

**The University of Reading**

**Guidance for the design  
and installation of  
compliant security systems  
and associated services**

**Revision 1.03**

**01/02/2021**

Page 1 of 14

## **Intruder Alarm System –**

- Installation and all equipment/devices to comply with PD6662 / EN 50131:2004
- Control equipment to be as manufactured by Messrs. Honeywell and selected from their Galaxy G3 range.
- All devices to be G3 compliant.
- System to interface seamlessly with the proposed access control system as necessary.
- Signaling path for Alarm and Tamper conditions to be established between the building intruder control panel and either the Security Office monitoring system or the designated commercial Alarm Receiving Centre as required by the specification.
- Allowance to be made for liaison with the system end user to develop system configuration parameters. The system end user representative(s) to be nominated by the University of Reading Project Manager.
- Allowance to be made for interim system configuration parameters to be used for the purposes of system demonstration to the main contractor (if appropriate).
- Allowance to be made for full user training to be given immediately after completion, sign-off and hand-over of the system/installation/building to the end user.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.
- The intruder alarm system must be installed by the current provider of the University Security Systems Maintenance contract service.
- The installed system must be complete and fully functional at the time of hand-over, including all signaling, either to the Security Office monitoring system or a commercial ARC via a digital dialer or Redcare, as fitted documentation, and a full description of system operation.

## CCTV –

- Installation and all equipment / devices to comply with all current national standards for CCTV equipment in this environment including the Data Protection Act.
- Allowance shall be made on each new CCTV job (both extension and completely new system) for the review and upgrading (if required) of CCTV signage in full accord with the Data Protection Act.
- The CCTV recording equipment shall be as manufactured by Messrs. Dedicated Micros and selected from their DVIP range.
- The CCTV recorder shall offer as a minimum the ability to record all connected cameras at an equivalent of SVHS quality, at 4 pictures per second per camera and store all images on the local built-in hard disc for at least 14 days – after which time the recorder may begin to over-write.
- It is essential that allowance is made for the connection of the CCTV digital recorder to the University of Reading LAN and permit remote interrogation of the recorder by authorised University Personnel.
- It will be necessary for an application to be made to the University IT Services Department for the issue of an IP address to permit the connection of the CCTV digital recorder to the LAN.
- It is essential that the CCTV hard disc recorder is supplied complete with a suitable mains/battery UPS unit to provide 30 minutes of back-up power and filter out mains spikes etc.
- All external cameras are to be manufactured by messrs Dedicated Micros and be selected from their Oracle range.
- The external Dedicated Micros Oracle cameras must offer auto colour/mono switching, full PTZ functionality and seamless integration with the specified CCTV hard disc recorder.
- It is essential that adequate ‘white’ external lighting is provided to light the perimeter of the building and assist the CCTV installation in recording useable images at night.
- All internal cameras are to be as manufactured by either Dedicated Micros (ICE range), Extreme CCTV (EX48 range) or Sanyo (VPN range) offering standard colour performance and back light compensation.
- The internal cameras shall be supplied with a matching lens, individually selected to match the required field of view.
- Internal areas of the building covered by CCTV shall have the fixed lighting installation configured in such a way as to provide a minimum illumination of 5 lux at night. This night-time ‘CCTV’ lighting shall be switchable by means of a key-switch only.
- The CCTV system must be installed by the current provider of the University Security Systems Maintenance Contract service.
- The installed system must be complete and fully functional at the time of hand-over, including all LAN connectivity, as fitted documentation. And a full description of system operation.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.

## **Access Control – main networked systems**

- Installation and all equipment/devices to coordinate fully with the current University of Reading standard access control system strategy.
- Control equipment to be as manufactured by Messrs. Grosvenor and selected from their Janus range.
- This is a PC based access control system and shall be complete with all necessary computer hardware, software, licence dongle and manuals.
- The current version of Siteguard software in use on campus at this time is V3.
- The access control system must be fully compatible with standard University of Reading card issued to all Undergraduate students at registration.
- It is essential that the access control system PC is supplied complete with a suitable mains/battery UPS unit to provide 30 minutes of back-up power and filter out mains spikes etc.
- All external card reading devices shall be Mifare devices complete with a build in PIN keypad.
- All internal card reader devices shall be mullion Mifare devices.
- Generally, access control system locking devices on fire escape routes shall be Von Duprin push bars.
- Generally, access control system locking devices on internal (non fire escape route) doors shall be selected from the Adams Rite range of products and utilise either the 4591 series paddle handle or 4593 latch pull, both complete with matching electric strike as appropriate.
- Allowance to be made for full user training to be given immediately after hand-over.
- The access control system must be installed by the current provider of the University Security Systems Maintenance Contract service.
- It is essential that on the day of hand-over the system is fully functional, complete with all necessary licences, user manuals, as fitted plans and a sufficient number of University pattern Mifare/mag stripe cards programmed into the system for issue to each occupant of the building.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.

## **Access Control – hotel style systems**

- Installation and all equipment/devices to coordinate fully with the current University of Reading standard access control system strategy.
- Control equipment to be as manufactured by messrs Salto.
- This is a PC based access control system and shall be complete with all necessary computer hardware, software, licence dongle and manuals.
- The current version of Salto software in use on campus at this time is to be established at the time of quotation.
- The access control system must be fully compatible with standard University of Reading card issued to all Undergraduate students at registration.
- All external card reading devices shall be Mifare devices complete with a build in PIN keypad.
- All internal card reader devices shall be Mifare devices, either wall mounted or built-in to the room locking unit.
- Generally, access control system locking devices on fire escape routes shall be Von Duprin push bars.
- Generally, access control system locking devices on internal (non fire escape route) doors shall be selected from the Salto range of products.
- Allowance to be made for full user training to be given immediately after hand-over.
- The access control system must be installed by the current provider of the University Security Systems Maintenance Contract service.
- It is essential that on the day of hand-over the system is fully functional, complete with all necessary licences, user manuals, as fitted plans and a sufficient number of University pattern Mifare/mag stripe cards programmed into the system for issue to each occupant of the building.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.

## DDA –

- Where necessary, power operation of doors for DDA compliance shall be seamlessly integrated with the main networked Access Control system detailed previously.
- It is essential that the door operation units are pneumatically powered, of the same type and style currently in use on campus and complete with all necessary accessories to ensure compatibility, safety and security.
- The door operator units are surface fixed and are fitted in place of the standard style closer and are manufactured by Messrs. Ingersoll Rand and selected from the LCN auto-equaliser range of products.
- Being pneumatically operated, it is essential that the system is provided with a dedicated compressor, and control equipment to regulate pressure and interface with the access control system and fire detection system. The compressor shall be fully rated for continuous operation with 25% margin for system growth.
- The ID token for the auto operation of the DDA door operator gear shall be selected from the Cryptag range of products as manufactured by Messrs. Identec Limited.
- Each powered DDA door shall be supplied complete with 2 No. Cryptag cards.
- The doors within a given project or installation will normally be supplied and installed as a part of the Main Contractors package of works, however, if they are to be equipped with DDA power operators and controls they should be installed without locking equipment. The locking package for DDA doors will be specified and installed as a part of the automation package.
- Allowance shall be made within the Main Contractors package for builders work, mains power supplies and all containment in connection with the proposed DDA automation, including flush conduits to card readers, power supplies, controllers, detectors override buttons and detection loops beneath paving etc.
- The preferred lock for DDA controlled doors on fire escape routes is the Von Duprin 99EL and allowance should be made for the provision of a centre rail on doors to assist with the mounting of this style of lock.
- Locks on DDA doors which are not on fire escape routes will be selected on a door by door basis to suit the application.
- Allowance to be made for full user training to be given immediately after hand-over.
- The DDA door automation equipment and interface with the access control system must be installed by the current provider of the University Security Systems Maintenance Contract service.
- It is essential that on the day of hand-over the system is fully functional, complete with all necessary licences, user manuals, as fitted plans and the required number of Cryptag cards.
- The early involvement of University of Reading FMD staff will be required to ensure that the DDA package is fully coordinated with the architectural scheme, fire routines, emergency escape plans and the ironmongery schedule.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.

## **Security & Safety Communications –**

- All equipment supplied, installed, tested and commissioned shall be selected from the Complus Teltronic range of products, specifically to suit the application and the existing hardware in the University of Reading Emergency Control Centre.
- This section covers the supply and installation of communications equipment including help points, intercoms, entry phones, disabled refuge communication units, disabled W.C. alarms etc.
- The Security & Safety Communications equipment must be installed by the current provider of the University Security Systems Maintenance Contract service.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.

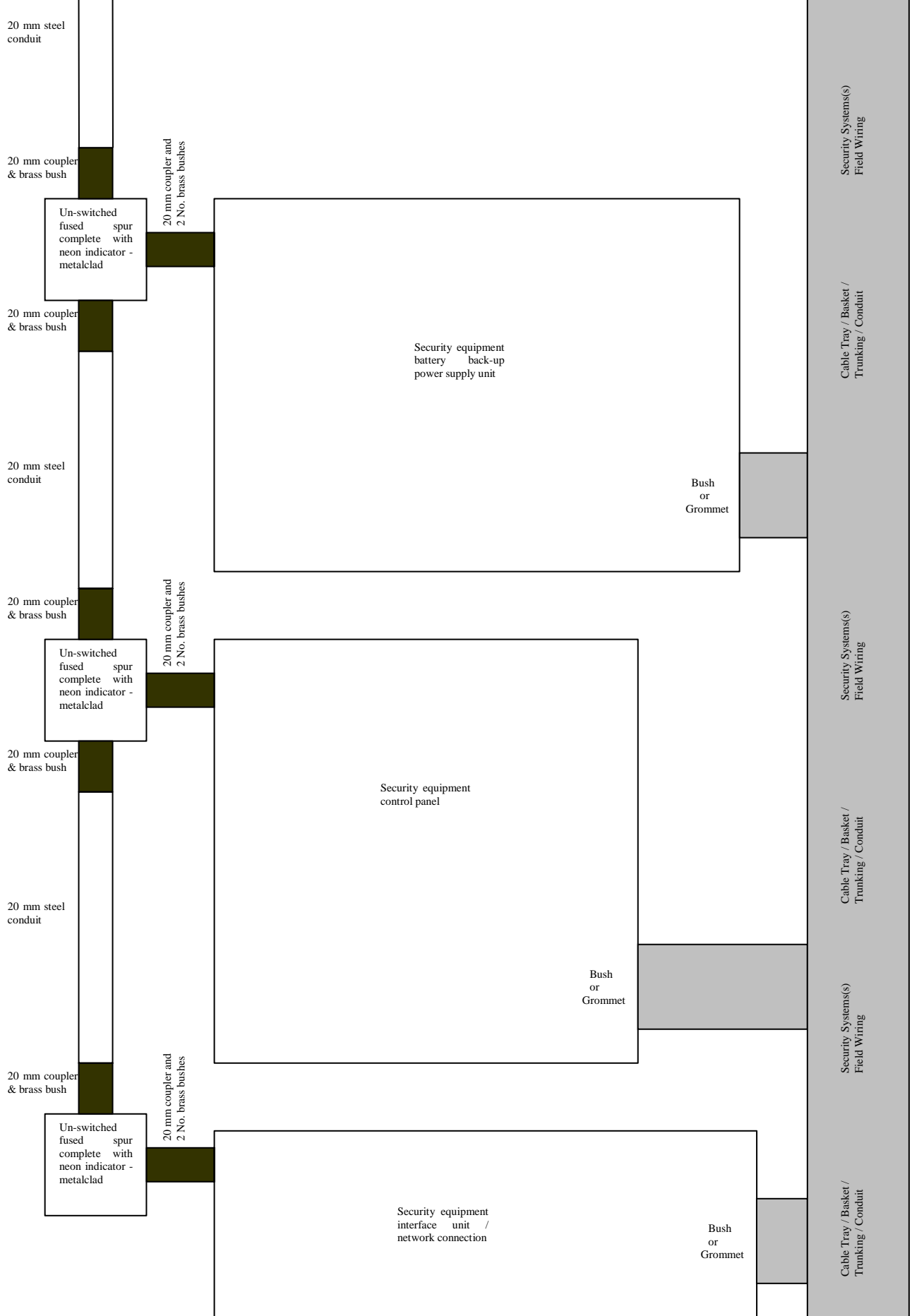
## **Traffic Control Barriers, Control Systems and Communications –**

- All new traffic control barriers shall be carefully matched to the application, taking full account of the required duty cycle. Barriers shall also be of the best quality and durability, typically selected from the RIB range of products.
- New traffic control barrier installations shall be supplied, installed, tested and commissioned with all necessary operational controls and safety systems, including free egress loops, safety loops, safety edge units, card readers, intercoms, traffic lights, limit switches etc.
- New traffic control barrier installations shall include all appropriate warning signage and road markings to comply fully with the Road Traffic Act.
- Each new traffic control barrier installation shall be provided with a key operated three position switch, mounted in a convenient and safe location on the barrier equipment, to allow for the manual override of the barrier. Position one shall drive and lock the barrier open, position two shall put the barrier into its normal operating mode, and position three shall drive and lock the barrier closed.
- Options for the automatic and remote control of the barrier are to be decided on a job by job basis according to the requirements of the client, but may include card readers, PIN keypads, radio or IR fobs, intercoms or ANPR CCTV.
- The Traffic Control Barriers, Control Systems and Communications equipment must be installed by the current provider of the University Security Systems Maintenance Contract service.
- The installation must be offered complete with the first 12 months service and maintenance included, the final charge to the project being a pro-rata charge to the next renewal date of the University Security Systems Maintenance Contract. The current Security Systems Maintenance Contract expires/renews on 31<sup>st</sup> July/01<sup>st</sup> August annually.



## **Equipment Installation, Layout & Attendances by Others –**

- All new security and associated systems shall be installed in such a way as to permit clear and easy access for future maintenance.
- All installations shall be carried out in full accord with the appropriate UK national standards.
- Close liaison between the Security Systems Contractor and the General Electrical Contractor shall be undertaken, facilitated by the Project Manager, to ensure that the works are planned and executed in a professional and workman-like manner.
- It is essential that each individual item of equipment is carefully mounted in an accessible location, taking full account of other services, containment, cabling restrictions, heat dissipation and the requirement for mains power supplies.
- Mains power supplies shall be provided by the General Electrical Contractor in the quantities and locations specified by the Security Systems Contractor.
- Mains power supplies shall be provided via metal-clad un-switched fused spur units mounted immediately adjacent to each item of security equipment requiring a mains supply.
- Each item of security equipment requiring a mains supply shall be provided with its own dedicated metal-clad un-switched fused spur unit.
- Under normal circumstances, the wiring system used for the provision of mains power supplies to security equipment shall incorporate steel conduit, metal-clad accessories and PVC insulated single core copper conductors.
- The mains power supplies to security equipment shall be wired on their own dedicated ring or radial final sub-circuit, protected by a suitably rated 30mA RCBO.
- The fuses installed in the metal-clad un-switched fused spur units shall be rated according to the security equipment being supplied – in the absence of more accurate information you should assume that the fuses shall be de-rated to 5A.
- The final connection between the un-switched fused spur(s) and the security equipment shall be made via a permanent close coupled fixture comprising 1 No. 20mm coupler, 2 No. 20mm male brass bushes and PVC insulated single core cable.
- The use of any type of flexible multi-core cable/flex or flexible conduit is prohibited.
- Containment shall be provided for the entire installation and shall be of an approved type.
- It is anticipated that on minor installations and alterations the Security Systems Contractor will be responsible for the supply and installation of all containment.
- Under normal circumstances the General Electrical Contractor shall be responsible for the supply and installation of containment for the security system(s) installation wiring as an attendance.
- Suitable approved containment shall include cable trays and baskets, conduits and trunkings, each selected to form an appropriate installation standard for the ambient conditions.
- The diagram on the following page gives an example of the typical layout and attendances required for security control equipment.



## **Contract Procedures for Security Systems Installations Procured by The University of Reading Facilities Management Directorate**

### **STAGE 1 - Briefing**

The University will provide the following at the time of briefing for a given project:

- A brief description of the works
- A sketch
- Details of anticipated attendances
- Budget estimate
- Wren number
- Provisional programme of works and/or final deadline for completion of works
- Project manager name and contact details
- Access details, site contact, restricted working periods, special requirements

*Note: Under normal circumstances, the briefing information detailed above should be provided during the Feasibility Stage of each project, missing or incomplete information may delay the production/delivery of the quotation.*

### **STAGE 2 - Quotation**

ADT will provide the following information with the quotation pack:

- A detailed quotation for the works and the first year's maintenance, complete with a list of all major components
- Costing break-down detailing costs plus agreed margin
- Details of any additional attendances required
- Details of anticipated delivery dates (from receipt of order) for non stock items which will need to be specially ordered
- A revised provisional programme taking into account the delivery of any specially ordered items
- Details of any recommendations, limitations or exclusions
- Written request for information to cover any areas not clearly defined
- A blank ADT risk assessment form
- Installation engineer name and contact details

*Note: Under normal circumstances, quotations for works below £20k which use standard ADT stock lines will be provided within 5 working days from receipt of the complete briefing information detailed above. Quotations for works above £20k or those requiring non standard equipment will be delivered within a timescale agreed between the University of Reading Project Manager and the ADT Key Account Manager.*

### **STAGE 3 – Order**

The University will provide the following at the time of placing the order:

- An official University order for the agreed works and the first year's maintenance charge
- Final agreed programme of works which allows for the delivery of non stock items detailed in the quotation
- Details of any attendances to be carried out by others, together with contact details of the contractor(s) carrying out the attendance works
- Answers to any written requests for information which were issued with the quotation or subsequently raised
- A completed risk assessment on the supplied ADT form

*Note: For works which use standard ADT stock lines the lead time between receipt of order and ADT first attendance on site is normally 4 to 6 weeks. For works which use non standard ADT equipment the lead time between receipt of order and ADT first attendance on site is normally 8 to 12 weeks. At this stage, day to day management of the project usually passes from the ADT Key Account Manager to the ADT Installation Field Line Manager.*

## **STAGE 4 – Works**

The University Project Manager and ADT Installation Engineer to work together, with the assistance of any other Contractor providing attendances to complete the works according to the agreed programme.

- The University Project Manager to liaise directly with the ADT Installation Engineer and any other Contractor providing attendances during the course of the works to assist with access, customer liaison, coordination and safety
- ADT to provide written requests for information during the course of the works should unexpected issues arise. The written requests for information should include details of the query, the date by which an answer is required, the anticipated effect of any delays, cost variations +/-

*Note: The estimated time required to complete the installation, testing, commissioning and hand-over of a given system will be stated in the quotation, this period of time is in addition to the lead time between receipt of order and ADT first attendance on site. The actual time taken to complete the agreed works will be dependant upon the availability of the required attendances, free access etc.*

## **STAGE 5 – Sign Off**

Upon completion of the works the installation is to be offered to the University Project Manager for sign off and hand-over to the Customer. At the time of offering the completed installation to the University Project Manager, the Contractor will provide all necessary documentation, demonstrations and adjustments to the equipment and/or programming within the limitations of the equipment specified/installed

*Note: Systems will be offered for sign off and hand-over to the customer as detailed in the original briefing documentation unless otherwise agreed in writing.*

## **STAGE 6 – Post Sign Off**

Fully documented completed installations are to be added to Security Systems Web Portal Data Base used to manage the existing comprehensive contract by the Maintenance Contracts Manager. The cost of maintaining the new systems will be charged to the project – pro-rata adjustments made to the quoted annual figure to allow for the period from system hand over to the annual renewal date of the Security Systems Maintenance Contract.

## **Ongoing Monitoring**

All security systems feasibility enquiries, quotations, orders, ongoing works and sign-offs are to be closely monitored and logged during the regular (currently monthly) University of Reading / ADT Contract Review Meeting. It is expected that both the University of Reading and ADT will use this forum to raise any issues relating to the delivery of the specified service.

## **Urgent Works**

In the unlikely event that urgent works are required which preclude compliance with the procedures detailed above, the University of Reading Project Manager shall authorise the works to be charged to a holding call-off order, previously issued to ADT. The University of Reading Project Manager and the ADT Key Account Manager or Installation Field Line Manager are to liaise directly to agree the means by which the works can be delivered, to a mutually agreed timetable. The University of Reading Project Manager shall make arrangements for the appropriate financial journal to be made, ensuring that the installation costs are correctly allocated.

*Note: The use of the holding call-off order is to enable ADT to respond quickly to urgent requests – all safety, monitoring, attendance and management procedures must still be applied.*

## **Procedures for Security Systems Installations at The University of Reading - Procured by Framework Partner Consultants and/or Contractors**

### **STAGE 1 - Briefing**

The Framework Partner Consultant or Contractor will provide the following information to the ADT Key Account Manager at the time of briefing for a given project:

- A brief description of the works
- A sketch
- Details of anticipated attendances
- Budget estimate
- Wren number
- Provisional programme of works and/or final deadline for completion of works
- Project manager name and contact details
- Access details, site contact, restricted working periods, special requirements

*Note: Under normal circumstances, the briefing information detailed above should be provided during the Feasibility Stage of each project, missing or incomplete information may delay the production/delivery of the quotation.*

### **STAGE 2 - Quotation**

ADT will provide the following information with the quotation pack:

- A detailed quotation for the works and separate quotation for the first year's maintenance, complete with a list of all major components
- Costing break-down detailing costs plus agreed margin
- Details of any additional attendances required
- Details of anticipated delivery dates (from receipt of order) for non stock items which will need to be specially ordered
- A revised provisional programme taking into account the delivery of any specially ordered items
- Details of any recommendations, limitations or exclusions
- Written request for information to cover any areas not clearly defined
- A blank ADT risk assessment form
- Installation engineer name and contact details

*Note: Under normal circumstances, quotations for works below £20k which use standard ADT stock lines will be provided within 5 working days from receipt of the complete briefing information detailed above. Quotations for works above £20k or those requiring non standard equipment will be delivered within a timescale agreed between the framework partner consultant or contractor representative and the ADT Key Account Manager. ADT have been instructed to provide the University of Reading with copies of all quotations*

### **STAGE 3 – Order**

The Framework Partner Consultant or Contractor will provide the following at the time of placing the order:

- An official order for the agreed works
- Final agreed programme of works which allows for the delivery of non stock items detailed in the quotation
- Details of any attendances to be carried out by others, together with contact details of the contractor(s) carrying out the attendance works
- Answers to any written requests for information which were issued with the quotation or subsequently raised
- A completed risk assessment on the supplied ADT form
- A copy of the ADT quotation for the first years maintenance shall be sent to the University of Reading Project Manager by the Framework Partner Consultant or Contractor

*Note: For works which use standard ADT stock lines the lead time between receipt of order and ADT first attendance on site is normally 4 to 6 weeks. For works which use non standard ADT equipment the lead time between receipt of order and ADT first attendance on site is normally 8 to 12 weeks. At this stage, day to day management of the project usually passes from the ADT Key Account Manager to the ADT Installation Field Line Manager*

#### **STAGE 4 – Works**

The Framework Partner Consultant or Contractor and ADT Installation Engineer shall work together, with the assistance of any other Contractor providing attendances to complete the works according to the agreed programme.

- The Framework Partner Consultant or Contractor to liaise directly with the ADT Installation Engineer and any other Contractor providing attendances during the course of the works to assist with access, customer liaison, coordination and safety
- ADT to provide written requests for information during the course of the works should unexpected issues arise. The written requests for information should include details of the query, the date by which an answer is required, the anticipated effect of any delays, cost variations +/-

*Note: The estimated time required to complete the installation, testing, commissioning and hand-over of a given system will be stated in the quotation, this period of time is in addition to the lead time between receipt of order and ADT first attendance on site. The actual time taken to complete the agreed works will be dependant upon the availability of the required attendances, free access etc.*

#### **STAGE 5 – Sign Off**

Upon completion of the works the installation is to be offered to the University Project Manager for sign off and hand-over to the Customer. At the time of offering the completed installation to the University Project Manager, the Framework Partner Consultant or Contractor and ADT will provide all necessary documentation, demonstrations and adjustments to the equipment and/or programming within the limitations of the equipment specified/installed

*Note: Systems will be offered for sign off and hand-over to the customer as detailed in the original briefing documentation unless otherwise agreed in writing.*

#### **STAGE 6 – Post Sign Off**

Fully documented completed installations are to be added to Security Systems Web Portal Data Base used to manage the existing comprehensive contract by the Maintenance Contracts Manager. The cost of maintaining the new systems will be charged to the project – pro-rata adjustments made to the quoted annual figure to allow for the period from system hand over to the annual renewal date of the Security Systems Maintenance Contract.

#### **Ongoing Monitoring**

All security systems feasibility enquiries, quotations, orders, ongoing works and sign-offs are to be closely monitored and logged during the regular (currently monthly) University of Reading / ADT Contract Review Meeting. It is expected that the University of Reading, ADT and Framework Partner Consultants or Contractors will use this forum to raise any issues relating to the delivery of the specified service.

Ian Jones  
Maintenance Project Manager

Reviewed CAS  
V1.03 01/02/21