Chapter 15:

Water Cannon

Chapter 15

Water Cannon

Chapter 15

Procedure and Guidance Regarding Deployment and Use of RCV9000 Vehicle Mounted Water Cannon

Introduction

15.1 The RCV9000 water cannon vehicle consists of a heavy duty permanent six wheel drive chassis on which is mounted a superstructure consisting of a pump compartment, a water tank and a crew cabin that offers ballistic protection to the same level as other Service armoured vehicles.

15.2 Each vehicle has two water cannons mounted on the roof of the cab, which are controlled by the Cannon Operators by means of an electronic joystick control. The Crew Commander controls the overall water pressure.

15.3 Video cameras mounted on each cannon provide the Cannon Operators with a visual indication of where their respective cannons are positioned prior to opening the cannons. Within the cab there is a comprehensive set of controls and recording equipment to record data from sensors monitoring water pressure, date and time of use.

15.4 The vehicles are each equipped with a Glock Audio public address system, distinctive audible sirens and blue flashing lights. A high intensity light bar is fitted to the front of the cab above the windscreen. The Glock Audio Public Address System allows prerecorded police warning messages to be given a crowd but can also be used for ad-hoc messages when required.

15.5 Removable protection for the front windscreen and side windows is available. Although the windscreen and side windows are ballistic glass the outer face can crack easily if struck by stones or other missiles and may obscure vision. These screens can be removed at the discretion of the vehicle commander.

15.6 RCV9000 vehicles are surprisingly manoeuvrable for their size and weight and are now restricted to 60 mph. The RCV9000 water cannon vehicles are categorised as LGV Class 'C' and are therefore restricted by Road Traffic legislation to 56mph under normal circumstances. A Drivers Authorisation Card with Category 1 authorisation is required. Due to their size and weight, water cannon should normally be deployed at least in pairs to provide mutual support and immediate recovery capability in the event of a mechanical failure. Each vehicle is equipped with a rigid tow bar and front and rear tow hooks. In the event of a breakdown under operational conditions, the water cannon crews and supporting police must endeavour to get the vehicle into a relatively safe position.

15.7 Servicing, maintenance and repair of RCV9000 vehicles has been contracted out to a reputable service agent in the Belfast area who also operate a recovery service for these vehicles this is done by the contractor also.

15.8 In the event of a breakdown, PSNI Incident Coordinator Centre should be contacted with full details of the nature of the breakdown and condition of the vehicle and the precise location. ICC will in turn contact the relevant call-out recovery/puncture service and obtain an estimated time of arrival and pass this to the originating station.

15.9 Summary of Dimensions and Weights:

Maximum Height	3,970mm
Maximum Width	2,500mm (includes mirrors)
Maximum Length	8,890mm

Deployment and Use

15.10 Water cannon vehicles will be deployed and used only when properly authorised by appropriate officers, in accordance with the guidance in The National Police Chief Council (NPCC) of England, Wales and Northern Ireland National Guidelines on the Deployment and Use of Water Cannon as outlined in the National Public Order Training Curriculum, Water Cannon in Public Order, Module E4. In order to ensure that Officers engaged in Water Cannon duties are competent and capable they must have attended refresher training within the last 3 years unless there are extenuating circumstances.

15.11 The availability of water cannon is intended to provide police commanders with a broader range of public order tactical options that might reduce reliance on, or defer resort to AEPs, and is in keeping with Recommendation 70 of the report of the Independent Commission on Policing for Northern Ireland (Patten Report). The deployment and use of water cannon will be informed by reference to the NPCC National Decision Model (see Introduction).

15.12 The use of water cannon, as with any application of force, must be lawful, proportionate and necessary. To this end, water cannon must be authorised for deployment and for use by the relevant command levels. A record of each deployment should contain the following details:

- Justification for the deployment.
- Objective to be achieved through deployment.
- The mode of use.
- The consequences of the mode of use.
- The effectiveness of achieving the stated objective.

An electronic use of force monitoring form will be submitted when water cannon are operationally deployed/used (see Chapter 3 - Reporting Use of Force).

15.13 A post incident review will be conducted following the deployment and use of water cannons by the relevant District Commander, to determine whether the use of the water cannon was justified, the objective of deployment was achieved and to identify improvements that could be made in future deployment and use.

15.14 Assistant Chief Constable, Operational Support has responsibility to monitor and collate injury incidents as required in the DOMILL Statement.

15.15 ACC, Operational Support Department should be advised immediately by email of any known injuries attributable to the operational use of the water cannon, or in training. The information should contain full particulars of:

- Who was injured?
- The nature of the injury.
- Where the injury occurred.
- When the injury was sustained.
- How the injury was sustained.
- Any relevant factual information as to why the injury was sustained.

15.16 If full details are not immediately available, an initial message may be sent, followed by a subsequent detailed message as soon as possible, and in any event within 24 hours.

15.17 The person in charge of operations where water cannon are deployed will initiate any immediate investigation/inform the Police Ombudsman (as appropriate) of any incident whereby injury is caused as a result of water cannon use.

15.18 These procedures and guidelines explain how vehicle mounted water cannon should be deployed and used as a public order tactical option to extend and complement the range of existing tactical options.

15.19 The RCV9000 has been the subject of intensive research by the Defence Scientific Technology Laboratory as part of the government led research programme into alternative policing approaches (DSTL) towards the management of conflict.

15.20 This approach is consistent with Article 2 of the United Nations Basic Principles on the Use of Force and Firearms which states:

'Governments and law enforcement agencies should develop a range of means as broad as possible and equip law enforcement officials with various types of weapons and ammunition that would allow for a differential use of force and firearms.'

15.21 NPCC APP – Public Order sets out the legal governance for policing public order, including consideration of use of force issues and Human Rights.

15.22 Gold, Silver and Bronze Commanders require familiarisation with these procedures as do Operational Planners, Water Cannon Crews, Public Order Public Safety Advisor (POPSA) and others who have occasion to deploy and/or use water cannon. It is imperative that all have a professional knowledge and understanding of these documents and the principles contained therein. A POPSA, who is specially trained in the characteristics and use of the water cannon, should be consulted prior to any deployment. The POPSA should also be consulted in the planning phase and during the operation on any potential deployment and use of water cannon.

15.23 Procedures in respect of water cannon will affect the planning process and consideration for tactical options for public order operations for which the Service has had prior notification or knowledge. The availability of water cannon to assist in the policing of spontaneous outbreaks of disorder is also a consideration for Regional Operations Managers. It may be that water cannon will not be available to attend the early stages of outbreaks of spontaneous disorder, which may well have to be resolved by other tactical options, however consideration must be given to deploying water cannon vehicles, where time permits, to scenes of disorder.

15.24 Strategically, the water cannon is a public order resource and is therefore a tactical option that must be considered in any public order operation.

15.25 Four RCV9000 vehicles will be strategically placed under the control of Regional Commanders. Regional ACCs will direct the implementation and application of procedures, including tasking and availability.

15.26 Two additional RCV9000 vehicles will be based at Steeple in Antrim, under the operational control of COT. Chief Inspector, COT will direct the implementation and application of procedures, including availability. Regional ACCs will implement tasking once availability has been confirmed. COT water cannon and crews are intended as reserve when the four regional vehicles are either already deployed for pre-planned operations or are unavailable for spontaneous incidents. When not required for operational deployment, the vehicles will be used for training and exercise purposes for both the specific water cannon training modules and for general public order training.

15.27 The procedures and guidance on deployment and use of water cannon contributes to the Northern Ireland Policing Board (NIPB) objective of promoting safety and reducing disorder.

15.28 Each RCV9000 vehicle represents considerable capital expenditure and it is therefore essential that these vehicles are operated in accordance with manufacturer's instructions and training provided by COT and Traffic Driver Training Unit (TDTU).

15.29 Bids for the deployment of water cannon must be made in good time to the Regional Operations Manager/Chief Inspector, COT. The management of costs associated with crewing the vehicles is devolved to Regional Commanders or COT, as applicable.

15.30 RCV9000 vehicles are technologically sophisticated in terms of the vehicle mechanics, the power train, the pump operating systems and on-board cameras. Best practice in respect of water cannon crews is that they should be drawn from as small a pool of officers as possible, who can care for each vehicle, and gain knowledge and experience of operating the vehicles and systems though training, exercise and operational deployment.

15.31 RCV9000 vehicles require a crew of 4 persons and will only be operated by trained personnel who have successfully completed a training course with COT. Full details of the crew responsibilities can be found in the National Public Order Training Curriculum.

15.32 RCV9000 vehicles must be kept in covered, heated accommodation, especially during the autumn and winter months when there is a risk of residual water in the tank or pipe system freezing. If in operational circumstances it is necessary for the vehicles to remain outside, and there is a risk of freezing temperatures, the in-built heating system may be used to prevent water in the tank from freezing. NB: this represents a severe drain on the vehicle batteries and should only be used as a last resort.

15.33 It is the responsibility of the Water Cannon Crew Commander to ensure that vehicle checks as specified in the 'Somati RCV9000 Driver Information Pack' supplied by Driving School and 'Somati RCV9000 Operators checks (Daily/Weekly) supplied by Transport Workshops are completed prior to operation.

15.34 Prior to a known scheduled deployment, the Water Cannon Crew Commander should ensure checks on equipment are carried out in advance to allow adequate time for repairs to be undertaken if necessary.

15.35 Details of the frequency for, and the servicing requirements of water cannons can be found at the front of the vehicle logbook.

15.36 The following procedure must be followed when booking a water cannon for service or repairs:

15.37 Using fleet fault which will be managed by Traffic MT at Steeple.

15.38 Requests for emergency repairs/punctures/breakdowns outside normal working hours should be directed to ICC providing details of the repairs/breakdown/exact location.

15.39 RVC9000 vehicles have four video cameras capable of recording images in digital format on a digital recorder mounted in the cab. Whilst the images from cameras will be recorded during operational use, water cannon vehicles are not intended to be used as primary evidence-gathering platforms.

15.40 Although camera resolution provides good quality live pictures, the maximum frame rate per camera is limited to that which the recorder is capable of.

15.41 Police Service policy is that all operational use of the water jets will be recorded. This includes the short periods between actual use of the jets whilst action is still imminent or probable and forms a continuous period. Where it is clear that the phase of action has ceased, the recorder can be stopped and restarted when the next phase commences. As a guide to Crew Commanders, the recorder should be switched on prior to engaging the power divider, which activates the pump, and should remain on for the duration that the power divider is engaged until such time as the power divider is disengaged when the recorder can be switched off (unless there is an obvious need to continue until a natural break).

15.42 Crew Commanders have the ability to record images when the power divider is not engaged. This capability is intended to be used when something of a serious evidential nature is visible to the water cannon crew and apart from taking other necessary immediate action they can also capture something of the circumstances on video.

15.43 When in use, the spray from the water jets generally obscures to varying degrees the images that these cameras can capture and is very dependent on prevailing conditions such as wind and general visibility.

15.44 Separate processes are involved in handling and storing the video and the telemetry data and these are explained in later sections.

Overview and Use of the Telemetry System

15.45 RCV9000 vehicles are equipped with sensors to record data about the use of the water cannons. This telemetry is recorded through the PLC computer system that controls the power divider and pump system and includes date and time of use, the pressure set at any specific time by the Crew Commander, the pressure and flow rates used by the individual cannon operators, the duration of each use and the temperature of water in the water tank. The system automatically records the data and writes it to a digital computer text (TXT) file that can then be downloaded from the PLC system to a notebook computer and subsequently written to CD to be sealed and stored.

15.46 A camera is fitted in the housing protecting the components of each of the water cannons. These cameras are aligned with their respective water cannon and are intended to be an aiming aid for the cannon operators before the cannons are used (Cannon Operators do not have direct sight of where their cannons are pointing prior to use) by providing live images on LCD screens in the cab. Both of the cannon mounted cameras are linked to the recorder.

Overview and Use of the Camera/Video System

15.47 Each vehicle is equipped with five cameras. One camera is fixed at the rear of the vehicle and is intended to aid the driver in vehicle safety and reversing. The image from this camera is displayed on a small monitor mounted in the cab convenient to the driver and is not linked to the video recorder.

15.48 A dash-mounted camera is located in the centre of the vehicle behind the windscreen. This forward facing camera can be swivelled manually from side to side. The images from this camera can be viewed by the Crew Commander and are recorded.

15.49 A fifth camera is mounted on a telescopic mast fitted in the centre of the vehicle between the rear of the cab and the tank compartment. This is a Pan Tilt and Zoom (PTZ) camera mounted in a protective housing. The mast is raised and lowered by a switch on the Crew Commander's PLC screen and a remote control panel mounted in the cab controls the camera. The images from this camera are also recorded. The mast-mounted camera will be used to obtain an overview of the use of the water jets.

15.50 The Crew Commander has the ability to view the images from the four main cameras (excludes the fixed rear facing camera) on an LCD screen mounted on the dashboard. These images can be viewed individually or all together by means of a split screen. Images from the four main cameras can be recorded on a digital video recorder mounted in the cab above the Crew Commander. The Crew Commander must manually switch the recorder on prior to engaging the power divider. The recorder takes the images from the four cameras and records them on a computer hard disk in digital format with an overall capacity of 25 frames per second. This means that the video capture rate from each camera is 6.25 frames per second.

15.51 Each recorder is equipped with two removable hard drive caddies. Each hard drive has 120Gb capacity, which will store several hours worth of video images. However the storage medium used to create master copies of the data is limited to approximately 4.6Gb (DVD) and this restricts the amount of video image that can be captured to DVD. For this reason, recording must be restricted to the period immediately before until immediately after the power divider is engaged, unless circumstances as outlined at paragraph 15.47 apply. Should more than 1 DVD be required to store all the footage from a particular incident the subsequent DVDs used should be marked appropriately and sealed and stored with the initial DVD.

15.52 The hard drive containing data can be removed from the recorder and taken to a central point operated by COT to be downloaded to a computer, and a master copy and working copies produced on DVD. As an interim measure COT will appoint one officer as the 'Controller of Digital Images' who will be assisted by staff from Information and Communications Systems (ICS) as necessary. The second hard drive can be installed in the recorder in the event of the vehicle being required operationally. When the data transfer has been verified, by viewing the footage from the DVD, the hard drive will be cleared and returned for use.

Operational Checks

15.53 All equipment required for the recording of data and images must be tested frequently and any faults reported for prompt attention and repair. If during operational use the Crew Commander becomes aware of any defects in this equipment, they must make a contemporaneous note of this and take all reasonable steps to record events by other means. The Crew Commander must also report the fault via radio to the Water Cannon Commander, who in turn will report the fault to the Silver Commander where one has been appointed, or where no Silver Commander has been appointed, to the relevant control room. All faults must be recorded in an A4 size notebook, suitably titled 'FAULT REPORTS RCV9000 VEHICLE ARRO No 001 – 006' and ruled with the following headings:

DATE/ TIME	NATURE AND DESCRIPTION OF FAULT	ACTION TAKEN TO RECTIFY AND DATE AND TIME	NAME RANK NO. OF PERSON REPORTING	DATE/ TIME RECTIFIED	FAULT RECTIFIED BY NAME AND POSITION

15.54 The Crew Commander in charge of a specific vehicle is responsible for all technical aspects and will ensure the recording equipment is tested prior to deployment. If it is not working and cannot be repaired in time before necessary deployment, the Crew Commander will seek approval from the Water Cannon Commander who will liaise with the relevant Gold Commander before deploying. The Gold Commander will record in the Event Policy Book their decision. If deployed without recording capability, the Crew Commander will ensure a record of events is recorded manually. The Water Cannon Commander will ensure that records are maintained for all vehicles under their command.

15.55 The recorder can be tested by activating it for a short period and using the remote control, rewind and play back the images, which can then be viewed in the cab. Once it is confirmed that the recorder is functioning correctly, the test images should remain on the hard drive and be included in the creation of the master and working copy.

Procedure for Handling Digital Images from RCV9000 Water Cannon Vehicles

15.56 The Crew Commander will ensure that the video recorder is functioning correctly and will ensure that the recorder is set to 'Record' prior to engaging the power divider. When the power divider is disengaged the recorder may be stopped unless there is a specific reason to continue recording. Each time the power divider is about to be engaged the recorder should be set to 'Record'.

15.57 At the end of the period of duty the Crew Commander will remove the hard drive caddy from the recorder and retain it in their possession until such time as the commander takes it to the central point for the creation of master and working copies, or it is handed over by the commander to another officer to do this. This being the case, the integrity of the evidence chain must be supported by evidence

from each officer involved. An A5 size notebook will be utilised to form an Audit Book for each hard drive caddy. The Audit Book will accompany the relevant hard drive caddy to be signed by each person taking possession, including the member of COT who will create the working and master copies.

15.58 When the hard disk caddy arrives at the central point operated by COT, the Controller of Digital Images, assisted by technical staff from ICS, will place the hard drive caddy in another recorder/player and download the images to a DVD via a desktop computer, to define a master copy DVD and a working copy DVD. The content of the master copy will be verified, by viewing against the original data on the hard drive. When this has been satisfactorily achieved the original images on the hard drive caddy will be erased and returned to the vehicle from which it came, for further use.

15.59 After the data has been verified, the Controller of Digital Images will certify that master and working copies have been created, the data from caddy ARRO 001 – 006 has been verified and the hard drive cleared of data. The audit book should be labelled in the same way as the hard drive caddy and should be ruled as in the following example:

Date and Time	Retained By	Handed To	Date and Time
1/4/04 10.30 pm	Sergeant A	Constable B	2/4/04 9.30 am
2/4/04 9.30 am	Constable B	Constable C	2/4/04 11.00 am
I certify that master and working copies of data from ARRO 001 have been created and verified and the hard drive cleared of data. **Serial number of master copy** _____ **and working copy** _____ **Name** _____ **Signature** _____ **Rank** _____ **Number** _____ **Date and Time** _____			
15/4/04 4.30 pm	Sergeant D	Constable G	15/4/04 6.30 pm

15.60 The master copy will be sealed and labelled accordingly utilising the current AIT tape labels or other suitable seals. It should be noted that the seal must be uniquely labelled and the container should not be able to be opened without breaking the seal. The Controller of Digital Images will be responsible for the

transfer of data from the original hard drive caddy to DVD master copy and the creation of working copies as duly authorised and required. This officer will also be responsible for the safe and secure storage of master copies.

15.61 A working copy of the master copy DVD will be produced and stored with the master copy until required. In such cases the Initial Viewing Request Form WCDS1 (available from COT Steeple) for police purposes or the Tape Release/ Viewing Request from the Ombudsman Form WCDS2 (available from COT Steeple) should be submitted to COT, and a working copy produced to be released against signature.

Procedure for Handling Digital TXT Data from RCV9000 Water Cannon Vehicles

15.62 The data recorded via sensors is written to a TXT file within the onboard PLC system. Duty over a period of a day will be captured on several TXT files, which are written each time the vehicle ignition is turned on and off. The Digital Image Controller appointed by COT or other officer appointed by COT will visit each water cannon on a regular basis, or more frequently if necessary, to download the TXT files from each vehicle to a notebook computer supplied by ICS for this purpose. The files for each vehicle will be transferred to CD-R and stored with the corresponding DVD containing the digital video image data. The CD-R, which may cover several dates, will be defined as the master copy from which working copies may be made as required. The release of this data for police or Ombudsman's investigations will be treated in the same manner as working copies of the video images on DVD format.

Breaking of a Master Disc Seal

15.63 **Ongoing or contemplated criminal proceedings.** A police officer should not break a seal on a master disc that is required for criminal proceedings. If it is necessary to gain access to the master disc, the police shall request the Public Prosecution Service (PPS) to seek authority from the appropriate court for the seal to be broken, the disc copied and sealed in the presence of an official appointee of the court. Where no court proceedings have commenced, but are contemplated or are under consideration, the seal will be broken, the disc copied and resealed in the presence of a legally qualified representative of the PPS. In either instance, the defendant (in the case for which the master disc was originally preserved), or their legal advisers should be informed and given a reasonable opportunity to be present. If the defendant or their legal representative is present, they should be invited to reseal and sign the master disc. If this offer is refused, or neither is present, this shall be done by the official appointee of the court or representative of the PPS, as applicable.

15.64 **Other cases.** Where no criminal proceedings are contemplated or criminal proceedings have been concluded or civil proceedings are envisaged, authority to break the master disc seal must first be sought from the District Commander. If the evidence originally related to a person who had been in police detention, a formal note should be made on the relevant custody record, covering the

circumstances in which it was necessary to break the seal. The master disc should be opened, copied, and resealed under the supervision of the District Commander, in order to prevent allegations of tampering with the original disc. If necessary, or considered appropriate, the legal representative of the party requesting the disc should be invited to be present. If this offer is refused a note should be made.

Evidential Tape Retention Periods

15.65 **Recordable/Reportable Crime.** In all cases of recordable crime or reportable offences, master tapes will be retained for a period of ten years, unless proceedings relating to the evidence remain ongoing.

15.66 **Other Cases.** In all other cases, master tapes will be retained for a period of six years, unless required for ongoing court or disciplinary proceedings.

15.67 **Working Copy Recordings.** At the conclusion of the court proceedings, Investigating Officers will return working copy recordings to COT for erasure and if applicable, recycling of the storage medium.