



## Volume 2 - ANNEX A

# MISSION FUNCTIONS DEPENDENCIES ASSESSMENT SUMMARY

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Mission functions dependencies are those elements, both internal and external, without which the Academic mission of the UA could not be accomplished.

Appendix 1 contains a listing of mission function dependencies, which were derived from institutional knowledge, interviews with college deans and vice presidents or their representative, and directors of UA units. The interviews were guided by the questions contained in Appendix 2 regarding the UA mission.

Appendix 1 also highlights the comparative relevance of the specified dependencies to UA units.

UA employees are our most important resource and are a key ingredient to mission accomplishment. Nevertheless, it was made abundantly clear by interviewees that the cyber age is upon us and a major portion of the essential tasks of most units are intricately tied to and dependent on computers, network connectivity and communications. This includes classroom instruction research projects, administrative processing and related activities, and environment control requirements. The activities of the units of most interviewees were so dependent on computers that some remarked “take away my computers and I am sending everybody home”.

The common element in the foregoing dependencies is electrical power. Examples of the impact of being without electricity are: there would be no lighting in classrooms, laboratories, residence halls, libraries and other facilities; instructional aids will not work; laboratory and research equipment will not work; the computer screens, storage and retrieval systems and fax and copy machines cannot be used; digital telephones are not operable after being without electricity for 45 minutes; the air conditioning in buildings ceases, which not only increases the discomfort level in occupied facilities but also jeopardizes some of our most valued collections in campus museums; the KUAT UA channel with direct cable lines to residence halls cannot be used in emergencies to communicate with students because if TEP provided electricity is lost UA generated electricity currently cannot be linked to the KUAT capability and there is no in place or assigned emergency backup generator. The colleges that are heavily engaged in research activities are highly reliant on electricity to store and manipulate data and in some cases maintain specified temperature control for testing, experimentation and storage of refrigerated or frozen samples. One college dean said “If I do not have electricity at certain research locations within one hour after a disaster a lot of money will be lost”. For example, the thawing of contents in certain -80 degree freezers on

campus could result in the loss of millions of dollars of research materials. There are literally hundreds of refrigerators, -20 degree freezers, incubators and growth chambers in which research/biological materials will begin to deteriorate if left unpowered more than 12 hours.

The concern is lessened somewhat by the existence and use of emergency generators. However, currently, at the UA there are 61 emergency generators including two spares (one – 50 KW and one 15 KW). A listing showing locations and types of generators is at Annex E, Appendix 8, Section 3.

The purpose of an emergency generator is to only provide for the functioning of services that protect life and property e.g. “EXIT” signs, lights and critical equipment. They are not intended to duplicate normal electrical operational capabilities. Since the University is heavily engaged in research activities all of the facilities where major research projects are undertaken and those where large concentration of people frequent, either included emergency generators during their design or were added after the fact, based on need. (See appendix 2 this annex for a summary assessment of UA electrical power capability in the event of a disaster).

Although the facts belie the importance of electricity to UA mission accomplishment, the other utilities water and natural gas, are also important. Gas provides for heating for UA facilities. It also assists with the cooling function by fueling the turbines that produce electricity to run the chiller plant. While heating and cooling, for obvious creature comfort reasons, are of seasonal importance to the conduct of the overall mission, there are certain elements/unit, the arts, museums and research where environmental control and/or refrigeration are continuing essential requirements for mission accomplishment. See Appendix 3 for a UA natural gas capability assessment summary.

The importance of water for human health and consumption is obvious. Additionally, many research projects rely on the use of water. Nevertheless, water is an element that can be transported-in from other areas for use. See Appendix 4 for UA water capability assessment summary in the event of a disaster.