GLOSSARY AND ABBREVIATIONS

Access Control: The physical guidance of vehicles and/or people going to and coming from a space through judicious placement of entrances, exits, landscaping, lighting, and controlling devices (such as guard stations, turnstiles, etc.)

ACI: American Concrete Institute.

Agent: Any physical, chemical, or biological entity that can be harmful to an organism.

AISI: American Iron and Steel Institute.

AMSA: Association of Metropolitan Sewerage Agencies [now National Association of Clean Water Agencies (NACWA)].

ANSI: American National Standards Institute.

API: Application programming interface.

ASCE: American Society of Civil Engineers.

ASDWA: Association of State Drinking Water Administrators.

Asset: Anything of value (such as people, information, hardware, software, facilities, equipment, reputation, activities, or operations) that may be a target of the design basis threat (DBT) adversary. Assets are what an organization needs to get the job done—to carry out the mission. The more critical the asset is to an organization accomplishing its mission, the greater the effect of its damage or destruction.

ASTM: ASTM International (formerly the American Society for Testing and Materials).

AWWA: American Water Works Association.

AwwaRF: The former American Water Works Association Research Foundation, now called the **Water Research Foundation**.

Base: Minimum recommended.

Bollard: One of a series of posts preventing vehicles from entering an area.

CCTV: Closed-circuit television.

Check Valve: A valve that allows fluid to flow through it in one direction but prevents flow in the opposite direction.

Clear Zone: An area surrounding the perimeter of a facility that is free of shrubs and trees, and features well-maintained landscaping that does not provide hiding places for an adversary.

CMU: Concrete masonry unit.

Contaminant: Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.

Contamination: Introduction of microorganisms, chemicals, toxic substances, wastes, or wastewater into water, air, and soil in a concentration that makes the medium unfit for its intended use.

Countermeasure: A reaction to or a defense against a hostile action to deal with a threatening situation.

Criminal: The primary motivation for a criminal is the desire to obtain equipment, tools, or components that have inherent value and can be sold. Criminals typically use stealth to avoid apprehension, and response times should focus on the time for the adversary to obtain the asset. See also Table 1-1.

Cross Connection: Any temporary or permanent connection between a public water system for consumer's potable (i.e., drinking) water system and any source or system containing or which may contain nonpotable water or other substances.

Daisy Chain: Groups of padlocks connected and hooked to a common chain in such a way as to allow access through a key that can unlock any one of the padlocks.

Delay Features: Security objects such as physical barriers designed to occupy or limit an adversary until a response force can interrupt accomplishment of the adversary's objectives. Delay features consist primarily of physical hardening features and are often employed in multiple layers to provide protection in depth. Delay features are only effective when placed within a layer of detection.

Design Basis Threat (DBT): The adversary against which a utility must be protected. Determining the DBT requires consideration of the threat type, tactics, mode of operations, capabilities, threat level, and likelihood of occurrence.

Detection: The point at which a potential attack is discovered, assessed, and determined to be an attack in progress rather than a false alarm.

Detection Features: Security items such as sensors that are intended to detect the presence of an intruder. A complete detection system generally includes electronic features such as sensors as well as cameras or visual observation for assessment of alarm validity. Depending on the types of sensors, a detection system may also include lighting systems, motion detectors, monitoring cameras, access control equipment, or other devices.

Deterrence: Security measures such as lighting or the presence of closed-circuit television or people in the area that may discourage an adversary from attacking the facility. Deterrence is not generally considered a part of a physical protection system with a predictable level of effectiveness; however, it can reduce the occurrence of crime or low-level vandal attacks.

DoD: U.S. Department of Defense.

DVD: Digital versatile disc, digital video disc.

EFI: Electronic frequency interference.

Enhanced: Augmented with improved, advanced, or sophisticated features.

EOC: Emergency operation center.

EOL: End-of-line.

EWRI: Environmental and Water Resources Institute of the ASCE.

Foot-Candle: A unit of light intensity defined as the amount of light measured on a surface one foot from a uniform point source of light equal to the light of one candle. A foot-candle is equal to one lumen per square foot.

FRP: Fiberglass-reinforced plastic.

GSA: U.S. General Services Administration.

Harden: To improve the physical strength of a protective measure.

IESNA: Illuminated Engineering Society of North America.

Improvised Explosive Device (IED): An apparatus or contraption placed or fabricated without detailed manufacturing that incorporates destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and is designed to destroy, incapacitate, harass, or distract through high-speed projectiles and overpressure.

Improvised Incendiary Device (IID): An apparatus or contraption placed or fabricated without detailed manufacturing that incorporates destructive, lethal, noxious, pyrotechnic, or incendiary chemicals and is designed to destroy, incapacitate, harass, or distract by creating intense heat and fire.

Insider: An individual who is granted normal access to a facility. This may be an employee, a contractor, a custodial worker, or an authorized visitor. See also Table 1-1.

Intrusion: Entrance by force or without permission or authorization, either physically or via electronic methods.

IP: Internet Protocol.

IR: Infrared.

Key Card Reader/Access: Entry to a facility via a device used by an individual(s).

lb: Pound.

Lumen: The SI unit of measuring the power of light being produced by a light source or received by a surface.

Lux: The SI unit of light intensity defined as the amount of light equal to one lumen per square meter.

m: Meter.

mm: Millimeter.

Mantrap: Secured entry system that prevents an individual from gaining access to an area by holding them first in an assessment area.

NACWA: National Association of Clean Water Agencies [formerly Association of Metropolitan Sewerage Agencies (AMSA)].

NDWAC: National Drinking Water Advisory Council.

NETCSC: National Environmental Training Center for Small Communities.

NFPA: National Fire Protection Association.

NRWA: National Rural Water Association.

OD: Outside diameter.

PIR: Passive infrared.

PL: Public law.

PLC: Programmable logic controller.

Protection in Depth: The strategy of providing multiple layers of protective measures, thereby requiring an adversary to defeat a system, travel to the next protective layer and defeat that system, and so forth until reaching the target. An example of protection in depth is the application of layers of protective measures at the site boundary (perimeter fencing system), at the building envelope (exterior walls, doors, windows, grilles, and roof system), and at the target enclosure (the room in which the targeted asset is housed).

psi: Pounds per square inch.

PTZ: Pan, tilt, and zoom.

PVC: Polyvinyl chloride.

RAM-W: Risk Assessment Methodology for Water Utilities, available from the Sandia Corporation (Sandia National Laboratories).

Response: Actions taken to interrupt the adversary's task. Utility staff, the utility's security response force, or law enforcement may carry out response, depending on the threat and policy of the utility.

RF: Radio frequency.

RFI: Radio frequency interference.

Risk: The potential for realization of unwanted, adverse consequences to human life, health, property, or the environment. The quantitative or qualitative expression of possible loss that considers both the probability that a hazard will cause harm and the consequences of that event. Risk is usually expressed as a function of the probability that an adverse effect will occur and the criticality of the effect on the ability to fulfill a mission or function.

RTU: Remote terminal unit.

Saboteur: A saboteur is typically motivated by political, doctrinal, or religious causes, although revenge may also be a motivation. These individuals primarily use stealth to achieve their objectives, but they can be armed and willing to injure or kill others if threatened. The saboteur is bent on damage or destruction of the utility's facilities or generating a lack of public confidence in the utility's ability to protect the public. See also Table 1-1.

SCADA: Supervisory Control and Data Acquisition (see full definition below).

SI: International System of Units.

Significant: Having or likely to have a major effect; important; fairly large in amount or quantity.

Supervisory Control and Data Acquisition (SCADA): The system that provides automatic or semi-automatic sensing of key parameters and control of key elements of the water or wastewater system. It generally provides for communications, notifications, and alarms, as well as for manual override of controls.

Surveillance: The placement of physical features, activities, vehicles, and people that maximize visibility by others during their normal activities. Surveillance may be natural or electronic, informal (office windows placed to facilitate surveillance of entry roads), or formal (continuous monitoring). Surveillance provides the link between detection (sensors activated due to the presence of an intruder) and assessment (confirming that the detection is valid and not a nuisance alarm).

SWAT: Special Weapons and Tactics.

Target: This term is used synonymously with asset throughout this document.

Terrorist: A radical who employs terror as a political weapon. With significantly enhanced tool and weapon capabilities, terrorists may be politically or doctrinally motivated to cause maximum human casualties, often without regard for the terrorist's personal survival.

UL: Underwriters Laboratory.

UPS: Uninterruptible power supply.

USEPA: U.S. Environmental Protection Agency.

VA: Vulnerability assessment (see full definition under **Vulnerability Assessment**).

Vandal: An individual acting alone or in a group, unarmed and using spray paint to deface property or using hand tools to inflict damage to utility assets. See also Table 1-1.

Vehicle Sallyport: Interlocking gates within a fenced area where incoming drivers pass through the first gate and stop at the second gate. Once both gates are closed and the vehicle is captured within the sallyport, a security guard may confirm the identity of the driver and, if necessary, search the vehicle to confirm the contents. Once the vehicle and driver are approved, the second gate opens and the vehicle may drive onto the facility.

VSAT: Vulnerability Self-Assessment Tool, available from NACWA.

Vulnerability: A characteristic of a critical infrastructure's design, implementation, or operation that renders the infrastructure susceptible to destruction or incapacitation by a threat. Vulnerabilities may consist of flaws in security procedures, software, internal system controls, or installation of infrastructure that may affect the integrity, confidentiality, accountability, or availability of data or services. Vulnerabilities also include flaws that may be deliberately exploited and those that may cause failure due to inadvertent human actions or natural disasters. Vulnerability may be considered any weakness that can be exploited by an adversary or, in a nonterrorist threat environment, make an asset susceptible to hazard damage.

Vulnerability Assessment (VA): An assessment of the vulnerabilities of a water or wastewater system. The six common elements of vulnerability assessments identified by USEPA are: (1) characterization of the system, including its mission and objectives; (2) identification and prioritization of adverse consequences to avoid; (3) determination of critical assets that might be subject to malevolent acts that could result in undesired consequences; (4) assessment of the likelihood (qualitative probability) of such malevolent acts from adversaries; (5) evaluation of existing countermeasures; and (6) analysis of current risk and development of a prioritized plan for risk reduction. Two example approaches to VAs are the Risk Assessment Methodology for Water Utilities (**RAM-W**) and the Vulnerability Self-Assessment Tool (**VSAT**).

Water Research Foundation (WRF): Established in January, 2009; the former American Water Works Association Research Foundation (**AwwaRF**).

WEF: Water Environment Federation.

WISE: Water Infrastructure Security Enhancements.

WISE SC: Water Infrastructure Security Enhancements Standards Committee of the EWRI of ASCE.

WSWG: Water Security Working Group.

REFERENCES

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