

Automated External Defibrillator (AED) Program

1. **Purpose**

The purpose of this document is to provide the framework for managing and continually improving the Automated External Defibrillator (AED) Program within The Pennsylvania State University (Penn State).

1. **Scope**

The AED Program covers all aspects of AEDs at all University locations. University Health Services, Penn State Health and the College of Medicine are exempt.

1. **Responsibilities**

The following employees or groups have specific responsibilities assigned to them in this program as appropriate.

**3.1 Medical Advisor for the University AED Program**

The Senior Director of University Health Services has been designated as the medical advisor for the AED Program. This individual is responsible for providing oversight for the medical components of this program. Primary responsibilities include:

* + - Provides the medical prescription for any AED that requires one to be purchased and installed;
    - Monitors the outcomes of AED use; and
    - Provides guidance in the selection of appropriate AEDs.

**3.2 Environmental Health and Safety**

A designated AED Program Manager within Environmental Health & Safety (EHS), Office of Physical Plant (OPP), oversees the administration of the AED Program. EHS specifically:

* Manages the AED Program for the University;
* Develops, maintains and updates the AED Policy for the University;
* Chairs the AED Advisory Committee and maintenance of the AED Program;
* In conjunction with the AED Advisory Committee, establishes criteria for the required placement of AEDs;
* Assists work units in the implementation of this program;
* Reviews submittals of “Application to Acquire and Install an AED.”
* Maintains the process to ensure centralized delivery, receiving and shipping of all Penn State-owned AEDs;
* Maintains EHS - AED Asset database and contact information for all Penn State owned AEDs;
* Updates EHS AED webpage as needed, including maps with AED locations;
* Maintains updates by the American Heart Association and others to benefit from advances in Public Access Defibrillator programs; and
* Provides appropriate public safety agencies with updated listings of AEDs on a regular basis.

**3.3 University Police and Public Safety**

Police play an important role in the AED Program as emergency responders. Police respond to calls at University Park and the campuses as needed and are CPR/AED trained emergency responders. They work in conjunction with Emergency Medical Services (EMS) on response calls. Primary responsibilities include:

* Maintain records of AED use and provide to EHS if requested;
* At campus locations, they are responsible for the inspection and maintenance of the Police AEDs;
* Assist EHS and EMS in the recovery of data from an AED after an incident resulting in use.

**3.4 Emergency Medical Services**

EMS maintains the University Ambulance Service at University Park, which operates 24 hours a day, 7 days a week. They are licensed by the Pennsylvania Department of Health and staffed by well-trained, certified emergency medical staff. They are located at the Student Health Center and are exempt from this AED Program. EMS works in conjunction with EHS and the AED Program when needed. Primary responsibilities include:

* Maintain records of AED use and provide to EHS if requested;
* Provide guidance in the selection of appropriate AED units in conjunction with EHS; and
* Assist EHS in the recovery of data from an AED after an incident resulting in use.

**3.5 Department, Work Unit or Campus**

The Administrative Unit Head is responsible to ensure that all components of this policy are implemented when an AED(s) is/are purchased and installed within areas of their jurisdiction. Additional responsibilities include:

* + Assigns resources to support the AED Program. This includes both personnel and the installation and/or maintenance costs within their areas of jurisdiction as established by this policy.
  + Designates and empowers an AED Work Unit Coordinator who is responsible for program coordination and AED plan oversight within the work unit. The AED Work Unit Coordinator may appoint additional coordinators to assist in localized implementation**.**
  + Plans events in accordance with [ADG04](https://policy.psu.edu/policies/adg04) (Providing Emergency Medical Services at University Events at University Park) to ensure Emergency Medical Services needs are addressed for special events under their area of jurisdiction at on-campus or off-campus locations.

**3.6 AED Work Unit Coordinator**

* Ensures the preparation and submittal of an “Application to Acquire and Install an AED” for any, and all new AEDs. AEDs will not be purchased or installed before the AED Application is approved by EHS and provided to the AED Work Unit Coordinator.
* Maintains and updates the AED work unit information as described in the AED Program.
* Conducts the annual self-review to ensure the work unit complies with the AED Program.
* Ensures that an “AED Coordinator Location Sticker” is posted on the exterior of all AED cases under their jurisdiction and is updated appropriately. These stickers are provided by EHS upon initial installation and upon request.
* Ensures that individual First Responders’ CPR/AED certifications are current.
* Reports program issues to EHS, their Administrative Unit Head or OPP depending upon the nature of the problem.
* Ensures that signage specifying AED locations in areas under their jurisdiction are maintained as established by this policy.
* If any AED under their jurisdiction is used, they are responsible for the notification and reporting activities as described in this program.
* Maintains records for AEDs under their jurisdiction as described in this program.

These responsibilities are summarized in the companion document “AED Work Unit Coordinator Responsibilities.”

* 1. **AED Advisory Committee**

The AED Advisory Committee is comprised of more than a dozen stakeholders in the AED Program. Stakeholders who are included on this committee include representatives from Environmental Health & Safety, Intercollegiate Athletics, the Commonwealth Campuses, Risk Management, the Office of Physical Plant, University Police and Public Safety, Auxilliary & Business Services, University Health Services and academic work units.

* Periodically review SY-22 and revise as appropriate. Incorporate regular reviews of American Heart Association (AHA) and other appropriate guidelines and literature.
* Review the ongoing compliance with the policy and appropriate standards including the priority, risk-based list for the addition of AEDs.
* Advocate for CPR training/retraining programs at Penn State to enhance participation and response.
* Consider financial implications of the cost of AEDs, including a funding plan to address training, purchasing and maintenance of the AEDs.

1. **Definitions**

*AED (Automated External Defibrillator)*: a device that is designed to analyze a heart rhythm and advise trained or "lay" personnel when to push a button on the AED to deliver a potentially lifesaving shock (defibrillation) to the victim of a sudden cardiac arrest.

*CPR (Cardiopulmonary Resuscitation)*: an emergency medical procedure using artificial blood circulation and respiration to maintain the flow of oxygenated blood through the body, thereby delaying tissue death and increasing the opportunity for successful resuscitation without brain damage.

1. **Procedures**

No AED may be purchased or installed without written approval from EHS. All AEDs must be purchased through EHS except for University Police and Public Safety.

The appropriate procedures for a work unit to purchase an AED are:

* 1. Designate an AED Work Unit Coordinator who will represent the work unit and who will administer and maintain the work unit’s compliance with the AED Program.
  2. Contact EHS to determine whether the desired AED placement meets the criteria for AED placement. Information needed to determine if placement criteria are met may include location to the nearest EMS, building capacity information, use data, age profile of occupants or visitors, etc.
  3. If placement criteria are met, EHS may be responsible for the cost of the AED and maintenance. If placement criteria are not met, the work unit may be responsible for the cost of the AED and funding should be secured by the work unit. EHS will work with the designated AED Work Unit Coordinator to make this determination based on the criteria for AED placement and desired placement of the AED.
  4. With the assistance of EHS, complete the “Application to Acquire and Install an AED”. For University Park work units, a separate application must be completed for each building where an AED is requesting to be placed, however a non-University Park location (Commonwealth Campus) may use one application for requesting one or more AEDs.
  5. Submit the completed application and include a copy of the work unit’s completed “AED Work Unit Training Roster” to EHS.
     1. If the application is approved, EHS will order the appropriate AED(s) and/or initiate any work orders to have the AED(s) installed.
     2. If not, additional information may be requested.
  6. If the work unit is located at:
     1. University Park:

EHS will initiate the process for creating the AED sign plan for the building of placement through OPP;

Once the completed sign plan has been received by EHS, EHS will initiate the work order through OPP to have the AED asset set up in Maximo along with a monthly PM schedule.

The AED installation work order will also be created during this process.

AED installations typically include the AED, case, fast response kit, cabinet and signs.

Once installed, OPP notifies EHS of the serial number of the AED that was placed into service.

* + 1. Non-University Park location:
       1. The AED, case, fast response kit, sign and cabinet (if needed) will be purchased by EHS; and
       2. delivered to the AED Work Unit Coordinator.
  1. The AED information, including work unit, building, building location, Maximo number (if applicable), serial number, etc. is entered in the EHS – AED Asset database for tracking.
  2. An AED Approval Letter is issued to the AED Work Unit Coordinator from EHS. This will serve as the official notification that the work unit is now responsible for the maintenance, inspection and recordkeeping as detailed in this AED Program.

**5.1 AED Work Unit Information**

Once the AED application [has](https://ehs.psu.edu/automated-external-defibrillator-aed/forms-0) been approved and issued by EHS, information must be updated and communicated to EHS as necessary.

Changes to the following would require notification:

* + - * AED Work Unit Coordinator change
      * Relocating a stationary AED, either temporary or permanent
      * Relocating a mobile AED to a new permanent storage location
      * Location of records change

**5.2 Criteria for AED Placement**

Placement criteria for AEDs at Penn State have been established by EHS and the AED Advisory Committee

**Risk Placement Criteria**

* Facilities/Activities which meet at least **one** of the following:
  + Fitness facilities, including swimming pools.
  + Presence of high-risk populations. An example would be large gathering areas that include older populations such as airports or hotels.
  + Use by personnel engaging in high risk activities. Examples would include high risk team sports, energized electrical work, provision of health care, or exposure to elevated heat levels.
* Facilities that meet at least **two** of the following:
  + Difficult to navigate based on size, configuration or restrictions that inhibit immediate access.
  + Presence of large numbers of people, but not necessarily at-risk populations, as determined by the AED Program Manager.
  + Location is more than a three-minute response time for an AED to arrive from Police or EMS.
* Additionally, there is an AED available for each University Police and Public Safety marked patrol vehicle.
  1. **Funding of AEDs**
* Self-supporting Operations - Funding for AEDs, including installation and signage, is the responsibility of the work unit, even if they meet the placement criteria.
* Non-Self-supporting Operations –
  + If the high or moderate risk placement criteria are met - AEDs are centrally funded through EHS
  + If the high or moderate risk placement criteria are not met - For those work units which do not meet the established high or moderate risk placement criteria, but still choose to purchase an AED, the responsibility for meeting all components of the AED Policy and the AED Program belong to the work unit. Work units must follow all aspects of the AED Program no matter who funds the AED.
  1. **AED Signage**

If the work unit is located at:

* + 1. University Park - all AED signs will be coordinated through EHS.
    2. Non-University Park location- please see the document “[AED Sign Guidance for Non-University Park Locations](https://ehs.psu.edu/automated-external-defibrillator-aed/resources)“ to determine what signs you may need for your AED.
  1. **AED Internal and External Communications Plan**

Communications of the presence of an AED must include an effective means to notify ALL occupants within the building regarding the existence of the AED and the need to call 911 as soon as possible when someone is found under medical distress or unresponsive. Some methods of communication may include using bulletin/communication boards, building listservs, work unit newspaper/brochures, work unit email, work unit website, handouts, and new hire orientation.

Individual work units may have other and more appropriate means to communicate this information. It is recommended that more than one form of communication be used to ensure that all building occupants are notified of this program.

* 1. **Equipment Information**

The manufacturer and model of AED has been standardized across all University locations. The AEDs approved for purchase and installation at Penn State University are:

* 1. University Police and Public Safety – Philips HeartStart FR3 (prescription required) if available for purchase or Philips HeartStart OnSite HS1 with a set of child pads included
  2. All other Work Units – Philips HeartStart OnSite HS1

Only the approved items listed below are to be placed in an AED cabinet. Any exception to this list must be approved and documented by the Director of EHS and the AED Program Manager.

Additional items to be placed with AEDs:

* + Fast Response Kit, which contains the following items:
    - * + 2 pairs of Non-Latex Gloves
        + CPR barrier masks
        + Scissors (to easily remove clothing)
        + Disposable razor
        + Cloth/towel/gauze
* Spare Parts Policy:
  + At University Park, only certain units are required to contain 2 sets of pads:
    1. University Police and Public Safety
    2. Off-Campus locations such as Shaver’s Creek and Stone Valley where getting a set of replacement pads within 24 hours may not be feasible;
    3. A complete list of which AEDs are to contain 2 sets of pads can be found at the end of the AED Program document in Attachment A.
  + At a campus location, spare parts should be kept on hand for each type of AED in use. Attachment B lists the recommended spare parts that should be kept on hand at each campus.
  1. **Maintenance and Inspection Requirements**

Continuous equipment maintenance is an important element in ensuring a successful program. Equipment is maintained through the following processes. If the work unit is located at:

1. University Park:
   1. OPP conducts the initial installation, setup and monthly maintenance of all AEDs in accordance with manufacturer’s requirements.
   2. Monthly inspection records are contained within Maximo.
2. Non-University Park location:
   1. Maintenance and inspections will be managed by the AED Work Unit Coordinator.
   2. The AED Work Unit Coordinator may designate one or more individuals to install the AED(s) and to conduct maintenance and/or inspections.
   3. The “[AED Monthly Inspection Form](http://ehs.psu.edu/automated-external-defibrillator-aed/forms-0),” or an equivalent record must be used.  All records of inspections shall be maintained by the AED Work Unit Coordinator.
   4. Installations will be conducted in accordance with the requirements of this policy.
3. AED pads are to be replaced prior to their expiration date. AED batteries are to be replaced when needed or at 4 years of use.
   * 1. Philips brand AED pads typically have a shelf life of approximately 24 months.
     2. Philips brand batteries have an “install by” date that is typically 5 years from the date of manufacture. No battery is to be installed if it is past this “install by” date.
     3. Battery life can be affected by factors, such as temperature. Units that are exposed to colder climates may experience shorter battery life than units not exposed to colder climates.
     4. When installing a new battery, the date of installation should be recorded on the battery. When that battery has reached an age of 4 years of use, it should be changed as part of the unit’s preventive maintenance.
   1. University Police and Public Safety are responsible for obtaining replacement supplies through the central office of University Police and Public Safety.
   2. All other AED supplies can be ordered by contacting EHS.
4. AEDs will be taken out of service and replaced as determined by EHS. EHS monitors all AEDs and determines when each one is to be replaced.
   1. **AED Disposition**
   2. All AEDs must be taken out of service when they reach an approximate age of eight years old.
   3. EHS will coordinate with each work unit to replace each AED as necessary.
   4. All AEDs, regardless of which work unit purchased them, must be returned to EHS for final disposition and notification to the manufacturer that they have been removed from service.
   5. **Incident Notification and Documentation**
   6. Work units must make notification to EHS within 24 hours of an incident involving an AED at Penn State.
   7. The work unit responsible for the AED shall provide EHS with a completed “[AED Post Incident Usage Report](https://ehs.psu.edu/automated-external-defibrillator-aed/forms-0)” or equivalent documentation.
   8. For University Park AEDs, EHS, or if applicable, University Park Police will submit the work order to have an AED returned to service after an incident.
   9. For non-University Park locations, arrangements will be made between EHS, University Police and Public Safety and the work unit to get the AED back into service as quickly as possible.
   10. The AED Program Manager is responsible to ensure that the EMS Director is notified of an AED use.
   11. The AED Program Manager is responsible for logging the incident information into the AED Incident Spreadsheet on the EHS shared drive.
   12. **AED Data Retrieval**

The AEDs that Penn State use have internal data storage that must be evaluated by EMS.

* 1. Do not remove the battery from a used AED unless instructed to do so.
  2. If the incident was at University Park, EMS will take the AED with them and return it after the data has been extracted.
  3. For non-University Park locations, for Onsite units, arrangements will be made to pick up the AED and leave a loaner AED while the unit’s data is being retrieved.
  4. If the AED had a data card, the card can be removed for analysis and a spare be put in its place.
     1. Turn the FR3 off.
     2. Remove the battery to access the FR3 data card.
     3. Remove the data card and give to EHS for data extraction.
     4. Replace with a new/replacement data card and reinsert the battery and restart the FR3.
  5. **Annual Self-Review**

Annually, work units will be asked to review, verify and update their AED information on file with EHS.

Information for review may include the following:

* AED pad expiration dates (non-UP only)
* AED Battery installation dates from the previous year (non-UP only)
* AED Work Unit Coordinator contact info,
* AED Record keeping location and contact information,
* Number of employees currently trained at the location, and
* Any changes to AED stationary or storage locations.
  1. **Donated AEDs**

Donated AEDs may be accepted by Penn State; however, the donated AED must meet certain criteria.

1. The AED being donated must be a Philips brand AED and the model must be a HeartStart Onsite FR1 or FR3. No other AED make, or model is to be accepted by any Penn State location at this time.
2. The AED must also be of an age acceptable to the AED Program Manager.
3. The donated unit must not be included in any open recall campaigns.
4. Any work unit accepting a donated AED is responsible for the cost of all maintenance (batteries and pads) for that AED.
5. The AED must be approved and documented with EHS, inspected and maintained according to this policy, and relinquished to EHS for disposition when requested.
6. **Training Requirements**

The work unit responsible for the AED is responsible for providing or arranging for both initial training and refresher training in CPR/AED use for building occupants and maintaining training records, including a description of the training program.

* 1. CPR/AED training shall be based on the American Heart Association or American Red Cross curriculum and shall be taught by a certified instructor.
  2. Courses at a minimum must include adult CPR/AED and the participant must receive a certification card.
  3. The course must include hands on training (physical skills).
  4. CPR/AED training must be recertified every two years.

Work units should contact EHS to determine the appropriate number of occupants who need to be trained to get AED approval. In general, for each AED being placed, there should be a minimum of 2-4 occupants in the building with current CPR/AED certification status.

An “AED Work Unit Training Roster” is to be submitted with the “Application to Acquire and Install an AED”.

There are a variety of options for AED/CPR training that can be found in the CPR/AED Training Options document on the EHS website.

Due to training required by their jobs, EMS medical personnel (i.e., emergency medical technicians (EMTs), paramedics, nurses, physicians, physician’s assistants), police officers and certified athletic trainers are exempt from the above training requirement.

Visit the [Penn State EHS AED Webpage](https://ehs.psu.edu/automated-external-defibrillator-aed/overview) or contact EHS to find out if any training incentives currently are available.

1. **Recordkeeping**

All records associated with an AED shall be kept according to the proposed retention schedule:

|  |  |  |
| --- | --- | --- |
| Record | Record Owner | Retention Time |
| Application to Acquire and Install an AED | EHS &  Customer | 1 Year |
| AED Approval Letters | EHS & Customer | 1 Year |
| AED Monthly Inspection Checklists | Customer | 3 Years |
| CPR/AED Training Records | Customer | Current certification only |
| AED Owner’s Manuals | Customer | Current Manual Only |
| AED Asset Database (Spreadsheet) | EHS | 3 Years |
| AED Disposal/Disposition Letters | EHS | 30 Years |
| AED Post Incident Usage Reports | EHS | 30 Years |

1. **Associated Documents and Forms**
   * Application to Acquire and Install an AED
   * [AED Work Unit Training Roster](https://ehs.psu.edu/automated-external-defibrillator-aed/forms-0)
   * [AED Monthly Inspection Form with Instructions](https://ehs.psu.edu/automated-external-defibrillator-aed/forms-0)
   * [AED Post Incident Usage Report](http://ehs.psu.edu/automated-external-defibrillator-aed/forms-0)
   * [AED Sign Guidance for Non-University Park Locations](https://ehs.psu.edu/automated-external-defibrillator-aed/resources)
   * AED CPR/AED Training Options
   * AED Work Unit Coordinator Responsibilities
   * AED Asset Database (Spreadsheet)
2. **Philips AED Reference Materials**

* HeartStart OnSite

[HeartStart OnSite Defibrillator Owner’s Manual](https://philipsproductcontent.blob.core.windows.net/assets/20190118/1baa3fc1ee09422482c7a9d901209aff.pdf)

* + HeartStart FR3

[HeartStart FR3 Owner’s Manual](https://www.aedbrands.com/resource-center/implement/aed-manuals/philips-fr3-aed/HeartStart-FR3-%20Owners-Manual-3.pdf)

1. **Exceptions**

The Penn State AED Policy and program are not intended to cover situations in which the University employs or uses personnel with specific education, certification and/or licensure to deliver emergency care. Personnel such as EMTs, paramedics, registered nurses, other health care professionals (including certified athletic trainers) may have an AED that they have been authorized to use by their specific training or medical protocols and may have other reporting requirements mandated by regulations or statutes.

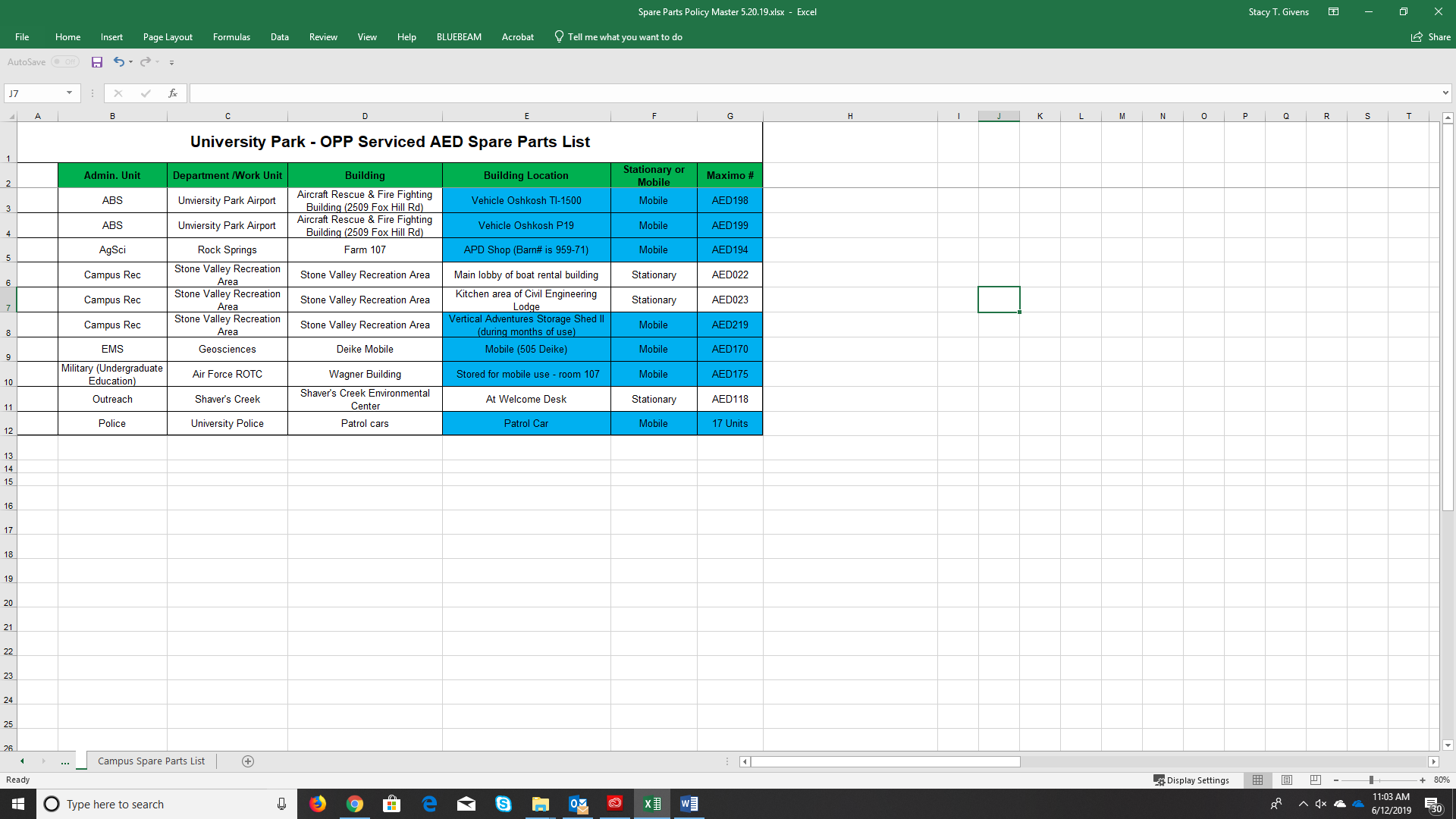
1. **Revision History**

Original document issued – November 13, 2019

1/6/2020 – Updated the record retention for monthly inspections to reflect the new requirement of the EHS Record Retention Program. Requirement changed from 1 year to 3 years. Change made by S. Givens.

**Attachment A**

**List of AEDs that require a 2nd set of Pads to be kept in their case at UP**



**Attachment B**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Recommended AED Spare Parts List for Campuses** | | | | | | |
|  | **Part & Number of Spares to Keep on Hand** | | | | | |
| **Campus** | **Onsite Battery** | **Onsite Adult Pads** | **Onsite Child Pads** | **FR3 Pads** | **FR3 Data Card** | **FR3 Battery** |
| Abington | 1 | 1 |  |  |  |  |
| Altoona | 1 | 1 |  |  |  |  |
| Beaver | 1 | 1 |  |  |  |  |
| Berks | 1 | 1 |  | 1 | 1 | 1 |
| Brandywine | 1 | 1 |  | 1 | 1 | 1 |
| Dickinson | 1 | 1 |  |  |  |  |
| DuBois | 1 | 1 |  | 1 | 1 | 1 |
| Erie - Behrend | 1 | 1 |  | 1 | 1 | 1 |
| Fayette/Eberly | 1 | 1 |  | 1 | 1 | 1 |
| Great Valley | 1 | 1 |  |  |  |  |
| Greater Allegheny | 1 | 1 |  |  |  |  |
| Harrisburg | 1 | 1 |  |  |  |  |
| Hazleton | 1 | 1 |  |  |  |  |
| Lehigh Valley | 1 | 1 |  |  |  |  |
| Mont Alto | 1 | 1 |  | 1 | 1 | 1 |
| New Kensington | 1 | 1 |  |  |  |  |
| Schuylkill | 1 | 1 |  |  |  |  |
| Scranton | 1 | 1 |  |  |  |  |
| Shenango | 1 | 1 |  | 1 | 1 | 1 |
| Wilkes-Barre | 1 | 1 |  |  |  |  |
| York | 1 | 1 |  | 1 | 1 | 1 |
| EHS Mobile Units | 1 | 1 |  |  |  |  |