts in relation to the research or the feasibility study were prepared.

Various planning documents prepared at the time, including a briefing to the Economic Development Subcommittee of Cabinet and a Business Case for ACT Budget funding, identified further processes that were to take place to demonstrate the utility of the vehicle, including project

management activities to ‘evaluate the prototype and further investigate the ... vehicle’s whole-of-life benefits for the ACT community’. This did not occur.

CONVENTIONAL FIRE TRUCKS PROCUREMENT

The procurement of the hybrid electric fire truck was subsequently pursued by incorporating it into a contract that derived from a public tender process for the supply of urban pumpers. In March 2020 a RFT was issued for the supply of urban pumpers, from which Rosenbauer was identified as the successful tenderer.

In its response to the RFT, Rosenbauer provided detailed and specific information against a series of response schedules. The response schedules sought information from prospective tenderers with respect to 13 detailed specifications relating to a broad range of considerations. The detailed information Rosenbauer provided related to a conventional diesel fire truck. The tender evaluation report that was subsequently produced did not reference the hybrid electric fire truck, or otherwise identify it as being a factor in the Tender Evaluation Team’s recommendation.

Prior to entering into the contract with Rosenbauer the ESA did not assess the value for money of the hybrid fire truck in accordance with the requirements of section 22A of the *Government Procurement Act 2001*.

Key findings

PARTNERSHIP FOR THE DEVELOPMENT OF THE CONCEPT FIRE TRUCK

Paragraph

Initial identification of the hybrid fire truck

On 2 August 2019 a *Procurement Threshold Exemption (Single Select) Executive Brief* was approved by the Acting Director-General of the Justice and Community Safety Directorate. The approval of the Executive Brief allowed the ESA to directly ‘engage Rosenbauer Australia/Germany to partner in the development, design, compliance, delivery and testing of Australia’s first electric fire appliance’. A quick response was sought on the Executive Brief in order ‘to announce the partnership at the Australasian Fire and Emergency Service Authority Council conference on 28-29 August 2019, and be the first State in Australia to progress an electric fire appliance’.

2.15

The Executive Brief focused on environmental considerations and the benefit of a hybrid electric fire truck for the ACT and noted an intention for the ESA to reduce greenhouse gas emissions. The Executive Brief advised that the ESA had been undertaking research in relation to the reduction of greenhouse emissions, but that research into potential suppliers was undertaken via an internet search. The research was not documented, nor were any reports or artefacts produced in relation to the research that was conducted.

2.16

Following the announcement at the 2019 Australasian Fire and Emergency Services Authorities Council Conference in Melbourne on 28 August 2019, the Minister for Police and Emergency Services provided a briefing to the Economic Development Subcommittee of Cabinet. The Briefing acknowledged the single-select procurement process and that approval had already been given to enter into a contractual agreement with Rosenbauer Australia 'to build an Australian-compliant Hybrid electric fire appliance for ACT Fire & Rescue'. The Briefing acknowledged that the project was innovative and 'carries a level of risk' but that the risks would be 'managed by an ACT Government project team' that 'would consist of all relevant stakeholders to progress the issues across two streams (strategic and operational)'. The Briefing advised of an intention to develop a Statement of Requirements (SOR) for the vehicle and that 'once the SOR is completed, Rosenbauer could produce a contract for the full preparation and delivery of the electric fire appliance for ACT'. The Briefing advised 'preliminary discussions with the contractor have indicated that the cost would be similar to the current cost of a fire appliance, i.e. approximately \$1 million'.

2.30

Budget funding submission

Throughout late 2019 and into early 2020 a Business Case for ACT Budget funding was progressed. The funding sought through the Business Case was for 'the costs of designing, developing and producing a prototype electric hybrid fire appliance in conjunction with Rosenbauer, and for funding to complete the purchase of the prototype vehicle'. The Business Case sought a total of \$2.34 million in funding (\$1.62 million capital expenditure and \$0.716 million expenses). The Business Case identified that the project 'will deliver a range of benefits for the Territory, including environmental benefits and workplace safety benefits'. The Business Case was submitted on 3 March 2020 but did not proceed due to the advent of the COVID-19 pandemic, and its impact on ACT Budget processes.

2.45

The Business Case identified a range of environmental benefits associated with the hybrid electric fire truck. The Business Case also stated that the ESA had 'conducted a feasibility study into the viability, suitability and sustainability of introducing an electric hybrid vehicle into the fire appliance fleet' and that 'the study identified that the concept vehicle would be similar in maintenance costs and produce efficiencies both financially and in terms of sustainability'. There were no reports or artefacts produced in relation to a feasibility study as described.

2.51

The Business Case identified workplace safety benefits through: minimised risk for firefighters breathing carcinogens; and the design of the hybrid electric fire truck itself. There is expected to be a minimised risk for firefighters breathing carcinogens because of the use of the hybrid electric engine. The design of the fire truck means that it is lower to the ground and this is expected to reduce the risk of roll-over during operations and reduce the risk of firefighters' knee and back injuries when entering and exiting the vehicle. The Business Case advised 'the (JACS) work health and safety representative conducted a full workplace health and safety assessment of the Rosenbauer concept vehicle and compared it with existing vehicles and the recorded injuries associated with existing vehicles' and that 'this report ... overwhelmingly supported the concept design and progression to the prototype'. In relation to the

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workplace health and safety assessment, the ESA provided a four-page document titled ‘Concept Fire Truck A Safe Design Approach’. The document is undated and it does not identify who prepared or reviewed it. The document makes a series of observations and assertions many of which were reproduced in the Business Case.

The Business Case sought funding for ‘a project to design and develop a prototype electric hybrid fire appliance for ACTF&R, in partnership with Rosenbauer’ and ‘funding to contract with Rosenbauer to build and purchase the resultant vehicle’. The funding sought through the Business Case was also for ‘the costs of equipping the ESA Workshop to service and repair an electric hybrid vehicle and upskilling its workforce to undertake that work, training ACTF&R in the operation and use of the new vehicle and retrofitting the ESA Workshop and at least one existing station with appropriate charging facilities for the vehicle’.

2.68

The Business Case identified that there were risks associated with the project, relating to the fact that the truck was not in full production, and that it would cost more than a conventional fire truck. However, the Business Case did not recommend the option of not proceeding, because of the imperative in achieving the expected environmental benefits and workplace health and safety benefits. To mitigate this, however, a component of the funding was also ‘for the ESA, together with relevant ACT Government Directorates, to evaluate the prototype and further investigate the prototype vehicle’s whole-of-life benefits for the ACT community. This is part of the project management costs’.

2.69

CONVENTIONAL FIRE TRUCKS PROCUREMENT Paragraph

Request for Tender

On 5 March 2020 the ESA issued a Request for Tender (RFT) titled ‘ACT Fire and Rescue Pumper’. The RFT was for a ‘turn-key solution for up to five (5) Urban Type pumpers’. The RFT did not specify any requirements for the power source for the vehicle, but stated ‘ACT Fire & Rescue, through the ACT Emergency Services Agency, wishes to explore all options and innovation in regards to the design and construction of this vehicle’ and ‘there is no limit to what may be presented, including but not limited to alternative power sources, construction materials etc’. Eight addenda were issued to the RFT, which did not identify anything specifically relevant to the supply of a hybrid electric fire truck. An industry briefing on 18 March 2020 also did not provide further information specifically relevant to the supply of a hybrid electric fire truck. The RFT identified weighted criteria relevant to the technical specifications of the proposed vehicle and the capabilities of the supplier and an unweighted criterion of pricing.

3.16

The RFT included a series of response schedules, against which prospective tenderers were required to provide information. The response schedules provided 13 detailed specifications with respect to a broad range of considerations. Rosenbauer addressed the 13 different specifications in the response schedules, but in doing so provided information in relation to a diesel-powered vehicle. Rosenbauer did not provide a similar detailed response which would purport to show how a proposed hybrid electric vehicle would meet the 13 different specifications. Rosenbauer’s response to the RFT did note, however ‘we are also extremely proud to provide

3.28

additional innovative solutions such as the world leading Rosenbauer CFT and subsequent digital solutions for ACTF&R future fleet consideration' [emphasis in original].

Five responses to the RFT were received by the closing date of 30 April 2020. A Tender Evaluation Team was convened, which comprised of two members from ACT Fire & Rescue and one representative from the Transport Canberra and City Services Directorate who had experience with large vehicle procurement. The Tender Evaluation Team was assisted by an Evaluation Team Facilitator from Procurement ACT. The Team produced a comprehensive tender evaluation report which demonstrated its assessment of the evaluation criteria (weighted and non-weighted), assessment of risks and overall value for money assessment. An order of merit was established with the top two suppliers. In the tender evaluation report, there was no reference to a hybrid electric fire truck or it being a factor in the Tender Evaluation Team's recommendation. 3.39

September 2020 contract

On 1 September 2020 the ESA signed a contract with Rosenbauer Australia Pty Ltd (and S.K. Rosenbauer Pte. Ltd of Singapore) for the supply of 'fire appliances for the Territory's Emergency Services Agency'. The details of the diesel pumpers and the hybrid electric fire truck were contained in separate attachments to the contract. The details for the diesel pumpers were based on the detailed information in the response schedules provided and evaluated as part of the response to the RFT. They were outlined in four documents, which included: design schematics which included sizing dimensions (1 page); technical specifications with accompanying design illustrations (45 pages); weight schedule (1 page); and ACT Fire and Rescue's list of requirements (26 Pages). Similar documentation was not included in the contract for the hybrid electric fire truck. 3.51

There is no evidence that the details of the hybrid electric fire truck were assessed, similarly to the details of the diesel pumpers, and identified or confirmed as suitable or appropriate. There is no evidence that the ESA tested the details of the hybrid electric fire truck to confirm that they met operational requirements. This is in contrast to the assessment that was undertaken of the details of the diesel pumpers that were then procured. 3.52

The ESA asserts that decision-makers' valid approval for the initial entry into the partnership agreement with Rosenbauer for the development of the Concept Fire Truck (through the 2019 single-select process) and the approval of Rosenbauer for the supply of urban pumpers (through the March 2020 RFT process) allowed it to include the hybrid electric fire truck in the September 2020 contract for services with Rosenbauer. Prior to entering the contract, however, the ESA did not assess the value for money of the hybrid electric fire truck in accordance with the requirements of section 22A of the *Government Procurement Act 2001*. 3.59

Purchase orders

On 27 October 2020, purchase orders were issued to Rosenbauer International A.G for the supply of the diesel pumpers. The total value of the two purchase orders issued on 27 October 2020 was \$2,439,465 (GST ex), which was for the supply of three diesel pumpers. Each diesel pumper was to be supplied at a cost of \$813,155 (GST ex), which included the cost of the truck as well as import duty, training and delivery. On 28 January 2021 a purchase order was issued for the hybrid electric fire truck at a cost of \$1,524,387 (GST ex). Unlike the purchase orders issued for the diesel pumpers, the purchase order for the hybrid electric fire truck does not identify costs associated with import duty, training or delivery. These costs amounted to \$55,405 (GST ex) for each of the diesel pumpers. 3.75

Recommendations

RECOMMENDATION 1 ASSESSMENT OF HYBRID ELECTRIC FIRE TRUCK SUITABILITY

The ESA should, prior to its deployment, formally assess and confirm that the hybrid electric fire truck meets the needs of the ESA as an urban pumper in the Territory.

Entities' responses

In accordance with subsection 18(2) of the *Auditor-General Act 1996*, the Justice and Community Safety Directorate was provided with the draft proposed report for comment. All comments were considered and required changes were reflected in the final proposed report.

In accordance with subsection 18(2) of the *Auditor-General Act 1996*, the Justice and Community Safety Directorate was provided with the final proposed report for comment. All comments were considered and required changes were reflected in the final report.

In accordance with subsection 18(3) of the *Auditor-General Act 1996* other entities considered to have a direct interest in the report were also provided with the draft proposed and final proposed reports (or extracts thereof) for comment. These included:

- Rosenbauer Australia Pty Ltd;
- the ACT Government Solicitor's Office; and
- the Chief Minister, Treasury and Economic Development Directorate (Procurement ACT).

No comments were provided for inclusion in this Summary chapter.

1 INTRODUCTION

Procurement legislation and guidance

1.1 The procurement of goods and services by Territory entities is guided by the *Government Procurement Act 2001* (the Act) and the *Government Procurement Regulation 2007* (the Regulation).

1.2 When undertaking any procurement, Territory entities must pursue a value for money outcome. Subsection 22A(1) of the *Government Procurement Act 2001* states 'value for money means the best available procurement outcome'. In pursuing value for money, subsection 22A(3) of the Act states:

The entity must have regard to the following:

- a) probity and ethical behaviour
- b) management of risk
- c) open and effective competition
- d) optimising whole of life costs, and
- e) anything else prescribed by regulation.

Quotation and tender thresholds

1.3 The *Government Procurement Regulation 2007* provides additional detail on key aspects of ACT Government procurement including practices that must be followed regarding quotation and tender thresholds. Importantly, section 9 of the *Government Procurement Regulation 2007* states:

A territory entity must invite public tenders for the procurement of goods, services or works if the total estimated value of the procurement is \$200 000 or more.

1.4 Part 2 of the Regulation sets out the quotation and tender thresholds (i.e. monetary thresholds at which written quotes and public tenders must be sought). The procurement thresholds are shown in Table 1-1.

Table 1-1 Procurement thresholds

Relevant section	Threshold	Requirements
Section 6	\$25,000 to \$200,000	must seek at least three written quotes from suppliers
Section 9	\$200,000 or more	must invite public tenders

Source: *Procurement Policy Circular 25 (Procurement ACT)*

Exemptions from procurement requirements

- 1.5 Section 10 of the *Government Procurement Regulation 2007* allows the responsible chief executive officer¹ to exempt a procurement from the requirements of sections 6 and 9. Section 10 states that the chief executive officer may exempt the entity only if satisfied, on reasonable grounds, that the benefit of the exemption outweighs the benefit of compliance with the tender and quotation requirements.
- 1.6 Like all procurement, procurements using exemptions must demonstrate value for money. Determining value for money involves an evaluation of immediate and whole of life costs, through a procurement process that manages risk, is open and fair and can demonstrate high standards of probity and integrity. As exemptions allow entities to engage solely with a single supplier, a clear demonstration that value for money has been pursued is essential to public confidence in government procurement.

Agency obligations

- 1.7 The Emergency Services Agency (ESA) was required to adhere to the Act, the Regulation and associated procurement policies.
- 1.8 In addition to requirements set out in the Act, Regulation and associated procurement policies, ACT Public Service officers are required to undertake their duties with 'reasonable care and diligence, impartiality and honesty'.²

Vehicle emissions reductions programs

- 1.9 The ACT is committed to achieving net zero CO₂-e emissions for Government vehicles by 2040, and Community vehicles by 2045. The ACT Government's CO₂-e emissions goals for the Territory are legislated in the *Climate Change and Greenhouse Gas Reduction Act 2010*.
- 1.10 The ACT Government has made commitments relevant to reducing CO₂-e emissions by increasing the uptake of zero emissions vehicles. These vehicles reduce reliance on CO₂-e emitting modes of transport, that is, petrol, LPG and diesel engine vehicles. The commitments have been made in various Government or Ministerial announcements, plans and strategies, principally:
- the ACT'S *Transition to Zero Emissions Vehicles Action Plan 2018–21* (April 2018);
 - the *ACT Climate Change Strategy 2019-25* (September 2019); and
 - the *ACT Transport Strategy 2020* (August 2020) and its related Zero-Emission Transition Plan for Transport Canberra (September 2020).

¹ The Act defines a 'responsible chief executive officer' as the responsible director-general (for a Directorate) and a chief executive officer (for a territory authority).

² *Public Sector Management Act 1994* paragraph 9(1)(d)

Fire truck procurements

Contract for the supply of urban pumpers

1.11 On 1 September 2020 the ESA signed a contract with Rosenbauer Australia Pty Ltd (and S.K. Rosenbauer Pte. Ltd of Singapore) for the supply of 'fire appliances for the Territory's Emergency Services Agency'. The contract is for the supply of 'urban pumpers':

Up to five multi-purpose, emergency response vehicles containing an integrated pump with fire and rescue capabilities in a wide variety of environments and built in accordance with the Specifications at **Attachment A1 Schedule 2**, and may include electric powered vehicles built in accordance with the specifications at **Attachment A2 Schedule 2**.

1.12 As at September 2022, the ESA has ordered four fire trucks through the contract:

- three diesel fire trucks; and
- one hybrid electric fire truck.

1.13 Two purchase orders were issued for the supply of the three diesel fire trucks on 27 October 2020. Each truck was ordered at a cost of \$813,155 (GST ex):

- \$754,249 (basic unit)
- \$3,501 (electric ladder gantry in lieu of manual)
- \$32,414 (import duty)
- \$12,991 (training)
- \$10,000 (delivery fee)

1.14 A purchase order was issued for the supply of the hybrid electric fire truck on 28 January 2021. The hybrid electric fire truck was ordered at a cost of \$1,524,387 (GST ex):

- \$1,463,723 (basic unit)
- \$29,554 (rear axle steering)
- \$31,110 (roof monitor)

1.15 The cost of the trucks are not directly comparable. The purchase order for the hybrid electric fire truck did not identify costs for import duty, training or delivery. In its response to the draft proposed report the ESA advised that 'import duty is determined at time of import and couldn't be factored into [the purchase order]' and that an exemption from import duty was going to be sought in any event. The ESA also advised that 'delivery was arranged by the contractor, and cost recovered from ESA' and that 'ESA will be invoiced for training against the contract once arranged'.

Partnership arrangement for the development of a Concept Fire Truck

- 1.16 In early 2019 the ESA identified an opportunity to enter into a partnership arrangement with Rosenbauer for the development of a Concept Fire Truck. The hybrid electric fire truck was known as the Concept Fire Truck at that stage because it was a *concept vehicle* that was not in production or commercially available.
- 1.17 The Concept Fire Truck was discussed with Rosenbauer representatives during a visit to Germany by ACT Fire & Rescue officers in May 2019. The officers were in Germany for the purpose of a pre-construction meeting for the construction of an aerial fire appliance, which was the subject of another, earlier procurement.
- 1.18 Between May and June 2019 the Concept Fire Truck was further discussed by the ESA and Rosenbauer. On 4 June 2019 Rosenbauer offered the ESA the opportunity to enter into a partnership arrangement for the development of the Concept Fire Truck. Accordingly, on 22 July 2019 an exemption was sought from the Director-General of the Justice and Community Safety Directorate to 'engage Rosenbauer Australia/Germany to partner in the development, design, compliance, delivery and testing of Australia's first electric fire appliance'. The Director-General agreed to this on 4 August 2019.
- 1.19 A Business Case was prepared in late 2019 and early 2020 for Budget funding for the development of the Concept Fire Truck. Due to the advent of the COVID-19 pandemic in March 2020 the Business Case did not proceed and funding was not secured.

Procurement of urban pumpers

- 1.20 The ESA's Vehicle Replacement Program seeks to plan and budget for the replacement of the fleet of vehicles in the ESA. The Program broadly seeks to replace one urban pumper each year. Through the auspice of the Vehicle Replacement Program, the ESA approached the market for the supply of urban pumpers.
- 1.21 A Request for Tender was issued on 5 March 2020 and closed on 16 April 2020. Tenderers responded to the RFT and in doing so identified a range of vehicles that were powered by a diesel fuel engine. Rosenbauer was identified as the successful tenderer from this process.
- 1.22 During negotiations for the contract with Rosenbauer, following its identification as the preferred tenderer, the ESA sought to include the supply of the hybrid electric fire truck in the contract. The contract that was agreed with Rosenbauer subsequently allowed for the potential supply of 'electric powered vehicles'.

Terminology

- 1.23 The Audit Office is using the term 'hybrid electric fire truck' to describe the vehicle that was ordered on 28 January 2021 at a cost of \$1,524,387 (GST ex).

- 1.24 The hybrid electric fire truck operates as a plug-in hybrid vehicle; it is capable of being run on battery power as well as diesel fuel when necessary. Some documents produced by Rosenbauer and the ESA referred to the fire truck as an ‘electric’ vehicle. In its response to the draft proposed report the ESA advised that any reference to the fire truck as an ‘electric’ vehicle was not intentional or misleading.

Audit objective and scope

Audit objective

- 1.25 The objective of the audit was to assess the effectiveness of the ACT Emergency Service Agency’s procurement of the hybrid electric fire truck.

Audit scope

- 1.26 The scope of the audit included consideration of the administrative and decision-making processes of the ACT Emergency Services Agency in procuring the design, development and delivery of the hybrid electric fire truck.
- 1.27 The audit also considered, to the extent that they related to, and facilitated, the supply of the hybrid electric fire truck, the administrative and decision-making processes associated with the:
- March 2020 procurement for the urban pumpers; and
 - September 2020 contract with Rosenbauer.
- 1.28 The audit considered the activities of the ACT Emergency Services Agency in procuring the hybrid fire truck vehicle, including:
- its initial identification of business and operational needs with respect to the procurement; and
 - its conduct of the procurement, including the quality and soundness of advice to decision-makers.
- 1.29 The audit also included consideration of:
- whether appropriate processes were followed when conducting the procurement, including adherence to ACT Government procurement rules and guidelines;
 - whether the procurement fully considered the risk environment; and
 - whether the procurement represented value for money.

Out of scope

- 1.30 The audit did not consider the fitness-for-purpose of any trucks delivered through the March 2020 procurement or their operational effectiveness.

Audit criteria, approach and method

Audit criteria

1.31 To form a conclusion against the objective, the following criteria were used.

Criterion 1: Did the ESA appropriately identify its business and operational needs before commencing the procurement of the hybrid electric fire truck?

- Were business and operational needs for the supply of a hybrid electric fire truck adequately identified and documented?
- Were the identified and documented business and operational needs used to inform the conduct of the procurement?

Criterion 2: Was sound advice provided to decision-makers on the merits of the hybrid electric fire truck?

- Was advice to decision-makers provided:
 - on a timely basis; and
 - in a fair and balanced way.

Criterion 3: Was value for money demonstrated in the procurement?

- Was probity and ethical behaviour demonstrated?
- Were risks effectively identified and managed?
- Was open and effective competition demonstrated?
- Were whole-of-life costs recognised and optimised in the procurement?

Audit approach and method

1.32 The audit approach and method consisted of:

- reviewing relevant ACT procurement rules and guidelines;
- reviewing documentation associated with the procurement of the hybrid electric fire truck, including advice to decision-makers; and
- interviews and discussions with key staff in the ESA involved in the procurement of the vehicle.

1.33 The Audit Office also engaged Proximity to provide subject matter advice in relation to the ESA's procurement and contracting activities.

1.34 The audit was performed in accordance with *ASAE 3500 – Performance Engagements*. The audit adopted the policy and practice statements outlined in the Audit Office's *Performance Audit Methods and Practices* (PAMPr) which is designed to comply with the requirements of the *Auditor-General Act 1996* and *ASAE 3500 – Performance Engagements*.

- 1.35 In the conduct of this performance audit the ACT Audit Office complied with the independence and other relevant ethical requirements related to assurance engagements.

Disclosure of deliberative information

- 1.36 Section 20 of the *Auditor-General Act 1996* (the Act) relates to the disclosure of ‘deliberative information’ in Audit Office reports. Section 20 provides that the Auditor-General may only include ‘deliberative information’ in a report:

- if the Auditor-General considers that it is in the ‘public interest’ to do so; and
- after consulting with the Chief Minister.

- 1.37 ‘Deliberative information’ is defined in the Act as ‘information that discloses a deliberation or decision of the Executive’.

Report references to Cabinet material

- 1.38 The audit report refers to, and includes information from, Cabinet material. The material is included to provide information on the advice prepared for the purpose of the procurement of the hybrid electric fire truck.

Consultation with the Chief Minister

- 1.39 The Chief Minister was consulted regarding information to be included in the report. On 18 May 2023, the Chief Minister was provided with the extracts of the draft proposed report that included the Cabinet material.
- 1.40 On 1 June 2023 the Head of Service, on behalf of the Chief Minister, advised that they did not have any specific concerns or objections in relation to the use of the material in the audit report.

2 PARTNERSHIP FOR THE DEVELOPMENT OF THE CONCEPT FIRE TRUCK

- 2.1 This chapter discusses the ESA's initial activities to progress a partnership arrangement with Rosenbauer for the development of the Concept Fire Truck. It discusses the ESA's activities from early 2019, when the Concept Fire Truck was first introduced to the ESA, through to the preparation of a Budget Business Case in early 2020. The chapter discusses the rationale for the procurement and the advice that was provided to decision-makers.

Summary

Conclusions

The procurement of the hybrid electric fire truck was initially pursued through a limited market approach, through which the ESA sought to 'engage [Rosenbauer] to partner in the development, design, compliance, delivery and testing' of the vehicle. An exemption from the *Government Procurement Act 2011* requirement to invite public tenders was granted.

There was poor documentation to support the identification and selection of Rosenbauer as the preferred supplier. The ESA asserted that research was conducted into potential suppliers of alternative fuel source fire trucks and that a feasibility study was undertaken. No reports or artefacts in relation to the research or the feasibility study were prepared.

Various planning documents prepared at the time, including a briefing to the Economic Development Subcommittee of Cabinet and a Business Case for ACT Budget funding, identified further processes that were to take place to demonstrate the utility of the vehicle, including project management activities to 'evaluate the prototype and further investigate the ... vehicle's whole-of-life benefits for the ACT community'. This did not occur.

Key findings

Paragraph

Initial identification of the hybrid fire truck

On 2 August 2019 a *Procurement Threshold Exemption (Single Select) Executive Brief* was approved by the Acting Director-General of the Justice and Community Safety Directorate. The approval of the Executive Brief allowed the ESA to directly 'engage Rosenbauer Australia/Germany to partner in the development, design, compliance, delivery and testing of Australia's first electric fire appliance'. A quick response was sought on the Executive Brief in order 'to announce the partnership at the Australasian Fire and Emergency Service Authority Council conference on 28-29 August 2019, and be the first State in Australia to progress an electric fire appliance'.

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The Executive Brief focused on environmental considerations and the benefit of a hybrid electric fire truck for the ACT and noted an intention for the ESA to reduce greenhouse gas emissions. The Executive Brief advised that the ESA had been undertaking research in relation to the reduction of greenhouse emissions, but that research into potential suppliers was undertaken via an internet search. The research was not documented, nor were any reports or artefacts produced in relation to the research that was conducted.

2.16

Following the announcement at the 2019 Australasian Fire and Emergency Services Authorities Council Conference in Melbourne on 28 August 2019, the Minister for Police and Emergency Services provided a briefing to the Economic Development Subcommittee of Cabinet. The Briefing acknowledged the single-select procurement process and that approval had already been given to enter into a contractual agreement with Rosenbauer Australia 'to build an Australian-compliant Hybrid electric fire appliance for ACT Fire & Rescue'. The Briefing acknowledged that the project was innovative and 'carries a level of risk' but that the risks would be 'managed by an ACT Government project team' that 'would consist of all relevant stakeholders to progress the issues across two streams (strategic and operational)'. The Briefing advised of an intention to develop a Statement of Requirements (SOR) for the vehicle and that 'once the SOR is completed, Rosenbauer could produce a contract for the full preparation and delivery of the electric fire appliance for ACT'. The Briefing advised 'preliminary discussions with the contractor have indicated that the cost would be similar to the current cost of a fire appliance, i.e. approximately \$1 million'.

2.30

Budget funding submission

Throughout late 2019 and into early 2020 a Business Case for ACT Budget funding was progressed. The funding sought through the Business Case was for 'the costs of designing, developing and producing a prototype electric hybrid fire appliance in conjunction with Rosenbauer, and for funding to complete the purchase of the prototype vehicle'. The Business Case sought a total of \$2.34 million in funding (\$1.62 million capital expenditure and \$0.716 million expenses). The Business Case identified that the project 'will deliver a range of benefits for the Territory, including environmental benefits and workplace safety benefits'. The Business Case was submitted on 3 March 2020 but did not proceed due to the advent of the COVID-19 pandemic, and its impact on ACT Budget processes.

2.45

The Business Case identified a range of environmental benefits associated with the hybrid electric fire truck. The Business Case also stated that the ESA had 'conducted a feasibility study into the viability, suitability and sustainability of introducing an electric hybrid vehicle into the fire appliance fleet' and that 'the study identified that the concept vehicle would be similar in maintenance costs and produce efficiencies both financially and in terms of sustainability'. There were no reports or artefacts produced in relation to a feasibility study as described.

2.51

The Business Case identified workplace safety benefits through: minimised risk for firefighters breathing carcinogens; and the design of the hybrid electric fire truck

2.57

itself. There is expected to be a minimised risk for firefighters breathing carcinogens because of the use of the hybrid electric engine. The design of the fire truck means that it is lower to the ground and this is expected to reduce the risk of roll-over during operations and reduce the risk of firefighters' knee and back injuries when entering and exiting the vehicle. The Business Case advised 'the (JACS) work health and safety representative conducted a full workplace health and safety assessment of the Rosenbauer concept vehicle and compared it with existing vehicles and the recorded injuries associated with existing vehicles' and that 'this report ... overwhelmingly supported the concept design and progression to the prototype'. In relation to the workplace health and safety assessment, the ESA provided a four-page document titled 'Concept Fire Truck A Safe Design Approach'. The document is undated and it does not identify who prepared or reviewed it. The document makes a series of observations and assertions many of which were reproduced in the Business Case.

The Business Case sought funding for 'a project to design and develop a prototype electric hybrid fire appliance for ACTF&R, in partnership with Rosenbauer' and 'funding to contract with Rosenbauer to build and purchase the resultant vehicle'. The funding sought through the Business Case was also for 'the costs of equipping the ESA Workshop to service and repair an electric hybrid vehicle and upskilling its workforce to undertake that work, training ACTF&R in the operation and use of the new vehicle and retrofitting the ESA Workshop and at least one existing station with appropriate charging facilities for the vehicle'.

2.68

The Business Case identified that there were risks associated with the project, relating to the fact that the truck was not in full production, and that it would cost more than a conventional fire truck. However, the Business Case did not recommend the option of not proceeding, because of the imperative in achieving the expected environmental benefits and workplace health and safety benefits. To mitigate this, however, a component of the funding was also 'for the ESA, together with relevant ACT Government Directorates, to evaluate the prototype and further investigate the prototype vehicle's whole-of-life benefits for the ACT community. This is part of the project management costs'.

2.69

Initial identification of the hybrid fire truck

Offer from Rosenbauer (June 2019)

- 2.2 On 4 June 2019 the Managing Director of Rosenbauer Australia wrote to the Executive Branch Manager, Emergency Services Agency offering the opportunity 'to enter into a partnership for the joint development and implementation of the first hybrid-electric fire appliance into service for the Australian marketplace'.

Acceptance of the offer (July 2019)

- 2.3 On 26 July 2019 the Minister for Police and Emergency Services wrote to Rosenbauer. The Minister advised:

It gives me great pleasure to confirm the ACT Government's interest in the proposal, on the basis that it will promote community safety and support government's efforts to tackle climate change.

- 2.4 The Minister further advised:

I am advised that the concept vehicle ... is an electric fire truck with a diesel range extender capable of carrying identical inventory to the current ACT Fire & Rescue fleet. I am further advised that the partnership proposal would commit Rosenbauer to supply a fully compliant vehicle that will be registered in ACT and compliant with all relevant Work Health and Safety standards. The partnership proposal also commits the ACT Government to a build-to-buy arrangement subject to discussions and commitments in the contract.

- 2.5 The Minister further advised:

I also understand that Rosenbauer seeks to make a public announcement about this partnership at the Australasian Fire and Emergency Services Authorities Council conference between 28-29 August 2019. I look forward to working with you on a joint announcement, and would be willing to attend the conference for this purpose.

Limited market approach process

- 2.6 On 22 July 2019 a *Procurement Threshold Exemption (Single Select) Executive Brief* was provided to the Director-General of the Justice and Community Safety Directorate from the Commissioner for the Emergency Services Agency. The Executive Brief sought an exemption from the need to issue a public tender for the 'Design, Development and Purchase of an Electric Fire Appliance'. A response was sought by 2 August 2019 noting that:

There is an opportunity to announce the partnership at the Australasian Fire and Emergency Service Authority Council conference on 28-29 August 2019, and be the first State in Australia to progress an electric fire appliance.

- 2.7 The Executive Brief sought an exemption under section 10 of the *Government Procurement Regulation 2007* to:

... engage Rosenbauer Australia/Germany to partner in the development, design, compliance, delivery and testing of Australia's first electric fire appliance. The Concept Fire Truck (CFT), already designed and tested in partnership with Rosenbauer and Berlin Fire Department, will be used as the base vehicle for the Australian first trial.

- 2.8 The estimated value of the procurement was identified as \$1.5 million.

Environmental considerations

- 2.9 The Executive Brief focused on environmental considerations and the benefit of a hybrid electric fire truck for the ACT and noted an intention for the ESA to reduce greenhouse gas

emissions. The Executive Brief advised that the ESA had been undertaking research in relation to the reduction of greenhouse emissions:

With the recent announcement by the ACT Government and the following legislated greenhouse emission reduction targets, the [ESA] has been researching options to reduce greenhouse emissions. ...

The research was focused on ACT Fire & Rescue (ACTF&R) and the ACT Ambulance Services (ACTAS) as these services are the Justice and Community Safety Directorate's largest consumers of transport fuels (ACTF&R 31% and ACTAS 32%).

...

... the research focused on ACTF&R through discussion with suppliers and global enquiries. Whilst the research relied on internet searching it is clear that only one company world-wide is in any stage of fire specific development of alternate fuel vehicles.

2.10 ESA representatives had travelled to Germany in May 2019 for the purpose of a pre-construction meeting for the delivery of an aerial fire appliance, which was the subject of another, earlier procurement. As part of the same trip the ESA representatives discussed the Concept Fire Truck. The Executive Brief noted:

During this meeting it was clear that Rosenbauer have made tremendous progress in the development of the world's first electric fire appliance. Confidential information was shared that confirmed that the research and testing had been completed and the vehicle was ready for production.

From these discussions, the ACT Government has been formally offered the opportunity to partner with Rosenbauer to design and purchase an electric fire appliance.

2.11 In making the recommendation, the Executive Brief noted:

- a. Rosenbauer are the only company worldwide focusing on fire specific electric vehicles. There are no other suppliers.
- b. To meet the Government's greenhouse emissions reduction target, action and development has to happen immediately.
- c. The ACT has the opportunity to significantly influence the Australian design of the electric fire appliance demonstrating our capacity to lead Australia to a carbon natural and sustainable future.
- d. This partnership will provide value for money as the cost of the development has been carried by the Berlin Fire Department and Rosenbauer in the CFT.
- e. The ACT Government already has a contract in place for the delivery of two aerial appliances to the value of \$4.2 million, which demonstrates Rosenbauer's competitiveness in the open market, and appropriate due diligence to award contract.
- f. Rosenbauer are prepared to enter into negotiations to ensure the partnership contract protects the ACT Government from project failure.

2.12 In making the recommendation, the Executive Brief further noted:

A single select methodology outweighs the benefit of compliance with the requirement (to invite public tenders) because there is detailed substantiation of value for money, not only in the development of such a vehicle, but also in the reduction of emissions in the near future.

- 2.13 The Executive brief also identified an intention to undertake a subsequent value for money assessment:

If you provide an exemption, I will arrange for a procurement process to be conducted, including for the purpose of obtaining value for money (under s22A of the Government Procurement Act 2001).

A contract will be entered into with the proposed supplier / contractor only if I am satisfied that:

- a. value for money is demonstrated, and
 - b. relevant due diligence has been satisfactorily completed in relation to the supplier / contractor.
- 2.14 On 24 July 2019 the Acting Director-General 'agreed-in-principle' to grant an exemption ... subject to the Minister's agreement to proceed with the partnership project. Please confirm Minister's decision and resubmit for signature'. An annotation to the Brief identified that the Minister had agreed to proceed with the project and the Acting Director-General approved the Brief and the use of a single-select procurement on 2 August 2019.
- 2.15 On 2 August 2019 a *Procurement Threshold Exemption (Single Select) Executive Brief* was approved by the Acting Director-General of the Justice and Community Safety Directorate. The approval of the Executive Brief allowed the ESA to directly 'engage Rosenbauer Australia/Germany to partner in the development, design, compliance, delivery and testing of Australia's first electric fire appliance'. A quick response was sought on the Executive Brief in order 'to announce the partnership at the Australasian Fire and Emergency Service Authority Council conference on 28-29 August 2019, and be the first State in Australia to progress an electric fire appliance'.
- 2.16 The Executive Brief focused on environmental considerations and the benefit of a hybrid electric fire truck for the ACT and noted an intention for the ESA to reduce greenhouse gas emissions. The Executive Brief advised that the ESA had been undertaking research in relation to the reduction of greenhouse emissions, but that research into potential suppliers was undertaken via an internet search. The research was not documented, nor were any reports or artefacts produced in relation to the research that was conducted.

Announcement at the AFAC Conference

- 2.17 The ESA and Rosenbauer announced the intention to develop the Concept Fire Truck at the 2019 AFAC Conference in Melbourne on 28 August 2019. A Rosenbauer press release stated:

Rosenbauer Australia, a company of the Rosenbauer Group, and the ACT Government, plan to jointly refine a plug-in hybrid electric fire engine for operational service in the next two years. To this end, representatives from both sides met at the annual Australasian Fire and Emergency Services Authorities Council "AFAC" conference held in Melbourne, Victoria on the 28th August to announce they have entered into a contract based on an "innovation partnership". The partnership will be responsible for carrying out the project development of an electric rescue and firefighting vehicle and, following a successful trial of the first vehicle operationally, series production vehicles may follow accordingly.

2.18 An ACT Government media release by the Minister for Police and Emergency Services stated:

The ACT Emergency Services Agency (ESA) will work with Rosenbauer to pioneer the engineering of their Concept Fire Truck, to suit Australian fire services. The development of the Plug-in Hybrid Electric Fire Truck is an important first step towards transitioning to a zero emissions emergency vehicle fleet.

The partnership between the ACT Government and Rosenbauer will engineer a fire truck that's far more sustainable than our current fleet while being well designed for our fire fighter's needs.

This is a substantial step that will help move the ACT closer to achieving a zero net greenhouse gas emissions target by 2045. It is another example of ground-breaking technology right here in Canberra, further cementing the ACT as a world leader in innovation and sustainability.

Cabinet Briefing

2.19 On 31 July 2019 the Minister for Police and Emergency Services provided a briefing to the Economic Development Subcommittee of Cabinet. The briefing advised:

Through the [ESA] I have agreed for the ACT Government to enter into a contractual agreement with Rosenbauer Australia to build an Australian-compliant Hybrid electric fire appliance for ACT Fire & Rescue, the first of its kind in Australia.

2.20 The Briefing noted *The ACT's Transition to Zero Emissions Vehicles Action Plan 2018-2021* and advised:

In line with the [Plan] the Manager ESA Fleet & Logistics has been working closely with companies around the world to identify potential alternate fuel vehicles to supplement or replace front-line ambulances and fire appliances in the ACT.

Investigations and negotiations have identified a unique opportunity that involves partnering with an international company (Rosenbauer) to develop the final specification for Australia's first electric fire appliance.

2.21 The Briefing advised:

The Concept Fire Truck has been developed by Rosenbauer Germany in partnership with the Berlin Fire Department. This was the world's first electric vehicle concept labelled as an innovative partnership to build the fire engine of the future. The vehicle is an electric drive with a diesel range extender fire pumper, capable of carrying identical inventory to the current fleet of ACT Fire & Rescue. ...

Through preliminary discussions with the ESA, the ACT has been offered the first opportunity to partner with Rosenbauer to refine the Australian compliant specification and to host the first Australian trial. The partnership proposal would commit the ESA to a design and build-to-buy arrangement. The final pathway and risk mitigation would be negotiated through the contract and be supported by associated budget processes.

2.22 The Briefing further advised:

The partnership proposal offer outlines the pathway for ESA on behalf of ACT Government to start development of the Australian compliant, fit-for-purpose frontline fire appliance. The contractor would supply a fully compliant vehicle that will be registered in ACT and be compliant with all relevant Work Health and Safety standards. The concept vehicle would also be designed to comply and lead the way in pedestrian and cycle safety featuring smooth sides with no protrusions and under carriage protection. This European standard is required for all heavy vehicles in Europe.

- 2.23 The Briefing advised that the Director-General of JACS had signed ‘an exemption from public tender under the *Government Procurement Regulation 2007* to partner with Rosenbauer Australia’ and identified the grounds on which the exemption was signed (as described in paragraph 2.14).
- 2.24 The Briefing acknowledged that ‘the project is very innovative and, as such, carries a level of risk’ but that the risks ‘will be managed by an ACT Government project team that will progress the trial of the Australian compliant electric fire appliance in the ACT. The project team would consist of all relevant stakeholders to progress the issues across two streams (strategic and operational)’.
- 2.25 The Briefing noted the strategic team would:
- ... identify all relevant infrastructure and financial requirements and be required to submit a full brief to support the concept. It is anticipated that a full proposal would be submitted around the same time as the proposed ACT Ambulance Service and ACTF&R City Station, ensuring synergies between the two projects are highlighted, and to recognise the sustainable cities approach to the design of the City Station.
- 2.26 The Briefing noted the operational team would:
- ... engage with Rosenbauer to identify the statement of requirements. This will include stakeholders from ACTF&R and the United Firefighters Union (UFU), and focus on the operational capability of the vehicle.
- 2.27 The Briefing further advised:
- The project team would develop a Statement of Requirements (SOR) that would be attached to the partnership agreement with Rosenbauer. The SOR will be informed through a consultative approach with ACTF&R based on current and future work practices, considering all innovative developments and recommendations from the contractor. Once the SOR is completed, Rosenbauer could produce a contract for the full preparation and delivery of the electric fire appliance for ACT. This information will inform the full business case outlining all associated costs and benefits, including any budget supplementation, grants or funding required.
- 2.28 In this respect, the Briefing advised ‘preliminary discussions with the contractor have indicated that the cost would be similar to the current cost of a fire appliance, i.e. approximately \$1 million’.
- 2.29 The Briefing advised ‘the project will include a full risk report to support any future business case so that any residual risk will be well informed and considered’.
- 2.30 Following the announcement at the 2019 Australasian Fire and Emergency Services Authorities Council Conference in Melbourne on 28 August 2019, the Minister for Police and Emergency Services provided a briefing to the Economic Development Subcommittee of Cabinet. The Briefing acknowledged the single-select procurement process and that approval had already been given to enter into a contractual agreement with Rosenbauer Australia ‘to build an Australian-compliant Hybrid electric fire appliance for ACT Fire & Rescue’. The Briefing acknowledged that the project was innovative and ‘carries a level of risk’ but that the risks would be ‘managed by an ACT Government project team’ that ‘would

consist of all relevant stakeholders to progress the issues across two streams (strategic and operational)'. The Briefing advised of an intention to develop a Statement of Requirements (SOR) for the vehicle and that 'once the SOR is completed, Rosenbauer could produce a contract for the full preparation and delivery of the electric fire appliance for ACT'. The Briefing advised 'preliminary discussions with the contractor have indicated that the cost would be similar to the current cost of a fire appliance, i.e. approximately \$1 million'.

Rosenbauer supporting document

2.31 A Rosenbauer-produced document was also attached to the Briefing. The document showed a series of photographs of the Concept Fire Truck. The document also cited 'benefits to ESA, JACS and the ACT Government of an electric fire truck' with respect to the following categories:

- financial;
- environmental;
- firefighter health and wellbeing;
- knee and back injuries;
- pedestrian and cyclist safety; and
- benefit to ACT Government.

Financial

2.32 With respect to the financial benefits, the Rosenbauer document stated:

A single fire pumper in ACT Fire & Rescue on average drives for approximately 1294 hours per year. The vehicle will also idle for approximately 1057 hours per year. This equates to 98 days per year the vehicle is constantly running.

This accounts for an average 18,500 litres of diesel fuel per year, at a cost of \$27,000.

Environmental

2.33 With respect to the environmental benefits, the Rosenbauer document stated:

Rosenbauer aim to be a zero environmental impact company by designing all vehicle and motor parts to be recyclable or reusable with a zero-landfill factory policy.

Fire pumpers are optimised for performance. While it would be complex to properly estimate the full environmental benefit, the transition to a single electric fire truck would see a reduction of diesel fuel consumption by approximately 185,000 litres and a reduction of engine oil disposal by approximately 400 litres over a 10 year period.

Firefighter health and wellbeing

2.34 With respect to firefighter health and wellbeing benefits, the Rosenbauer document stated:

As the electric fire truck has zero emissions whilst driving and utilises the latest technology while responding to incidents, firefighters will be exposed to significantly less emissions. ACT

Fire & Rescue are currently dealing with WHS issues of carbon monoxide exposure around fire pumpers and generators.

Knee and back injuries

2.35 With respect to the knee and back injury benefits, the Rosenbauer document stated:

The electric fire truck has been ergonomically designed including walk in and walk out entry. A fair percentage of firefighter injuries are knee and back related as a result of getting in and out of vehicles. This vehicle will reduce worker compensated injuries.

Pedestrian and cyclist safety

2.36 With respect to the pedestrian and cycle safety benefits, the Rosenbauer document stated:

The electric fire truck has been designed to the European Vulnerable Road User Standards and would be a great asset around high density pedestrian areas of the ACT. It has been designed to minimise injuries should the vehicle come in contact with a pedestrian or cyclist by having no protrusions and features undercarriage protection. This will be of great benefit to the ACT as the number of shared zones is increasing with the push towards public transit.

Benefit to ACT Government

2.37 With respect to broader benefits to the ACT Government, the Rosenbauer document stated:

Leading the alternative fuel change with a frontline fire pumper will raise the bar for other directorates and the Canberra community.

The electric fire truck provides a very significant first step in reducing greenhouse gas emissions from fit for purpose vehicles. This substantial leap takes the ACT closer to achieving its zero net greenhouse gas emissions target by no later than 2045.

The ACT Government has set some of the most ambitious greenhouse gas emission reduction targets in Australia and compare favourably with the targets of many cities and jurisdictions around the world. Greenhouse gas emissions created by transport are one of the biggest challenges in achieving these targets. Transport is expected to create over 60% of the ACT's emissions by 2020.

Budget funding submission

2.38 Throughout late 2019 and into early 2020 a Business Case for ACT Budget funding was progressed.

Business Case

2.39 By March 2020 a Business Case for 'the design, development, procurement and delivery of an Australian-compliant electric hybrid fire pumper to address future capability needs within ACT Fire & Rescue' had been prepared. The Business Case was submitted on 3 March 2020 but:

Due to the COVID-19 global health pandemic, the ESA received advice in late March 2020 that the budget process had been delayed and all the non-business critical Business Cases would be moved to the delayed 2020/21 budget process or the 2021/22 budget process. The Plug in Hybrid Electric Fire Truck business case fell into this category.

2.40 The Business Case acknowledged the August 2019 announcement by the Minister for Police and Emergency Services that ‘the ACT was partnering with Rosenbauer to work towards an Australian-first plug-in electric hybrid fire truck’. The Business Case sought funding to allow ESA to:

... work with Rosenbauer on the specifications and development of the Australian prototype vehicle and ... purchase the completed vehicle as an operational prototype, allowing for further feasibility studies into the use of electric hybrid fire appliances as alternatives to traditional diesel vehicles.

Costs and funding sought

2.41 The Business Case sought a total of \$2.34 million in funding (\$1.62 million capital expenditure and \$0.716 million expenses). The Business Case noted ‘the proposed electric hybrid fire appliance will replace the pumper that is scheduled to be replaced in 2020-21 under the ESA’s Vehicle Replacement Program (VRP)’. The Business Case noted:

The VRP has estimated that the replacement cost [of] a new conventional pumper, which would have been acquired under the VRP that year, is \$900,000. This amount of \$900,000 from the VRP will instead be used to fund part of the cost of the prototype electric hybrid pumper. If this trial vehicle is successful, the ESA will submit a future business case to supplement the VRP to cover the difference between conventional and electric hybrid technology.

2.42 Accordingly, the funding sought through the Business Case was for ‘the costs of designing, developing and producing a prototype electric hybrid fire appliance in conjunction with Rosenbauer, and for funding to complete the purchase of the prototype vehicle’:

These costs include the costs associated with obtaining design and specification approvals, import approvals and vehicle standards approvals from Commonwealth and Territory regulatory agencies; purchasing the prototype once it is built and shipped here; establishing the necessary infrastructure and systems to enable the new vehicle to operate as part of the ESA vehicle fleet, including retrofitting one existing ACTF&R station to enable charging of the vehicle; training for ESA Workshop staff and ACT F&R staff in relation to the new vehicle; evaluating the benefits of the prototype and assessing whether further such vehicles should be purchased to replace the diesel fleet.

2.43 The Business Case further reiterated that ‘the VRP will fund part of the cost of purchasing the vehicle, with the remainder of the project costs being sought in this business case’. To the extent that capital funding of \$1.62 million was sought from the Business Case and an amount of \$0.9 million was to be re-allocated from the purchase of a diesel fire truck under the Vehicle Replacement Program ‘to fund part of the cost of the prototype electric hybrid pumper’, this suggests that the capital cost of the fire truck was expected to be approximately \$2.52 million.

2.44 The Business Case identified that the project ‘will deliver a range of benefits for the Territory, including environmental benefits and workplace safety benefits’.

2.45 Throughout late 2019 and into early 2020 a Business Case for ACT Budget funding was progressed. The funding sought through the Business Case was for ‘the costs of designing, developing and producing a prototype electric hybrid fire appliance in conjunction with

Rosenbauer, and for funding to complete the purchase of the prototype vehicle'. The Business Case sought a total of \$2.34 million in funding (\$1.62 million capital expenditure and \$0.716 million expenses). The Business Case identified that the project 'will deliver a range of benefits for the Territory, including environmental benefits and workplace safety benefits'. The Business Case was submitted on 3 March 2020 but did not proceed due to the advent of the COVID-19 pandemic, and its impact on ACT Budget processes.

Environmental benefits

2.46 The Business Case identified:

At present, the ESA's fleet of 9 frontline operational fire trucks are diesel vehicles. Currently on average an operational frontline fire truck in ACT F&R will idle for 1000 hours per year, and will drive for 1500 hours per year, consuming 18,500 litres of diesel. This equates to the production of 50.4 tonnes of Co2 per year. These diesel vehicles also produce air pollution in the form of diesel particulates.

2.47 The Business Case noted 'the proposal seeks to support the *ACT Climate Change Strategy 2019-2025* by reducing the emissions produced by the ESA operational vehicle fleet' and pointed to the development of a feasibility study that supported the use of a hybrid electric fire truck:

Recognising the need to explore lower emissions vehicle technologies, the ESA conducted a feasibility study into the viability, suitability and sustainability of introducing an electric hybrid vehicle into the fire appliance fleet. The study identified that the concept vehicle would be similar in maintenance costs and produce efficiencies both financially and in terms of sustainability.

2.48 The Business Case also confirmed the ESA's confidence that there were no other alternatives to the Rosenbauer proposal:

Before entering its partnership with Rosenbauer, the ESA considered what other alternative technologies are being developed, or are on the horizon, for lower emissions fire appliances. There are currently no other low emissions technologies that are commercially available for use in heavy vehicles. The ESA is confident that its proposed investment in the electric hybrid prototype fire truck is the best option for reducing carbon emissions from the ACT F&R fleet.

2.49 The Business Case identified specific environmental benefits as follows:

This option is projected to reduce F&R's diesel consumption by around 185,000 litres over a 10-year period and approximately 504 Tonnes of Co2, based on one hybrid electric vehicle only.

2.50 The Business Case also identified other environmental benefits:

... through reduced waste products resulting from the significantly reduced engine servicing regime. This will have financial benefits from not having to purchase as many engine consumables, as well as environmental benefits from a reduction in disposal of those consumables. For instance, it is estimated that an electric fire appliance will see a reduction in use and consequential disposal of approximately 400 litres of engine oil over 10 years with an estimated cost of \$10,000. Electric fire appliances will also reduce the burden on exhaust removal and extraction systems at fire stations, reducing the ongoing maintenance burden of those systems.

2.51 The Business Case identified a range of environmental benefits associated with the hybrid electric fire truck. The Business Case also stated that the ESA had ‘conducted a feasibility study into the viability, suitability and sustainability of introducing an electric hybrid vehicle into the fire appliance fleet’ and that ‘the study identified that the concept vehicle would be similar in maintenance costs and produce efficiencies both financially and in terms of sustainability’. There were no reports or artefacts produced in relation to a feasibility study as described.

Workplace safety benefits

2.52 The Business Case also identified workplace safety benefits through:

- minimised risk for firefighters breathing carcinogens; and
- the design of the hybrid fire truck itself.

2.53 In relation to the former the Business Case identified:

In addition to a reduction in carbon emissions, diesel engines emit diesel particulate matter. Diesel particulate matter is a known carcinogen, with ongoing exposure linked to an increase in the risk of cancer. Short term impacts may include irritation of the eyes, nose, throat and lungs, asthma attacks and nausea. Firefighters are commonly exposed to these particulates both while operating from the vehicle at incidents, but also while the vehicle is idling during daily apparatus checks.

2.54 In relation to the latter the Business Case identified:

The design of the electric fire appliance is also expected to offer significant physical workplace safety benefits for firefighters. The simplified design of an electric vehicle allows the electric fire appliance to be closer to the ground. This provides for a lower centre of gravity for the vehicle, reducing the likelihood of the appliance rolling over while being driven. The lower height increases ease of access for users of the vehicle. Many firefighters experience some level of knee and lower back pain and discomfort during their careers, from exiting and entering the cabin of the pumpers via boarding steps. This pain can be exacerbated when firefighters are wearing breathing apparatus equipment and personal protective equipment with a combined weight of approximately 20 kilograms. The lower design of the electric fire appliance will allow firefighters to walk into the cabin without the need to climb steps.

2.55 The Business Case advised ‘the (JACS) work health and safety representative conducted a full workplace health and safety assessment of the Rosenbauer concept vehicle and compared it with existing vehicles and the recorded injuries associated with existing vehicles’ and that ‘this report formed part of the feasibility study and overwhelmingly supported the concept design and progression to the prototype’.

2.56 In relation to the workplace health and safety assessment, the ESA provided a four-page document titled ‘Concept Fire Truck A Safe Design Approach’. The document is undated and it does not identify who prepared or reviewed it. The document makes a series of observations and assertions relating to diesel particulates, ergonomic features of the truck, manual handling features of the truck, the ageing workforce, the risk of falls and exposure to hazardous noise. Many of the observations and assertions in the document were reproduced in the Business Case.

2.57 The Business Case identified workplace safety benefits through: minimised risk for firefighters breathing carcinogens; and the design of the hybrid electric fire truck itself. There is expected to be a minimised risk for firefighters breathing carcinogens because of the use of the hybrid electric engine. The design of the fire truck means that it is lower to the ground and this is expected to reduce the risk of roll-over during operations and reduce the risk of firefighters' knee and back injuries when entering and exiting the vehicle. The Business Case advised 'the (JACS) work health and safety representative conducted a full workplace health and safety assessment of the Rosenbauer concept vehicle and compared it with existing vehicles and the recorded injuries associated with existing vehicles' and that 'this report ... overwhelmingly supported the concept design and progression to the prototype'. In relation to the workplace health and safety assessment, the ESA provided a four-page document titled 'Concept Fire Truck A Safe Design Approach'. The document is undated and it does not identify who prepared or reviewed it. The document makes a series of observations and assertions many of which were reproduced in the Business Case.

Implications for the Vehicle Replacement Program

2.58 The Business Case advised that entering into the partnership arrangement with Rosenbauer would have implications for the cost and scheduling of the existing Vehicle Replacement Program:

As presently formulated, the VRP has scheduled one ACTF&R pumper for replacement in 2020-21. There are two pumpers due for replacement in 2021-22, and one pumper for each subsequent year. As noted previously, the business case proposes that the prototype electric hybrid vehicle be acquired in place of the diesel pumper scheduled to be replaced in 2020-21, and that part of the cost of the acquiring the electric hybrid prototype should be met from the funds currently allocated under the VRP for replacing that diesel pumper (\$0.9 million).

If the prototype is successful, there would be a phased replacement of ACTF&R diesel pumpers with electric hybrid vehicles as those diesel vehicles fall due for replacement under the ESA VRP replacement schedule. The ESA VRP would fund the acquisition of the replacement vehicles. As the electric hybrid vehicles will be slightly more expensive than their diesel counterparts, a further business case would be brought forward at that time to "top up" VRP funding to cover the difference. The extent of the future shortfall is not yet known as these vehicles are not in production.

2.59 The Business Case asserted that the vehicle produced from the partnership arrangement would be 'slightly more expensive' than its diesel counterpart and that this would mean a further business case would be brought forward to provide for Vehicle Replacement Program funding. The purchase orders issued in October 2020 and January 2021 show the cost of the hybrid electric fire truck is considerably more than its diesel counterparts.

Use of the funding

2.60 The Business Case sought funding for:

... a project to design and develop a prototype electric hybrid fire appliance for ACTF&R, in partnership with Rosenbauer. It also seeks funding to contract with Rosenbauer to build and purchase the resultant vehicle. The vehicle will be designed to comply with Australian design rules and heavy vehicle standard, and importation rules.

2.61 The funding sought through the Business Case was also for:

... the costs of equipping the ESA Workshop to service and repair an electric hybrid vehicle and upskilling its workforce to undertake that work, training ACTF&R in the operation and use of the new vehicle and retrofitting the ESA Workshop and at least one existing station with appropriate charging facilities for the vehicle, noting that the vehicle is likely to be operational before construction is completed on the new Acton Joint ACTAS/ACTF&R Station.

2.62 The funding was also to include:

... a component of funding for the ESA, together with relevant ACT Government Directorates, to evaluate the prototype and further investigate the prototype vehicle's whole-of-life benefits for the ACT community. This is part of the project management costs.

2.63 The Business Case envisaged 'work on finalising the design and specifications for the prototype vehicle would commence with a view to having the vehicle entering operations by 2022':

This timeframe factors in the time required to build the vehicle, obtain import approvals from Commonwealth agencies, ship the vehicle to Australia, be cleared through Customs, obtain vehicle design and vehicle standards compliance checks from relevant agencies including the National Heavy Vehicle Regulator and the ACT Road Transport Authority and be delivered to the ESA. The work around equipping the ESA Workshop and training relevant staff, and retrofitting a station for charging capabilities, would occur in parallel with the construction and importation of the vehicle.

Risks

2.64 The Business Case identified that there are risks associated with the project, relating to the fact that the truck was not in full production:

This business case recognises that developing and purchasing what would be the first of its kind (a prototype vehicle) is a more expensive option than purchasing a "production vehicle". This is because in a prototype, the design and development costs are attributed to a single vehicle, whereas with a production vehicle these costs are spread across the whole of the production run. However, there is no commercially available production model for fire appliances available for purchase, so that is not an option available to ESA at this time.

2.65 Accordingly, the Business Case identified two alternative options:

- 'delay procurement until an electric fire appliance enters commercial production'; and
- 'do nothing', i.e. continue to procure diesel-powered fire trucks.

2.66 The first alternative option was not recommended because the availability of an alternative fuel fire truck for commercial purchase was not expected to happen until 'mid 2025 at the earliest'. The Business Case noted the environmental benefits and workplace health and safety benefits would be delayed and in relation to costs:

While Option 2 would not involve the full funding components for design and development of the vehicle that are included within Option 1, there would still be costs for the ESA in developing the body-build and fit out specifications necessary to convert the 'off the shelf' chassis into a fire appliance. The costs of setting up the ESA workshop and charging

infrastructure to accommodate the new vehicles, and training staff, would be equivalent to Option 1.

- 2.67 The second alternative option was also not recommended because the environmental benefits and workplace health and safety benefits envisaged in the options would not be achieved.
- 2.68 The Business Case sought funding for ‘a project to design and develop a prototype electric hybrid fire appliance for ACTF&R, in partnership with Rosenbauer’ and ‘funding to contract with Rosenbauer to build and purchase the resultant vehicle’. The funding sought through the Business Case was also for ‘the costs of equipping the ESA Workshop to service and repair an electric hybrid vehicle and upskilling its workforce to undertake that work, training ACTF&R in the operation and use of the new vehicle and retrofitting the ESA Workshop and at least one existing station with appropriate charging facilities for the vehicle’.
- 2.69 The Business Case identified that there were risks associated with the project, relating to the fact that the truck was not in full production, and that it would cost more than a conventional fire truck. However, the Business Case did not recommend the option of not proceeding, because of the imperative in achieving the expected environmental benefits and workplace health and safety benefits. To mitigate this, however, a component of the funding was also ‘for the ESA, together with relevant ACT Government Directorates, to evaluate the prototype and further investigate the prototype vehicle’s whole-of-life benefits for the ACT community. This is part of the project management costs’.

3 CONVENTIONAL FIRE TRUCKS PROCUREMENT

- 3.1 This chapter discusses the identification and use of an alternative procurement process for conventional fire trucks as a means of procuring the hybrid electric fire truck.

Summary

Conclusions

The procurement of the hybrid electric fire truck was subsequently pursued by incorporating it into a contract that derived from a public tender process for the supply of urban pumpers. In March 2020 a RFT was issued for the supply of urban pumpers, from which Rosenbauer was identified as the successful tenderer.

In its response to the RFT, Rosenbauer provided detailed and specific information against a series of response schedules. The response schedules sought information from prospective tenderers with respect to 13 detailed specifications relating to a broad range of considerations. The detailed information Rosenbauer provided related to a conventional diesel fire truck. The tender evaluation report that was subsequently produced did not reference the hybrid electric fire truck, or otherwise identify it as being a factor in the Tender Evaluation Team's recommendation.

Prior to entering into the contract with Rosenbauer the ESA did not assess the value for money of the hybrid fire truck in accordance with the requirements of section 22A of the *Government Procurement Act 2001*.

Key findings

Paragraph

Request for Tender

On 5 March 2020 the ESA issued a Request for Tender (RFT) titled 'ACT Fire and Rescue Pumper'. The RFT was for a 'turn-key solution for up to five (5) Urban Type pumpers'. The RFT did not specify any requirements for the power source for the vehicle, but stated 'ACT Fire & Rescue, through the ACT Emergency Services Agency, wishes to explore all options and innovation in regards to the design and construction of this vehicle' and 'there is no limit to what may be presented, including but not limited to alternative power sources, construction materials etc'. Eight addenda were issued to the RFT, which did not identify anything specifically relevant to the supply of a hybrid electric fire truck. An industry briefing on 18 March 2020 also did not provide further information specifically relevant to the supply of a hybrid electric fire truck. The RFT identified weighted criteria relevant to the

3.16

technical specifications of the proposed vehicle and the capabilities of the supplier and an unweighted criterion of pricing.

The RFT included a series of response schedules, against which prospective tenderers were required to provide information. The response schedules provided 13 detailed specifications with respect to a broad range of considerations. Rosenbauer addressed the 13 different specifications in the response schedules, but in doing so provided information in relation to a diesel-powered vehicle. Rosenbauer did not provide a similar detailed response which would purport to show how a proposed hybrid electric vehicle would meet the 13 different specifications. Rosenbauer's response to the RFT did note, however 'we are also extremely proud to provide **additional innovative solutions such as the world leading Rosenbauer CFT and subsequent digital solutions for ACTF&R future fleet consideration**' [emphasis in original].

3.28

Five responses to the RFT were received by the closing date of 30 April 2020. A Tender Evaluation Team was convened, which comprised of two members from ACT Fire & Rescue and one representative from the Transport Canberra and City Services Directorate who had experience with large vehicle procurement. The Tender Evaluation Team was assisted by an Evaluation Team Facilitator from Procurement ACT. The Team produced a comprehensive tender evaluation report which demonstrated its assessment of the evaluation criteria (weighted and non-weighted), assessment of risks and overall value for money assessment. An order of merit was established with the top two suppliers. In the tender evaluation report, there was no reference to a hybrid electric fire truck or it being a factor in the Tender Evaluation Team's recommendation.

3.39

September 2020 contract

On 1 September 2020 the ESA signed a contract with Rosenbauer Australia Pty Ltd (and S.K. Rosenbauer Pte. Ltd of Singapore) for the supply of 'fire appliances for the Territory's Emergency Services Agency'. The details of the diesel pumpers and the hybrid electric fire truck were contained in separate attachments to the contract. The details for the diesel pumpers were based on the detailed information in the response schedules provided and evaluated as part of the response to the RFT. They were outlined in four documents, which included: design schematics which included sizing dimensions (1 page); technical specifications with accompanying design illustrations (45 pages); weight schedule (1 page); and ACT Fire and Rescue's list of requirements (26 Pages). Similar documentation was not included in the contract for the hybrid electric fire truck.

3.51

There is no evidence that the details of the hybrid electric fire truck were assessed, similarly to the details of the diesel pumpers, and identified or confirmed as suitable or appropriate. There is no evidence that the ESA tested the details of the hybrid electric fire truck to confirm that they met operational requirements. This is in contrast to the assessment that was undertaken of the details of the diesel pumpers that were then procured.

3.52

The ESA asserts that decision-makers' valid approval for the initial entry into the partnership agreement with Rosenbauer for the development of the Concept Fire Truck (through the 2019 single-select process) and the approval of Rosenbauer for the supply of urban pumpers (through the March 2020 RFT process) allowed it to include the hybrid electric fire truck in the September 2020 contract for services with Rosenbauer. Prior to entering the contract, however, the ESA did not assess the value for money of the hybrid electric fire truck in accordance with the requirements of section 22A of the *Government Procurement Act 2001*. 3.59

On 27 October 2020, purchase orders were issued to Rosenbauer International A.G for the supply of the diesel pumpers. The total value of the two purchase orders issued on 27 October 2020 was \$2,439,465 (GST ex), which was for the supply of three diesel pumpers. Each diesel pumper was to be supplied at a cost of \$813,155 (GST ex), which included the cost of the truck as well as import duty, training and delivery. On 28 January 2021 a purchase order was issued for the hybrid electric fire truck at a cost of \$1,524,387 (GST ex). Unlike the purchase orders issued for the diesel pumpers, the purchase order for the hybrid electric fire truck does not identify costs associated with import duty, training or delivery. These costs amounted to \$55,405 (GST ex) for each of the diesel pumpers. 3.75

Request for Tender

- 3.2 On 5 March 2020 the ESA issued a Request for Tender (RFT) titled 'ACT Fire and Rescue Pumper'. The RFT was for a 'turn-key solution for up to five (5) Urban Type pumpers'.
- 3.3 The RFT was publicly released on the Tenders ACT website on 5 March 2020.
- 3.4 The original closing date for the RFT was advertised as 2:00 pm on 16 April 2020, which was then changed to 2:00 pm on 30 April 2020. The reason for the extension was COVID-19 restrictions in place at the time.

Statement of Requirements

- 3.5 The RFT included a Statement of Requirements as an attachment. The RFT stated:

The Territory is seeking a turn-key solution for up to five (5) Urban Type pumpers.

Urban type pumpers are defined as being a multi-purpose, emergency response vehicle that provides a fire and rescue capability in a wide variety of incidents. It contains an integrated pump, and a minimum crew of four (4) firefighters and their associated resources and equipment.

- 3.6 The RFT further stated:

The Contractor will be required to provide a turn-key solution. The turn-key solution incorporates the supply, build and delivery of fully functional urban type pumper with specifications as outlined by the Territory.

The Contractor will deliver the vehicles with all relevant engineers' certificates and compliance papers to be registered in the Territory without any exemptions or permits.

- 3.7 The RFT required ‘the first pumper ... to be delivered in late 2020 / early 2021 with the remaining pumpers to be purchased at a later date’.
- 3.8 The RFT also required the supplier to provide:
- training on the use of the vehicles to officers in Canberra;
 - ‘a schedule of regular and preventative maintenance’ noting that the Territory undertakes its own ongoing and preventative maintenance; and
 - ongoing support to the Territory in the form of helpdesk support and specialist advice and onsite assistance within the Territory.
- 3.9 The RFT required the supplier to provide the vehicles in accordance with various ‘statutes, regulations and standards’ as well as various warranties.
- 3.10 The RFT required the vehicles ‘to be designed to ensure an effective minimum service life of 20 years’ and outlined a range of high-level design and compliance categories and associated specifications.
- 3.11 The RFT did not specify any requirements for the power source for the vehicle but stated:
- ACT Fire & Rescue, through the ACT Emergency Services Agency, wishes to explore all options and innovation in regards to the design and construction of this vehicle. Tenderers are invited to include in their submissions, any and all aspects of design and innovation that they may believe will enhance the construction and performance of the vehicle. There is no limit to what may be presented, including but not limited to alternative power sources, construction materials etc. Any such items that may be considered intellectual property should be identified within the tender documentation.
- This vehicle build will be undertaken as a “turn key” project. The vehicle will be delivered to ACT Fire & Rescue as a ready to operate capability, on a purchased or constructed chassis, ready for frontline operations.

Addenda to the RFT

- 3.12 In addition to the RFT documents that were issued to the prospective tenderers, eight addenda were issued. Table 3-1 summarises these addenda.

Table 3-1 Addenda to the RFT

Addendum number	Date issued	Summary of addendum
1	11 March 2020	Advising of a change of time for the Industry Briefing Session on 18 March 2020.
2	13 March 2020	Advising that the Industry Briefing Session on 18 March 2020 is anticipated to proceed. However due to the current COVID19 situation, there may be alternate ways to attend the briefing.
3	16 March 2020	Advising that the Industry Briefing Session on 18 March 2020 is proceeding via video conference.
4	25 March 2020	The minutes, talking points, response to questions relating to the Industry Briefing Session on 18 March 2020 were provided.

Addendum number	Date issued	Summary of addendum
5	26 March 2020	An attachment was provided that provided that listed the inventory that the fire truck will be required to carry as well as the individual weights of those items.
6	31 March 2020	Advising the new closing date for the RFT has been extended to 2.00pm on Thursday 30 April 2020 due to current restrictions in place for COVID19.
7	23 April 2020	Providing an answer in response to a query on Electro-Magnetic Compatibility testing of the fire truck.
8	24 April 2020	Providing an answer in response to a request to extend the deadline for the tender for an additional two weeks. The response to this query was no.

Source: ACT ESA provided documents

3.13 The addenda did not identify anything specifically relevant to the supply of a hybrid electric fire truck. An industry briefing on 18 March 2020 also did not provide any further information specifically relevant to the supply of a hybrid electric fire truck.

Assessment Criteria

3.14 The RFT identified weighted and unweighted assessment criteria. The weighted criteria were:

- WC 1 – Experience and Past performance and Capability and Capacity to Deliver the Services – 20 percent
- WC 2 – Technical Requirements – 30 percent
- WC 3 – Training and Vehicle Support – 10 percent
- WC 4 – Quality Assurance and Reporting Systems – 10 percent
- WC 5 – Project Plan – 20 percent
- WC 6 – Regional Contribution and Industrial Relations Local Industry Participation Policy – 10 percent

3.15 The unweighted criterion was:

- NWC 1 – Price.

3.16 On 5 March 2020 the ESA issued a Request for Tender (RFT) titled 'ACT Fire and Rescue Pumper'. The RFT was for a 'turn-key solution for up to five (5) Urban Type pumpers'. The RFT did not specify any requirements for the power source for the vehicle, but stated 'ACT Fire & Rescue, through the ACT Emergency Services Agency, wishes to explore all options and innovation in regards to the design and construction of this vehicle' and 'there is no limit to what may be presented, including but not limited to alternative power sources, construction materials etc'. Eight addenda were issued to the RFT, which did not identify anything specifically relevant to the supply of a hybrid electric fire truck. An industry briefing

on 18 March 2020 also did not provide further information specifically relevant to the supply of a hybrid electric fire truck. The RFT identified weighted criteria relevant to the technical specifications of the proposed vehicle and the capabilities of the supplier and an unweighted criterion of pricing.

Rosenbauer response

3.17 The RFT included a series of response schedules, against which prospective tenderers were required to provide information. The response schedules provided detailed specifications with respect to a range of considerations:

- 1 – Dimensions
- 2 – Chassis
- 3 – Cabin
- 4 – Fire Pump and Water System
- 5 – Pump Controls and Equipment
- 6 – Body Design
- 7 – Electrical
- 8 – Communications and Data
- 9 – Design for Maintenance
- 10 – Compliance
- 11 – WH&S
- 12 – Noise Level
- 13 – Standards Compliance

3.18 In addressing the 13 different specifications in the response schedules, Rosenbauer provided information in relation to a diesel-powered vehicle. This is demonstrated in its response to specification 2.1.5, which outlines the requirement of the type of engine for the vehicle. In its response Rosenbauer identifies the proposed vehicle's engine as a 'D11K380 diesel engine, 380hp, 1800Nm SCR and EGR'.

3.19 Rosenbauer's response schedules include two references to a hybrid electric vehicle, but this is done in a way to advise that Rosenbauer is in the process of developing this technology. This is shown in relation to specifications relating to:

- the chassis; and
- the vehicle's compliance with statutes, regulations and standards.

Chassis

- 3.20 In relation to specification 2.1.1 relating to the vehicle's chassis, the RFT outlined the following requirement:

Vehicle has the ability to carry an inventory of approximately 1600kg in equipment and 500 kg in personnel. This corresponds to the vehicles role as being a standard and/or heavy rescue pumper.

- 3.21 In its response Rosenbauer identified a conventional vehicle configuration but also noted:

Overall the firefighting systems, electrics and components, offer ACT the ability to choose a more traditional style pumper vehicle based on the commercial type crew cab of the next generation or if desired in future to transition to more advanced and innovative vehicle design's such as the Rosenbauer M91x PEHV. Enabling smoother future fleet strategy transition.

Vehicle compliance with statutes, regulations and standards

- 3.22 In relation to specification 13.1.6 and the requirement for 'vehicle innovation through lifecycle of contract', the RFT outlined the following requirement:

ACT Emergency Services Agency and ACTF&R encourage consultation and negotiation in regards to innovation and new technology throughout the life of the contract. Such discussions may be initiated by either party at any time during the contract cycle.

- 3.23 In its response Rosenbauer stated:

As the leading authority in the world on firefighting technology and innovation. Rosenbauer are constantly undertaking Research and Development as part of our daily business, we would be happy to work with ACT F&R on future innovations and improvements as they come to light or as requested. At the time of tender Rosenbauer are underway with groundbreaking technology developments and new innovations. Rosenbauer cooperates with external research and educational institutions in the same way that its own employees are involved in the innovation process. The decisive input as to how the firefighting technology will look in the future, however, always comes from the users, the fire departments. Rosenbauer is in constant, intensive dialog with them, because their expertise is ultimately the key to successful products.

- 3.24 Rosenbauer also included links to its website showcasing its work in relation to the hybrid electric fire truck.

Information on the hybrid electric fire truck

- 3.25 Rosenbauer's response to the 13 different specifications in the response schedules shows how its proposed diesel-powered vehicle meets the requirements of the RFT. There is an absence of similarly relevant information in relation to how a proposed hybrid electric vehicle would meet the 13 different specifications.

- 3.26 In its response to the RFT Rosenbauer also noted:

Within our proposal, you will find the relative supporting information pertaining to the Rosenbauer innovative and fully integrated Rescue Pumping appliance designed for ACT F&R. We are also extremely proud to provide **additional innovative solutions such as the world**

leading Rosenbauer CFT and subsequent digital solutions for ACTF&R future fleet consideration [emphasis in original].

3.27 No further information on the hybrid electric fire truck was provided in Rosenbauer's response.

3.28 The RFT included a series of response schedules, against which prospective tenderers were required to provide information. The response schedules provided 13 detailed specifications with respect to a broad range of considerations. Rosenbauer addressed the 13 different specifications in the response schedules, but in doing so provided information in relation to a diesel-powered vehicle. Rosenbauer did not provide a similar detailed response which would purport to show how a proposed hybrid electric vehicle would meet the 13 different specifications. Rosenbauer's response to the RFT did note, however 'we are also extremely proud to provide **additional innovative solutions such as the world leading Rosenbauer CFT and subsequent digital solutions for ACTF&R future fleet consideration**' [emphasis in original].

Tender evaluation

3.29 Five responses to the RFT were received by the closing date of 30 April 2020.

Tender Evaluation Team

3.30 A Tender Evaluation Team was convened. It comprised of two members from ACT Fire & Rescue and one representative from the Transport Canberra and City Services Directorate who had experience with large vehicle procurement. The Tender Evaluation Team was assisted by an Evaluation Team Facilitator from Procurement ACT.

Tender evaluation report

3.31 A comprehensive tender evaluation report was produced. It outlined and summarised:

- the Tender Evaluation Team – its membership and declarations of potential conflict of interest (of which there were none);
- the assessment criteria;
- the process of the RFT itself, including the addenda that were issued and administrative processes for the handling of tenders;
- the technical assessment (Criteria 1 to 5);
- the additional consideration of the Regional Contribution and Industrial Relations Local Industry Participation Policy criterion (Criterion 6);
- the pricing assessment;
- the risk assessment; and
- the Value for Money assessment.

3.32 The five responses were evaluated by the Tender Evaluation Team. Table 3-2 summarises the total weighted scores the Tender Evaluation Team gave each tenderer's submitted tender.

Table 3-2 Weighted scores of tenders received

Tenderer	WC1	WC2	WC3	WC4	WC5	WC6	Weighted score
Tenderer A	120	180	60	70	120	40	590
Tenderer B	100	180	60	60	100	20	520
Tenderer C	140	210	70	70	160	40	690
Rosenbauer Australia Pty Ltd	160	240	70	80	140	40	730
Tenderer E	100	150	50	40	100	50	490

Source: GS0001343.110 – RFT Evaluation Report – ACT Fire and Rescue Pumper

3.33 While a Tenderer's submission's price was not a weighted criterion, Table 3-3 outlines the price submissions and the tender evaluation team's pricing analysis.

Table 3-3 Total price for each tender response

Tenderer	Total Price	Summary of pricing analysis
Tenderer A	\$850,306.00 (excluding GST)	Price provided was GST exclusive. Price provided is similar to other respondents however lack of innovation and underrating of requirements is a Risk. With GST included their price is slightly higher than budget.
Tenderer B	\$883,190.00 (including GST)	Price provided compared well to other respondents however did not provide same level of experience and knowledge of local market. Unproven product could result in higher cost. Price is within budget.
Tenderer C	\$882,440.39 (including GST)	Requirements fully understood and reflected in pricing. Price is within budget.
Rosenbauer Australia Pty Ltd	\$893,909.10 (including GST)	Requirements fully understood and reflected in pricing. Price is within budget.
Tenderer E	\$1,112,620.62 (including GST)	Price provided was the highest of all respondents without providing any further value. Possible Risk with lack of detail in some areas of the requirements which could result in a higher price. Price is outside of budget.

Source: GS0001343.110 – RFT Evaluation Report – ACT Fire and Rescue Pumper

3.34 The tender evaluation report outlined a risk assessment that was conducted in relation to the tenders. Tenders were reviewed and assigned a risk rating (Low, Medium or High) and the rationale for the risk assessment was documented.

Value for Money assessment

3.35 The tender evaluation report noted the Tender Evaluation Team was responsible for 'performing and determining the Value for Money assessment'. The tender evaluation report stated:

The Evaluation Team held a moderation workshop to discuss and consider all information gathered and documented during the evaluation process, including:

- a) whole of life costs represented by the Total Price;
- b) technical worth represented by the Weighted Technical Scores;
- c) the level of risk a Tender Response is likely to pose to the Territory;

as determined during the Stage 3: Technical Assessment, Stage 4: Pricing Assessment and Stage 5: Risk Assessment.

3.36 An order of merit was established of the top two tenders. The order of merit is shown in Table 3-4.

Table 3-4 Order of merit

	Total Price	Total Weighted Technical Score	Risk	VFM Ranking
Rosenbauer Australia Pty Ltd	\$893,909.10 (GST inc)	730	Low	1
Tenderer C	\$882,440.39 (GST inc)	690	Low	2

Source: GS0001343.110 – RFT Evaluation Report – ACT Fire and Rescue Pumper

3.37 In the tender evaluation report, there was no reference to a hybrid electric vehicle or it being a factor in the Tender Evaluation Team's recommendation.

3.38 The tender evaluation report was approved on 4 June 2020 by the Commissioner for the Emergency Services Agency.

3.39 Five responses to the RFT were received by the closing date of 30 April 2020. A Tender Evaluation Team was convened, which comprised of two members from ACT Fire & Rescue and one representative from the Transport Canberra and City Services Directorate who had experience with large vehicle procurement. The Tender Evaluation Team was assisted by an Evaluation Team Facilitator from Procurement ACT. The Team produced a comprehensive tender evaluation report which demonstrated its assessment of the evaluation criteria (weighted and non-weighted), assessment of risks and overall value for money assessment. An order of merit was established with the top two suppliers. In the tender evaluation report, there was no reference to a hybrid electric fire truck or it being a factor in the Tender Evaluation Team's recommendation.

September 2020 contract

Post-tender negotiations

- 3.40 Following the identification of Rosenbauer as the preferred supplier, the ESA commenced negotiations for the contract.
- 3.41 As part of these negotiations the ESA sought to include the supply of the hybrid electric fire truck in the contract.

Contract

- 3.42 On 1 September 2020 the ESA signed a contract with Rosenbauer Australia Pty Ltd (and S.K. Rosenbauer Pte. Ltd of Singapore) for the supply of ‘fire appliances for the Territory’s Emergency Services Agency’. The contract is for the supply of:
- Up to five multi-purpose, emergency response vehicles containing an integrated pump with fire and rescue capabilities in a wide variety of environments and built in accordance with the Specifications at **Attachment A1 Schedule 2**, and may include electric powered vehicles built in accordance with the specifications at **Attachment A2 Schedule 2**.
- 3.43 The contract explicitly identified the individual cost of each ‘Diesel powered Urban Pumper’. The cost of the ‘Electric powered Urban Pumper’ was identified as ‘according to final scope as agreed by the parties’.
- 3.44 The contract also identified a cost for ‘Initial operator training’ and ‘Initial advanced technical training’. However, the contract is not clear as to whether this training is for both the diesel fire trucks and the hybrid electric fire truck.
- 3.45 The contract also included pricing for a ‘Pumper Spare Parts and Maintenance’ schedule, which was agreed by the parties. This is for the cost of spare parts and maintenance for the first five years after a pumper has arrived. The schedule does not identify whether the service schedule and the agreed upon pricing applies to the diesel fire trucks or hybrid electric fire truck or both.

Pumper specifications

- 3.46 The details of the diesel pumpers and the hybrid electric fire truck were contained in separate attachments to the contract.

Diesel pumpers

- 3.47 The details of the diesel pumpers consisted of four documents, which included:
- design schematics which included sizing dimensions (1 page);
 - technical specifications with accompanying design illustrations (45 pages);
 - weight schedule (1 page); and

- ACT Fire and Rescue’s list of requirements (26 Pages).

3.48 The details of the diesel pumpers were based on the detailed specifications identified in the response schedules provided and evaluated as part of the response to the RFT.

Hybrid electric fire truck

3.49 The details of the hybrid electric fire truck consisted of an Excel spreadsheet that contained 718 rows of information. A similar list of documents to that produced for the diesel pumpers (as shown in paragraph 3.47) was not produced and included in the contract.

3.50 There is no evidence that the details of the hybrid electric fire truck were assessed, similarly to the details of the diesel pumpers, and identified or confirmed as suitable or appropriate. There is no evidence that the ESA tested the details of the hybrid electric fire truck to confirm that it met operational requirements. This is in contrast to the process that was undertaken for the diesel pumpers.

3.51 On 1 September 2020 the ESA signed a contract with Rosenbauer Australia Pty Ltd (and S.K. Rosenbauer Pte. Ltd of Singapore) for the supply of ‘fire appliances for the Territory’s Emergency Services Agency’. The details of the diesel pumpers and the hybrid electric fire truck were contained in separate attachments to the contract. The details for the diesel pumpers were based on the detailed information in the response schedules provided and evaluated as part of the response to the RFT. They were outlined in four documents, which included: design schematics which included sizing dimensions (1 page); technical specifications with accompanying design illustrations (45 pages); weight schedule (1 page); and ACT Fire and Rescue’s list of requirements (26 Pages). Similar documentation was not included in the contract for the hybrid electric fire truck.

3.52 There is no evidence that the details of the hybrid electric fire truck were assessed, similarly to the details of the diesel pumpers, and identified or confirmed as suitable or appropriate. There is no evidence that the ESA tested the details of the hybrid electric fire truck to confirm that they met operational requirements. This is in contrast to the assessment that was undertaken of the details of the diesel pumpers that were then procured.

RECOMMENDATION 1 ASSESSMENT OF HYBRID ELECTRIC FIRE TRUCK SUITABILITY

The ESA should, prior to its deployment, formally assess and confirm that the hybrid electric fire truck meets the needs of the ESA as an urban pumper in the Territory.

Justification for the inclusion of the hybrid electric fire truck

- 3.53 On 23 June 2020, an ESA Director with responsibility for procurement, who had been asked to assist with the contract negotiations with Rosenbauer, sent an email to Procurement ACT seeking advice on whether the ESA could include the supply of the hybrid electric fire truck in the contract:

While everything went well with the first session this morning, [the Executive Branch Manager, Capability, Coordination & Support] has asked a question about the possibility of including the concept electric fire truck as part of this contract. He suggested contacting you ...

I believe from what I have seen that the tender was for only one pumper truck so I do not think that we can. Can you confirm this?

- 3.54 There is no evidence of a response to this email.

- 3.55 Subsequently, on 7 October 2021, for the purpose of collating documentation for the Audit Office's consideration of the matter, the Executive Branch Manager, Capability, Coordination & Support (who was previously the ESA Director for procurement) sent an email to the Assistant Commissioner, Operations (previously the Executive Branch Manager, Capability, Coordination & Support). The email included their previous email from 23 June 2020 as well as the following statement:

I never got a reply in writing however after this meeting we then engaged with GSO to put the electric pumper into the contract.

I have those meetings and then the contract to show that this was ok to proceed.

January 2023 justification for inclusion of hybrid fire truck

- 3.56 In an email to the Audit Office dated 23 January 2023, the ESA provided information on the justification of the inclusion of the hybrid electric fire truck in the contract with Rosenbauer:

The [limited market approach] allowed ESA to purchase an electric powered pumper truck. Rosenbauer were identified as having the only commercial pumper that met the operational requirements of ESA. With the onset of COVID, the active progression of this process was paused.

Rosenbauer were identified through an open market tender process as being VFM money for pumpers. Rosenbauer provided the electric pumper as an innovation as part of that tender process however the electric pumper was not evaluated by the tender evaluation team.

Approvals had been given for both processes i.e. [limited market approach] and Open tender.

The contract terms and conditions etc for both the electric and diesel pumpers were the same.

The contract was drafted with the GSO to include both pumper requirements to have one purchasing mechanism for the vehicles using both approvals for the exemption and the tender, if at any stage the electric pumper was required to be purchased rather than a diesel one.

ESA did not undertake a concise VFM report for the electric fire truck under the exemption. However ESA undertook and provided to various Government stakeholders and the delegate VFM substantiation with various reports and briefings ...

The lack of exemption value for money evaluations has been acknowledged through the previous audit 'Procurement Exemptions performance Audit' and this process was undertaken

prior to the *JACS Procurement and Contract Management Framework* implementation in April 2021.

- 3.57 The Audit Office engaged Proximity to provide subject matter advice in relation to the conduct of the procurement. Proximity provided advice in relation to the justification for the inclusion of the hybrid electric fire truck in the contract with Rosenbauer.
- 3.58 Proximity’s observations on the ESA’s justification for including the hybrid electric fire truck in the contract with Rosenbauer for the supply of urban pumpers, as outlined in the email to the Audit Office on 23 January 2023, are shown in Table 3-5.

Table 3-5 Proximity observations on ESA justification for including the hybrid electric fire truck in the contract with Rosenbauer for the supply of urban pumpers

<p>ESA comment:</p> <p><i>The [limited market approach] allowed ESA to purchase an electric powered pumper truck. Rosenbauer were identified as having the only commercial (electric powered) pumper that met the operational requirements of ESA.</i></p>
<p>Proximity:</p> <p>The limited market approach may have been a valid process at the time it was undertaken (particularly because of its emphasis on the (purported) environmental benefits of a CFT). But even that process is open to question because there is currently a lack of evidence regarding the amount of market research that was undertaken at the time in relation to the availability of electric or hybrid pumper trucks around the world generally. It is also unclear what schedule of operational requirements was used to make the purported assessment. In any event, the limited market approach was curtailed due to the onset of Covid, and so any subsequent assessment/purchase of a CFT would have to meet the requirements of the more general ‘urban pumper’ procurement process, without any preferences given to it as a result of the curtailed limited market approach.</p>
<p>ESA comment:</p> <p><i>Rosenbauer were identified through an open market tender process as being VFM for pumpers. Rosenbauer provided the electric pumper as an innovation as part of the tender process – however the electric pumper was not evaluated by the tender evaluation team.</i></p>
<p>Proximity:</p> <p>Although it appears that the procurement process leading to the signing of a supply contract with Rosenbauer for pumper trucks (i.e. diesel pumper trucks) was rigorous, including a VFM assessment, there is a clear admission that the evaluation team did not undertake a separate evaluation of the CFT proposal, which was not the centrepiece of the Rosenbauer bid in any event. Although the RFT left it open for an innovative proposal such as a CFT, the expectation would clearly be that any such separate proposal would have to be separately assessed against the selection criteria/operation requirements. The Executive Branch Manager admits the CFT proposal was not separately evaluated.</p>
<p>ESA comment:</p> <p><i>Approval had been given for both proposals, i.e. [limited market approach] and open tender.</i></p>
<p>Proximity:</p> <p>Technically, this is correct, but the circumstances surrounding the two processes were very different and it is disingenuous to intimate that the evaluation process undertaken for a limited market approach can be transposed across to a more general open tender process with their own set of evaluation criteria/operational requirements - particularly when there is a question mark hanging over whether the argument supporting the decision to undertake a limited market approach in the first place was rigorous.</p>

<p>ESA comment: <i>The contract terms and conditions etc for both the electric and diesel pumpers were the same.</i></p>
<p>Proximity: While this is so, the failure to separately evaluate the CFT has created a risk that, when delivered, it may fail to meet the terms and conditions of the contract.</p>
<p>ESA comment: <i>The contract was drafted with the GSO to include both pumper requirements to have one purchasing mechanism.</i></p>
<p>Proximity: While this may be so, it could simply be reflective of the instructions that GSO were given; there is no clear evidence that GSO were specifically directed to consider the circumstances surrounding the proposed inclusion of the CFT in the contract.</p>
<p>ESA comment: <i>ESA did not undertake a concise VFM report for the electric fire truck under the exemption. However ESA undertook and provided to various Government stakeholders and the delegate VFM substantiation with various reports and briefings.</i></p>
<p>Proximity: Even if one were to accept for the moment that a cocktail of reports and briefings could, in a practical sense, amount to demonstration of a satisfactory VFM process, earlier review work undertaken by Proximity and the work of the Audit Office itself has thrown up multiple concerns regarding the rigour of those evaluations of the efficiency and cost of a CFT, with inconsistencies in those various evaluation statements as well.</p>
<p>ESA comment: <i>The lack of exemption value for money evaluations has been acknowledged through the previous audit...(but) this process was undertaken prior to the JACS Procurement and Contract Management Framework implementation in April 2021.</i></p>
<p>Proximity: The date of introduction of the JACS framework does not appear to be a valid excuse for anything - Section 22A (promulgating VFM as a procurement principle) was inserted in the <i>Government Procurement Act 2001</i> in 2007 as an overriding, generally applicable requirement.</p>

Source: ACT Audit Office, based on Proximity advice of 20 February 2023.

- 3.59 The ESA asserts that decision-makers' valid approval for the initial entry into the partnership agreement with Rosenbauer for the development of the Concept Fire Truck (through the 2019 single-select process) and the approval of Rosenbauer for the supply of urban pumpers (through the March 2020 RFT process) allowed it to include the hybrid electric fire truck in the September 2020 contract for services with Rosenbauer. Prior to entering the contract, however, the ESA did not assess the value for money of the hybrid electric fire truck in accordance with the requirements of section 22A of the *Government Procurement Act 2001*.

Purchase orders

Diesel pumpers

3.60 On 27 October 2020, purchase orders P0011165 and P0011164 were issued to Rosenbauer International A.G. Both purchase orders assigned these expenses to 'Contract # GS0001343.110 dated 01.09.2020'.

3.61 Purchase order P0011164 was for one diesel pumper. A summary of the purchase order is shown in Table 3-6.

Table 3-6 Summary of purchase order P0011164

Description	Quantity	Unit Price	Total Ex GST
M411 – expansion stage 1 (ET Pumper on Volvo) totally manufactured vehicle	1	\$754,249.00	\$754,249.00
Change order 1 – electric ladder gantry in lieu [sic] manual	1	\$3,501.00	\$3,501.00
Import duty	1	\$32,414.00	\$32,414.00
Training	1	\$12,991.00	\$12,991.00
Delivery to site	1	\$10,000.00	\$10,000.00
		Total (GST ex)	\$813,155.00

Source: Audit Office based on documents supplied by the ACT Emergency Services Agency

3.62 Purchase order P0011165 was for two diesel pumpers. A summary of the purchase order is shown in Table 3-7.

Table 3-7 Summary of purchase order P0011165

Description	Quantity	Unit Price	Total Ex GST
M411 – expansion stage 1 (ET Pumper on Volvo) totally manufactured vehicle	2	\$754,249.00	\$1,508,498.00
Change order 1 – electric ladder gantry in lieu [sic] manual	2	\$3,501.00	\$7,002.00
Import duty	2	\$32,414.00	\$64,828.00
Training	2	\$12,991.00	\$25,982.00
Delivery to site	2	\$10,000.00	\$20,000.00
		Total (GST ex)	\$1,626,310.00

Source: Audit Office based on documents supplied by the ACT Emergency Services Agency

3.63 The total value of the two purchase orders issued on 27 October 2020 and authorised by the financial delegate of the ESA was \$2,439,465 (GST ex).

Hybrid fire truck

January 2021 Ministerial Brief

3.64 On 27 January 2021 a Ministerial Brief was provided to the Minister for Police and Emergency Services titled 'Proposed Option to Purchase the Plug-in Hybrid Electric Fire Truck'. The Ministerial Brief identified a Critical Reason 'to secure the production allocation for the Plug In Hybrid Electric Fire Truck to be ready for the Acton Station build'.

3.65 The Ministerial Brief provided a brief history of the procurement of the hybrid electric fire truck, from approximately mid 2019 through to December 2020. The Brief identified the challenges associated with progressing the procurement of the hybrid electric fire truck due to the COVID-19 pandemic, including the apparent cessation of the preparation of the Business Case. The Brief noted:

On 25 May 2020 ... the ESA briefed you on the status of the Plug-in Hybrid Electric truck and how it was dependent on the successful outcome of the Business Case. During this discussion you asked for options to progress the purchase without reliance on the Business Case.

Urgency of the purchase

3.66 The Ministerial Brief identified there was an urgency to the procurement related to the need to meet targets associated with the *ACT Climate Change Strategy 2019-25* and the impending opening of the new Acton Fire & Rescue Station.

3.67 The Ministerial Brief noted that the ESA had 'reviewed its fleet and replacement options in line with the emission reduction targets set in the ACT Climate Change Strategy 2019-25' and that emission reduction targets had been established for 2030 and 2040. The Brief noted that 'a frontline fire truck has an operation life of 10 years frontline and a reserve life of 5 years [and that] the ESA will need to act now to make any advancements towards achieving the emission reduction target'.

3.68 The Ministerial Brief also noted:

The ESA will be required to order the Plug-in Hybrid Electric Fire Truck for the Acton Station by 28 January 2021 to ensure the vehicle is operational at or before the station opening in June 2023. If the ESA is not able to commit by this date, the production allocation will be re-allocated, and the next potential production allocation is 24/25 for delivery in 25/26. (This information has been confirmed in writing from Rosenbauer Australia, indicating that the next two production years are fully booked).

The partnership agreement you signed gives the Territory access to a production slot for the Plug-in Hybrid Electric Fire Truck with a committed 2022 delivery. This will allow adequate time to receive, train, and test the vehicle prior to the Acton Station opening.

3.69 The Ministerial Brief also noted:

Due to the WHS benefits identified and the need to meet the sustainability targets set by the Government, the ESA needs to commit to the vehicle as soon as possible for delivery to coincide with the Acton Station opening. This will allow the Acton Station to be the first in ACT to be diesel free. For this to happen the vehicle needs to arrive and be made operational before the completion of the station.

Use of the Rosenbauer contract for services

3.70 The Ministerial Brief also identified that the existing contract with Rosenbauer allowed for the purchase of the hybrid electric fire truck, without the use of the single-select procurement that was approved in August 2019:

Subsequent to the initial Procurement Threshold Exemption Brief (item 3), the ESA has undertaken a full open market tender process for the purchase of frontline fire appliances for the next 5 years. The successful supplier currently on contract is Rosenbauer Australia, and this contract allows for the purchase of the Plug-in Hybrid Electric Fire Truck, without the utilisation of the Procurement Threshold Exemption Brief.

Financial implications

3.71 The Ministerial Brief identified that a 'total capital amount' of \$1.524 million would be required. (An earlier draft version of the Brief produced in December 2020 indicated that a 'total capital amount' of \$1.935 million would be required). The Ministerial Brief identified that the amount of \$1.524 million was more than the amount of \$1.0 million that had been allocated to the purchase of a fire truck for the forthcoming Acton station:

This is \$0.524 more than the allocated amount for the Acton Station vehicle, due to the costs associated with it being a prototype. In a prototype, the design and development costs are attributed to a single vehicle, whereas with a production vehicle these costs are spread across the whole of the production run. This is a one off cost associated with this first vehicle.

3.72 The Ministerial Brief proposed using a combination of funding sources for the procurement of the hybrid fire truck:

- \$1.0 million of capital funds from the Acton Station 'allocated for a new pumper'; and
- \$0.524 million from the Zero Emission Grant (ZEG) Program.

3.73 The Ministerial Brief also noted:

The ESA propose to repay the ZEG loan through efficiency savings associated with reduced operational and maintenance costs including fuel, AdBlue and servicing over the next ten years.

Issue of purchase order

3.74 On 28 January 2021 purchase order P0011464 was issued for the hybrid electric fire truck. A summary of the purchase order is shown in Table 3-8. Unlike the purchase orders issued for the diesel pumpers, the purchase order for the hybrid electric fire truck does not identify costs associated with import duty, training or delivery.

Table 3-8 Summary of purchase order P0011464

Description	Quantity	Unit Price	Total Ex GST
Rosenbauer PHEV Fire Fighting Vehicle RT	1	\$1,463,723.00	\$1,463,723.00
Rear Axle Steering	1	\$29,554.00	\$29,554.00
Roof Monitor RM 35	1	\$31,110.00	\$31,110.00
		Total (GST ex)	\$1,524,387.00

Source: Audit Office based on documents supplied by the ACT Emergency Services Agency

3.75 On 27 October 2020, purchase orders were issued to Rosenbauer International A.G for the supply of the diesel pumpers. The total value of the two purchase orders issued on 27 October 2020 was \$2,439,465 (GST ex), which was for the supply of three diesel pumpers. Each diesel pumper was to be supplied at a cost of \$813,155 (GST ex), which included the cost of the truck as well as import duty, training and delivery. On 28 January 2021 a purchase order was issued for the hybrid electric fire truck at a cost of \$1,524,387 (GST ex). Unlike the purchase orders issued for the diesel pumpers, the purchase order for the hybrid electric fire truck does not identify costs associated with import duty, training or delivery. These costs amounted to \$55,405 (GST ex) for each of the diesel pumpers.

Audit reports

Reports Published in 2022-23	
Report No. 03 – 2023	Financial Management Services for Protected Persons
Report No. 02 – 2023	Management of Operation Reboot (Outpatients)
Report No. 01 – 2023	Construction Occupations Licensing
Report No. 10 – 2022	2021-22 Financial Audits Financial Results and Audit Findings
Report No. 09 – 2022	ACT Emergency Services Agency cleaning services arrangement
Report No. 08 – 2022	2021-22 Financial Audits – Overview
Report No. 07 – 2022	ACT Childhood Healthy Eating and Active Living Programs
Report No. 06 – 2022	Annual Report 2021-22
Report No. 05 – 2022	Procurement and contracting activities for the Acton Waterfront Project
Reports Published in 2021-22	
Report No. 04 – 2022	Governance arrangements for the planning of services for Parkwood, Ginninderry
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Report No. 02 – 2022	Fraud Prevention
Report No. 01 – 2022	Management of Detainee mental health services in the AMC
Report No. 13 – 2021	Campbell Primary School Modernisation Project Procurement
Report No. 12 – 2021	2020-21 Financial Audits – Financial Results and Audit Findings
Report No. 11 – 2021	Digital Records Management
Report No. 10 – 2021	2020-21 Financial Audits Overview
Report No. 09 – 2021	Annual Report 2020-21
Report No. 08 – 2021	Canberra Light Rail Stage 2a: Economic Analysis

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