



NOTTINGHAMSHIRE
Fire & Rescue Service
Creating Safer Communities

Nottinghamshire and City of Nottingham
Fire and Rescue Authority
Finance and Resources Committee

AERIAL LADDER APPLIANCES

Report of the Chief Fire Officer

Agenda Item No:

Date: 15 October 2010

Purpose of Report:

To seek the approval of the Finance and Resources Committee to the early replacement of the two Aerial Ladder Appliances currently in service in accordance with a plan set out in this report.

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1. BACKGROUND

- 1.1 Nottinghamshire Fire and Rescue Service (NFRS) currently has two aerial ladder appliances (ALPs) in service at Highfields and Mansfield. These appliances were purchased from Magirus in Germany in April 2002, but due to delays in commissioning did not come into service until October 2002. The ALPs were purchased to replace two existing aerial appliances, a Metz turntable ladder and a Simon platform.
- 1.2 At the time there were only two manufacturers of aerial appliances in Europe, Bronto in Finland and Magirus in Germany. Magirus are a long standing manufacturer of appliances and they make a range of products which have been in service all over Europe since before the Second World War. They were however relatively new to the manufacture of aerial platforms. Bronto were a well known supplier of platforms but it was considered at the time that their machine offered less functionality than the Magirus. The decision was taken to purchase two Magirus machines due to this increased functionality.
- 1.3 Unfortunately during the time that these appliances have been in service, they have both proven to be unreliable and extremely expensive to maintain. The situation came to a head in the autumn of 2009 when both appliances were deployed to an incident, but neither were serviceable resulting in appliances being called from Lincolnshire and South Yorkshire.
- 1.4 Given the current economic uncertainties facing the Service, a decision needs to be made in order to reduce maintenance costs in the future and to ensure that appliances are available for incidents. This decision is to replace the vehicles ahead of schedule to improve the long term reliability and reduce escalating maintenance costs. This paper sets out the reasons behind the recommendation to replace the appliances and a strategy for doing so.

2. REPORT

Appliance Availability

- 2.1 Since the Magirus appliances were brought into service in 2002 they have proved to be unreliable to the extent that they have experienced 3,500 hours of "down time" in the past three years. 2,200 of this in one 12 week period. This is a situation which, far from improving, is becoming worse as the appliances get older. The platform, currently based at Highfields, was off the run from 12 October until 24 December, a total of 66 days. In all these appliances are unavailable about 10% of the time.
- 2.2 Due to the existing contractual complexities the Authority is dependant, to a large extent, on the co-operation of the UK agents. The Service has experienced long delays when spare parts have been required or when an on-site technician is required. Spare parts have to come from Italy, or from Germany, and are often subject to unacceptable delays. This also results in

the Service having to pay what are considered to be inflated prices for the service.

- 2.3 It is becoming increasingly necessary to rely on neighbouring Fire and Rescue Services to provide Nottinghamshire with first call aerial appliances, to the extent that during 2008 appliances from other Services were mobilised six times because of unavailability and five times in 2009.
- 2.4 Clearly this situation is not ideal and whilst mutual aid arrangements are in place which allow appliances to be deployed across borders, the Service should provide and maintain its own provision where possible. It is quite feasible that a request for assistance could be declined by neighbouring Services due to being in use within the host Service. It may be possible in future however, to consider the provision of high rise appliances across more than one geographic area, which may mean that one of the two appliances may not be required.

Maintenance

- 2.5 The unplanned maintenance costs for these appliances for 2008/9 were £46,456 and during 2009/10 were £78,215. Currently a bill for parts of £7,400 has already arrived during April and a further £10,000 is already planned. This level of expenditure simply cannot be sustained within the existing maintenance budget. Comparisons with other Services show that Derbyshire, for example, have spent less on maintaining their provision in ten years than has been spent in Nottinghamshire in one.
- 2.6 In 2008/9 a major fault developed with these appliances which resulted in extensive modifications and repairs. The Fleet Manager, after much discussion with Magirus and the Service's lawyers, managed to persuade the manufacturer that this was a design fault which they should rectify free of charge. If this had not been the case this modification could have cost over £100,000.

Why have aerial appliances?

- 2.7 There is always an option of not replacing the aerial appliances at all or maintaining a regional approach with neighbouring Fire and Rescue Services. Replacement schedules prove this to be difficult and in considering this approach, Nottinghamshire would have to provide a contribution of at least one vehicle if this were to be the case, based upon geographical spread and attendance requirements. It must also be noted that the vehicles can prove to be an effective rescue tool. In one instance a number of people were led to safety by crews using an ALP to evacuate a pleasure boat on the river Trent. No other appliance could have done this.
- 2.8 Additionally, an added value of any high rise appliance is that they can be used as "monitors" where jets of water can be directed down onto a fire from above and, via CCTV links, can provide an excellent view of the fire. In this role they are invaluable and whilst their turnout times are not critical (hence only having two) their availability is.

Alternatives

2.9 The current manufacturers provision of high rise appliance basically come in four types:

- Aerial Ladder Platforms (ALP);
- Turntable Ladder (TL);
- Rescue Platforms;
- Combined Aerial Rescue Pumps (CARP).

Turntable ladders and rescue platforms, whilst still available, are quite old fashioned and very limited in their capability. This is why the Aerial Ladder Platform was developed in order to fulfil both functions. CARPs on the other hand are the most modern version and clearly worthy of consideration.

2.10 A number of Services have bought CARPs in recent years and it is NFRS's understanding that some of those are taking legal advice over appliance reliability and fitness for purpose. In principle these look an ideal appliance as they provide not only an aerial capability, but also all the features of a normal pumping appliance. This brings obvious financial benefits, however it would appear that the majority of issues arising with these appliances relate to this dual role. It is clear that this concept has yet to be fully developed and given NFRS's experience of its existing high rise provision, it is considered unwise to purchase CARPs until these problems have been resolved.

2.11 It is therefore considered that the only reasonable option at this time therefore is to replace the existing ALPs with new ALPs.

Process of Replacement

2.12 In order to replace the existing appliances there are a number of options available:

- i) Purchase the existing machines outright as well as a second hand Bronto appliance to facilitate cross training until a new appliance is delivered. Then dispose of the two Magirus appliances.
- ii) Return one Magirus appliance to the leasing company and retain the other under the existing lease before disposal in year 3. This also requires the purchase of a second hand Bronto appliance for cross training before the delivery of the new appliance.
- iii) Retain existing leases in full whilst acquiring a second hand Bronto and ordering a new one.

2.13 Each of these options has a cost attached to it but for comparison it is worth noting that current costs over the six year period will be £708,000. The costs of each option are:

	Capital	Revenue	Total
Option 1	£748,942	515,302	1,264,245
Option 2	£602,142	541,302	1,194,444
Option 3	£550,000	588,302	1,206,302

- 2.14 Option 2 looks to be the most cost effective, but does involve returning the two Magirus appliances for which there will certainly be a number of end of lease dilapidations to carry out. These are unavoidable and our assumptions are that £70,000 will be required to carry them out. Another assumption is that the disposal value of these appliances will only be about £5,000 which will have to be a consideration.
- 2.15 A further consideration which may also factor is the general condition of the chassis. These vehicles do not run particularly high mileages and therefore the chassis tend to be in very good condition despite the unreliability of the boom arms which are where the problems lie. The Service buys a number of chassis for use as special appliances such as water carriers, breathing apparatus units etc., which also do not run high mileages. It has been suggested that if the Service was to acquire the two ALPs from the lease company it would provide an option to have these re-bodied as specials. Given that a chassis can cost up to £150,000 this might seem a reasonable option. The cost of a new body would be of the order of £30,000.
- 2.16 Option 1 undoubtedly carries the lowest level of risk, but is by far the most expensive option. The risks of the lowest cost option are greater but are largely linked to the return conditions of the lease. It may still be possible to buy out the lease on the second machine if we want to use it as a chassis for a special appliance and so some of the benefits of option one could be achieved.
- 2.17 Option 3 is more expensive than option 2 and does not offer as good benefits as either of the other options. On balance therefore option 2 is the preferred option.
- 2.18 The actions for option 2 are therefore:
- i) Purchase second hand machine of a more reliable performance design.
 - ii) Begin procurement of new machine (come on stream year 3).
 - iii) Cross train staff onto the new appliance.
 - iv) Remove one Magirus from the run and return to leasing company (year 2 when cross training complete).
 - v) Take delivery of new appliance.
 - vi) Take second Magirus machine off the run and return to lease Co or purchase.

2.19 The cashflows for this option are:

	Capital £	Revenue £	Existing Costs £	Net Revenue £
Year 1	0	213,000	118,000	95,000
Year 2	127,142	209,475	118,000	91,475
Year 3	475,000	82,333	118,000	(35,667)
Year 4	0	80,909	118,000	(37,091)
Year 5	0	80,909	118,000	(37,091)
Year 6	0	80,909	118,000	(37,091)

There is a net cost to this option of £39,535 over the period of the outstanding leases. However the Authority may wish to use some of its reserves to pay for the higher cost elements of this proposal such as the initial purchase of the second hand appliance and the return costs of the existing ALP in which case the actual impact on the revenue budget will be:

	Capital £	Revenue £	Existing Costs £	Net Revenue £
Year 1	0	133,000	118,000	15,000
Year 2	0	209,475	118,000	91,475
Year 3	475,000	82,333	118,000	(35,667)
Year 4	0	80,909	118,000	(37,091)
Year 5	0	80,909	118,000	(37,091)
Year 6	0	80,909	118,000	(37,091)

This would generate savings in the Revenue budget of about £40,000 over the period of the lease.

- 2.20 It should be emphasised that the above figures do not use any discounted cashflow techniques and so no real account has been taken of the timings of the cashflows.
- 2.21 This option does not preclude the purchase of a second high rise appliance at the end of the lease period but what it does do is prevent the service having to “put all its eggs in one basket” and purchase two at the same time. Options also remain open therefore for the conversion of a chassis to a special appliance in the future.

3. FINANCIAL IMPLICATIONS

The financial implications are set out in full within this report.

4. HUMAN RESOURCES AND LEARNING AND DEVELOPMENT IMPLICATIONS

Bringing a new aerial appliance into service will have significant impact on the training of those personnel charged with its operation. Hopefully bringing a second hand machine into service to work alongside the existing appliances will allow this training to take place at a more measured pace but clearly, discussions need to be held with the Learning and Development staff to work out how this can be achieved.

5. EQUALITY IMPACT ASSESSMENT

An initial assessment of the impact on equalities shows that there is no impact positive or negative from the proposals in this report.

6. CRIME AND DISORDER IMPLICATIONS

There are no crime and disorder implications arising from this report.

7. LEGAL IMPLICATIONS

There are no legal implications arising directly from this report.

8. RISK MANAGEMENT IMPLICATIONS

- 8.1 It must be acknowledged that having decided that ALPs are a requirement for the Service, they then form part of the range of equipment that fire fighters and officers will wish to use to resolve incidents. There will therefore always be risks associated with unavailability even if these are only as a result of having to change or delay tactical decisions.
- 8.2 Essentially it is risk that drives this decision. The cheapest option is to leave everything as it currently stands however this would cause the organisation to rely on provision of mutual aid from other services which may not always be available. This may influence and affect operational considerations in a negative way if the appliance can not be deployed.

9. RECOMMENDATIONS

That Members approve the adoption of option two as set out above for the replacement of the aerial appliances and supports the necessary amendments to the capital programme.

10. BACKGROUND PAPERS FOR INSPECTION (OTHER THAN PUBLISHED DOCUMENTS)

None.

Frank Swann
CHIEF FIRE OFFICER