

ACCESS HATCH	An airtight door system that preserves the pressure integrity of the reactor Containment Building while allowing access to personnel and equipment.
ALARA	Acronym for “As Low As Reasonably Achievable,” a basic concept of radiation protection that specifies that radioactive discharges from nuclear plants and radiation exposure to personnel must be kept as far below regulatory limits as feasible.
ALERT	The second lowest of four emergency classification levels at a nuclear power plant. An Alert is declared when events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site personnel or damage to site equipment because of HOSTILE ACTION . Any release is expected to be limited to small fractions of the EPA PAG exposure levels.
ALPHA PARTICLE	A positively charged particle ejected spontaneously from the nuclei of some radioactive elements. It has low-penetrating power and short range. The most energetic alpha particle will generally fail to penetrate the skin.
AMERICAN RED CROSS (ARC)	The American Red Cross, is a volunteer led, humanitarian organization that provides emergency assistance, disaster relief and education inside the United States.
ARIZONA DEPARTMENT OF HEALTH SERVICES (ADHS)	Provides information on public health, oversees the ADHS HP Tech Advisor who has the primary responsibility for carrying out radiological emergency assessment actions, coordinating the technical offsite agency response, and provide protective action recommendations to the Governor or designee.
ARIZONA PUBLIC SERVICE CO. (APS)	Is the utility designated as the project management and operating agent for PVGS.
ARIZONA PUBLIC SERVICE COMPANY CUSTOMER CARE CENTER (CCC)	(Also known as Rumor Control) Assists the State of Arizona with their public inquiries. The public inquiry Process is basically a hot line in which the public can call and say “I heard this” or may ask questions.
AUXILIARY BUILDING	The building located adjacent to the reactor Containment Building that houses most of the engineering system, chemical and volume control systems, cooling water and ventilation systems, and a maintenance access area.
BACKGROUND/NATURAL RADIATION	The radiation in our natural environment, including cosmic rays and radiation from naturally occurring radioactive elements, both outside and inside the bodies of humans and animals.
BETA PARTICLE	A charged particle emitted from a nucleus during radioactive decay. Large amounts of beta radiation may be harmful to the skin and lens of the eye. Beta particles are easily stopped by a thin sheet of metal or plastic.
BOILER PLATES	Pre-drafted Media Statements

BOILING WATER REACTOR (BWR)	Boiling Water Reactor in which water, used both as coolant and moderator, is allowed to boil in the reactor core.
BORON	A chemical element that absorbs neutrons to assist with controlling or completely stopping a nuclear reaction.
CHAIN REACTION	A reaction that stimulates its own repetition. In a chain reaction, a fissionable nucleus absorbs a neutron and fissions or splits, releasing additional neutrons.
CLADDING	The thin-walled metal tube that forms the outer jacket of a nuclear fuel rod. It prevents corrosion of the fuel by the coolant and the release of fission products into the coolant.
CODE OF FEDERAL REGULATIONS (CFR)	Code of Federal Regulations codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government. The code is divided into 50 titles, which represents broad areas subject to federal regulations.
COLD SHUTDOWN	The term used to define a reactor coolant system at atmospheric pressure and at a temperature below 210 degrees Fahrenheit following a reactor cool down.
CONDENSATE	Water that has been produced by the cooling of steam in a condenser.
CONDENSER	A large heat exchanger designed to cool exhaust steam from a turbine below the boiling point so that it can be returned to the heat source as water.
CONTAINMENT BUILDING	A steel-lined, reinforced concrete building that houses the reactor, reactor coolant pumps, and steam generators. Nearly 20 stories high and with walls over 3-feet thick it is an airtight building that keeps airborne radioactive materials inside.
CONTAMINATION	The deposition of unwanted radioactive material in an unwanted location that may be fixed, removable, or airborne.
CONTROL BUILDING	Holds the computer room, cable rooms, and control room where all major systems are operated, closely watched, and controlled.
CONTROL ROD	A rod or tube containing a material such as hafnium, boron, etc. used to control the power of a nuclear reactor. By absorbing neutrons a control rod prevents the neutrons from causing further fission.
CONTROL ROOM	The area in a nuclear power plant from which most of the critical plant equipment and emergency safety equipment can be operated.

CONTROLLED AREAS	<p>The <u>OWNER CONTROLLED AREA</u> is all land surrounding the plant, owned or leased by the utility. Boundaries are posted with signs stating that access is restricted and trespassing is prohibited. At PVGS, the area is fenced.</p> <p>The <u>PROTECTED AREA</u> is the area surrounding the plant that is enclosed by a security fence. Access is controlled and limited to approved personnel or escorted visitors.</p> <p>The <u>SECURITY OWNER CONTROLLED AREA</u> is the area encompassed by physical barriers to which access is controlled.</p> <p>The <u>VITAL AREA</u> is the area containing safety-related equipment essential to the safe operation of the plant. Vital areas have the highest level of security access control.</p>
COOLANT	A substance circulated through the core of a nuclear reactor to remove the heat produced by the fission process. The most commonly used coolant in the United States is water.
COOLDOWN	A gradual decrease in reactor fuel rod temperature caused by the removal of heat from the reactor coolant system.
COOLING TOWER	A heat exchanger designed to aid in the cooling of water that was used to cool exhaust steam exiting the turbines of a power plant. Cooling towers transfer exhaust heat into the air instead of into a body of water.
CORE	The central part of the nuclear reactor containing the fuel rods and control rods where nuclear fission takes place.
CORE MELTDOWN	A power reactor core accident resulting in fuel reaching a temperature high enough to reduce the fuel to a molten state.
COSMIC RADIATION	Radiation originating in outer space.
CUMULATIVE DOSE	The total dose resulting from repeated exposures to radiation to the same region, or to the whole body, over a period of time.
CURIE (Ci)	Curie is the basic unit used to describe the activity, in terms of transformations per second, in a sample of radioactive material.
DECAY HEAT	The heat produced by the decay of radioactive fission products after the reactor has been shut down.
DECONTAMINATION	The reduction or removal of contaminated radioactive material from a structure, area, object, or person.

DEPARTMENT OF EMERGENCY AND MILITARY AFFAIRS (DEMA)	DEMA is the primary agency that coordinates Palo Verde offsite emergency response for state, county and local agencies.
DEPARTMENT OF HOMELAND SECURITY (DHS)	Department of Homeland Security is the federal agency charged with the responsibility for coordinating the response to any incident involving federal resources, facilities, key assets, or critical infrastructure. FEMA is part of DHS.
DEPARTMENT OF PUBLIC SAFETY (DPS)	The state law enforcement agency that will assist in the implementation of public evacuation procedures in the event of a radiological emergency at PVGS.
DESIGN-BASIS ACCIDENT	A postulated accident that a nuclear facility must be designed and built to withstand without loss to the systems, structures, or components necessary to assure public health and safety.
DIESEL GENERATOR	A 6000-KW diesel generator used for back-up power.
DOSE	A quantity (total or accumulated) of ionizing radiation received.
DOSE RATE	The radiation dose delivered per unit of time i.e. mrem per hour.
DOSIMETER	A portable instrument for measuring and registering the total accumulated exposure to ionizing radiation.
EMERGENCY ACTION LEVEL (EAL)	Emergency Action Levels are predetermined site specific observable thresholds for a plant Initiating Condition that places the plant in a given emergency classification. An EAL can be an instrument reading, an equipment status indicator, a measurable parameter, a discrete, observable event; or another phenomenon which, if it occurs, indicates entry into a particular emergency classification.
EMERGENCY ALERT SYSTEM (EAS)	The Emergency Alert System is used by local, state, federal, and tribal governments to communicate potentially life-saving information to the public during an emergency.
EMERGENCY CLASSIFICATIONS)	The four (4) classifications are: Unusual Event (UE), Alert, Site Area Emergency (SAE), and General Emergency (GE). Emergency classifications are characterized by EALs associated with Initiating Conditions and address emergencies of increasing severity.
EMERGENCY COORDINATOR	Responds to the Technical Support Center and is responsible for direction and coordination of the onsite Emergency Organization.
EMERGENCY CORE COOLING SYSTEMS (ECCS)	Emergency Core Cooling Systems are components (pumps, valves, heat exchangers, tanks, and piping) designed to remove residual heat from the reactor fuel rods should the normal core cooling system fail.

EMERGENCY DECLARATION (COUNTY LEVEL)	May be declared by the Chairperson, Maricopa County Board of Supervisors, during the major local emergencies or natural disasters. This may be declared any time after a PVGS emergency classification has been declared. A Local Emergency is declared in order to free resources for use during the emergency.
EMERGENCY OPERATIONS DIRECTOR (EOD)	The Emergency Operations Director is in command and is responsible for overall coordination of onsite and offsite emergency functions and interfaces with offsite government response agencies.
EMERGENCY OPERATIONS FACILITY (EOF)	The Emergency Operations Facility is the focal point for coordination of onsite and offsite emergency response activities. The EOF is responsible for determining Protective Action Recommendations (PAR's), liaison with offsite governmental organization and response facilities, and overall coordination of the Emergency Organization.
EMERGENCY PLANNING ZONE (EPZ)	The Emergency Planning Zone is the ten-mile radius area, centered on the vertical axis of the Unit 2 Containment Building, for which protective actions are planned. The Ingestion EPZ includes the Exposure EPZ and extends to a 50-mile radius. Within the area, state radiological monitors collect foods and liquids, such as water, milk, fresh fruits and vegetables, that may become contaminated by the release of radioactive materials from an accident at the plant, and that could be consumed or ingested by the public.
EMERGENCY RESPONSE FACILITY (ERF)	Examples of Emergency Response Facilities are: TSC, OSC, EOF, and JIC.
ENERGY EDUCATION CENTER (EEC)	Palo Verde Nuclear Station's Energy Education Center building is designed and constructed to serve as an Offsite Emergency Operations Facility (EOF) and Joint Information Center (JIC). It is also used for many other business purposes including: employee training, industry conferences, offsite meetings, and community outreach activities.
ENRICHED URANIUM	Uranium in which the proportion of U-235 has been artificially increased above its 0.7 percent.
EVACUATION	The removal of people living/working in the 10-mile EPZ around PVGS as a protective action against exposure to radioactive materials that has or could be released into the atmosphere as the result of an incident.
EXPOSURE	The absorption of radiation or ingestion of a radionuclide. Acute exposure is generally accepted to be a large exposure received over a short period of time. Chronic exposure is low exposure over a long period of time.
FAQ'S	Frequently asked questions.
FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)	The Federal Emergency Management Agency is the agency that serves as the single point of contact with the federal government for administering emergency management programs and in providing non-technical emergency assistance.

FEDERAL RADIOLOGICAL EMERGENCY RESPONSE PLAN (FRERP)	The Federal Radiological Emergency Response Plan has been superseded by the National Response Plan (NRP) and the information basics of the FRERP is now located as an incident annex to the NRP.
FEDERAL RADIOLOGICAL MONITORING AND ASSESSMENT CENTER (FRMAC)	The Federal Radiological Monitoring and Assessment Center is a federal emergency response facility established by the Department of Energy that works in conjunction with the state.
FEEDWATER	Water supplied to the reactor pressure vessel (in a BWR) or the steam generator (in a PWR) that removes heat from the reactor fuel rods and becomes steam. The steam becomes the driving force for the plant turbine generator.
FISSION	The splitting of atoms that result in the release of large amounts of energy and the production of heat. Two or three neutrons are usually released during this event. Fission occurs either naturally or when an atom's nucleus is bombarded by neutrons.
FISSION GASES	Fission products that exist in the gaseous state, primarily the noble gases (krypton, xenon and radon) that do not combine chemically with other materials.
FISSION PRODUCTS	Fragments left after fission has occurred that can be either elements or compounds.
FUEL ASSEMBLY	A cluster of fuel rods. 236 fuel rods comprise each fuel assembly, with 241 assemblies forming the core of each reactor at PVGS.
FUEL BUILDING	A reinforced concrete building located near the Containment and Auxiliary Buildings where new fuel and spent fuel is stored.
FUEL CYCLE	The series of steps involved in supplying fuel for a nuclear power reactor.
FUEL PELLET	The uranium fuel for nuclear reactors in the form of a small cylinder approximately 3/8 inch in diameter and 5/8 inch in length. These pellets are stacked in long tubes to form fuel rods. Typical fuel pellet enrichment range from 2 to 3.5 percent uranium-235.
FUEL ROD	A long, slender tube that holds fissionable material (fuel pellets) for nuclear reactor use. Fuel rods are assembled into bundles called fuel elements or fuel assemblies, which are loaded individually into the reactor core.
GAMMA RAY	High-energy radiation emitted from the nucleus. Gamma radiation frequently accompanies alpha and beta emissions and always accompanies fission. Gamma rays are very penetrating and are best stopped or shielded against by dense materials, such as lead or concrete. Gamma rays are similar to x-rays, but are usually more energetic.

GENERAL EMERGENCY (GE)	General Emergency is the highest of the four emergency classification levels for a nuclear power plant. A GE is declared when events are in progress or have occurred which involve actual or IMMINENT substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPG PAG exposure levels off site for more than the immediate area.
HAB	Hostile Action-Based.
HALF-LIFE	The time in which half the atoms of a particular radioactive substance disintegrate to another nuclear form. Measured half-lives vary from millionths of a second to billions of years.
HEALTH PHYSICS	The science concerned with recognition, evaluation, and control of health hazards from ionizing radiation.
HOT	A colloquial term meaning highly radioactive.
ICP	Incident Command Post
INCIDENT COMMAND SYSTEM (ICS)	The Incident Command System which provides for standardized terminology and procedures. A unified command and action planning process which identifies incident response strategies and specific tactical actions.
INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO)	The Institute of Nuclear Power Operations is an independent organization created by the nuclear utility industry to promote safety.
IONIZING RADIATION	Radiation capable of displacing electrons from atoms or molecules, producing ions.
ISOTOPE	One of two or more atoms with the same number of protons but different numbers of neutrons in the nuclei. Carbon-12, Carbon-13, and carbon-14 are isotopes of the element carbon. Isotopes have nearly the same chemical properties, but often different physical properties (for example, carbon-12 and carbon-13 are stable, carbon-14 is radioactive).
JOINT INFORMATION CENTER (JIC)	The Joint Information Center is the primary point for the dissemination of information to the media regarding an emergency at PVGS at an ALERT or higher emergency classification.
JOINT INFORMATION SYSTEM (JIS)	Provides an important framework for reaching out to the public to provide accurate, timely information.
KILOWATT	A unit of electrical power equal to 1,000 watts. Most electrical plants express their generating capacity in megawatts (1,000,000).
LIGHT-WATER REACTOR	A term used to designate reactors using ordinary water as coolant, including boiling water reactors (BWRs) and pressurized water reactors (PWRs).

LOSS OF COOLANT ACCIDENT (LOCA)	Loss of Coolant Accident results in a loss of coolant to the reactor. In the event of a LOCA the reactor would shut down automatically, and the emergency core cooling system (ECCS) would supply water to cool the core.
MARICOPA COUNTY DEPARTMENT OF EMERGENCY MANAGEMENT (MCDEM)	The Maricopa County Department of Emergency Management is responsible for operating the Maricopa County Emergency Operations Center, and for coordinating county emergency response efforts. It is located at 5630 E. McDowell Road, Phoenix, Arizona.
MARICOPA COUNTY EMERGENCY OPERATIONS CENTER (MCEOC)	The Maricopa County Emergency Operations Center is the primary point through which the Chairperson, Maricopa County Board of Supervisors (or designee) exercises control and coordination of county response activities. The MCEOC is located at Maricopa County Department of Emergency Management (MCDEM) office at 5630 East McDowell Road, Phoenix, Arizona.
MARICOPA COUNTY SHERIFFS OFFICE (MCSO)	The Maricopa County Sheriff's Office will assist the State of Arizona in the implementation of public safety and evacuation procedures (roadblocks, traffic control, assisting access and functional needs population, etc.) in response to an emergency at PVGS.
MEDIA ADVISORY	A brief announcement to the general media about an activity or upcoming event.
MEDIA STATEMENT	A written communication directed to members of the news Media for the purpose of announcing something noteworthy. Also known as a news release or a media release.
MELTDOWN	A nuclear accident in which the fuel becomes so overheated that it melts and falls into the base of the reactor vessel.
MICROCURIE	A one-millionth part of a curie (see Curie).
MILLIREM	A one-thousandth part of a rem (see Rem).
MODERATOR	A substance, such as ordinary water, heavy water, or graphite, used in a reactor core to slow down high-velocity neutrons, thus increasing the likelihood of fission.
MONITORING	Periodic or continuous determination of the amount of ionizing radiation or radioactive contamination present in an area.
NATIONAL RESPONSE FRAMEWORK (NRF)	The National Response Framework is a federal plan that provides structured mechanisms for national-level policy and operational direction for domestic incident management, including commercial nuclear power plant events having offsite consequences. The NRF Nuclear/Radiological Incident Annex provides an integrated and coordinated federal response to any type of serious radiological emergency in support of a state or local government or where federal statutes require federal participation.

NATIONAL WEATHER SERVICE (NWS)	The National Weather Service is a branch of the National Oceanic and Atmospheric Administration, which provides weather observations, forecasts, and warnings on a local, state, and nationwide scale.
NEUTRON	An uncharged particle found in the nucleus of every atom except hydrogen; neutrons sustain the fission chain reaction in nuclear reactors.
NOBLE GAS	A gaseous chemical element that does not readily enter into chemical combination with other elements.
NON-VITAL PLANT SYSTEMS	Systems at a nuclear facility that may or may not be necessary for the operation of the facility (power production), but that would have little or no effect on public health and safety should they fail. These systems are not safety related.
NOTIFICATION ALERT NETWORK (NAN)	The Notification Alert Network is a dedicated telephone circuit linking PVGS emergency response centers with key state and local government agencies.
NUCLEAR ENERGY	The energy caused by a nuclear reaction (fission) or by radioactive decay.
NUCLEAR POWER PLANT	An electrical generating facility using a nuclear reactor as its power (heat) source.
NUCLEAR REACTOR	A component in which a fission chain reaction can be initiated, maintained, and controlled.
NUCLEAR REGULATORY COMMISSION (NRC)	The Nuclear Regulatory Commission is the federal agency with the responsibility of establishing onsite emergency management standards and for the regulation and inspection of nuclear power plants to assure the public health and safety.
NUCLEUS	The small, central region of an atom that carries essentially all the mass.
NUCLIDE	A general term referring to all known isotopes, both stable (279) and unstable (about 5000), of the chemical elements.
OPERATIONS SUPPORT BUILDING (OSB)	The Operations Support Building houses utility management and operations support staff.
PICO-CURIE	One trillionth part of a curie (see Curie).
PIG	A container (usually lead) used to ship or store radioactive materials. The thick walls protect the person handling the container from radiation. Large containers are commonly called casks.
PINNACLE WEST CAPITAL CORPORATION (PNW)	The parent company of PVGS and its operating agent, APS.
PIO	Public Information Officer.

PLUME	A cloud of airborne radioactive particulates and gasses moving away from a nuclear power plant in a direction and at a speed determined by the prevailing wind. It moves with the wind and is thinned out.
POC	Point of Contact.
POISON	A material other than a fissionable material in the vicinity of the reactor core that will absorb neutrons so that they are unavailable to cause fission. The addition of poisons, such as control rods or boron, into the reactor can slow or stop the chain reaction process.
POTASSIUM IODIDE (KI)	Potassium Iodide is a means of controlling dose to the thyroid if administered in a timely manner.
POWER REACTOR	A component designed to produce heat for electric generation.
PRESSURE VESSEL	A strong-walled container housing the core of most types of power reactors.
PRESSURIZED WATER REACTOR (PWR)	Pressurized Water Reactor is designed in which water flowing through the reactor is heated by nuclear energy but is kept at high pressure to keep the water from boiling. This heated water then transfers its heat to a secondary water system that boils the water into steam to drive the turbine.
PRESSURIZER	A tank or vessel that maintains required primary coolant pressure in a pressurized water reactor during normal operations and limits pressure changes as plant needs change.
PROJECTED DOSE	An estimate of the radiation dose that a population may potentially receive based on radiological release rates, meteorological conditions, and length of exposure.
PROTECTIVE ACTION	Actions taken to avoid or minimize the projected dose, such as evacuation or sheltering.
PROTECTIVE ACTION DECISION (PAD)	Protective Action Decisions are made by the state based on Protective Action Recommendations made by the utility and ADHS.
PROTECTIVE ACTION GUIDE (PAG)	The Protective Action Guide is the projected radiation dose to individuals in the general population that would warrant protective actions (sheltering or evacuation) against a radioactive release as established by the EPA. Protective actions are warranted if the dose reduction is not offset by the risks associated with taking the protective actions.
PROTECTIVE ACTION RECOMMENDATION (PAR)	Protective Action Recommendations are protective actions made by the utility and ADHS to offsite authorities for implementation.
PUBLIC INQUIRY (PI)	Public Inquiry (Government) center responds to telephone calls from the general public regarding government emergency
RADIATION	Particles (alpha, beta, neutrons) or rays (gamma) emitted from the nucleus of an unstable radioactive atom as a result of radioactive decay.

RADIATION ABSORBED	RAD means the absorption of 100 ergs (a small but measurable amount of energy) per gram of absorbing material.
RADIATION SICKNESS	Symptoms resulting from excessive exposure of the whole body (or large part) to ionizing radiation in a short period of time. Symptoms range from nausea, vomiting, and diarrhea in the early states, to hemorrhage, skin reddening, and hair loss later on. If the exposure is large (>450 RADS), death for 50% or more of those exposed may be expected within a few weeks.
RADIOACTIVE	Exhibiting radioactivity or pertaining to radioactivity.
RADIOACTIVE DECAY	The decrease in the amount of any radioactive material with the passage of time.
RADIOACTIVITY	The spontaneous emission of radiation, generally alpha or beta particles, often accompanied by gamma rays, from the nucleus of an unstable isotope.
RADIOLOGICAL ASSISTANCE PROGRAM (RAP)	Radiological Assistance Program is any of several emergency operation units that can be called upon from specific U.S. Department of Energy locations.
RADIOLOGICAL EMERGENCY ASSISTANCE TEAM (REAT)	Radiological Emergency Assistance Teams are provided by Arizona Department Of Health Services and are composed of personnel trained in monitoring for radiologically contaminated materials, decontamination of such materials, and radiation control and protection coordinated by ADHS.
RADIOLOGICAL FIELD ASSESSMENT TEAM (RFAT)	Radiological Field Assessment Teams are PVGS radiological monitoring teams deployed under emergency conditions to affected or potentially affected areas to determine actual radiological impact.
RADIOLOGICAL RELEASE WITHIN TECHNICAL SPECIFICATIONS	Nuclear power plants routinely release small amounts of radioactive materials (primarily gases) into the environment. These releases are within federally regulated nuclear safety operational requirements and limits as established by the NRC and EPA and are not measurable beyond the natural or background radiation that is always present in the environment from cosmic rays, elements in the ground, water, building materials, and the human body.
REACTOR	A component in which nuclear fission may be sustained and controlled in a self-supporting nuclear reaction.
REACTOR COOLANT SYSTEM (RCS)	Reactor Coolant System is the cooling system used to remove energy from the reactor core and transfer that energy either directly or indirectly to the steam turbine.
REAT FORWARD	Radiological Emergency Assistance Team Forward is the staging area for (REAT) personnel, located at the Buckeye Airport on Palo Verde Road south of Interstate 10.

RECEPTION AND CARE CENTER (RCC)	Reception and Care Center is operated by MCDEM and the Greater Phoenix Chapter of the American Red Cross, in conjunction with state and local government agencies. RCC's are pre-designated facilities outside the EPZ at which evacuees are provided shelter and food, reunited with other family members, receive general information, and if necessary, receive radiological monitoring and decontamination.
RECOVERY	Operations include long term post-emergency efforts that follow a major incident. These operations are performed by station personnel, contract experts and specialists, and qualified engineers under the direction of the recovery organization.
RE-ENTRY	Temporary entry of a person into a restricted zone under controlled conditions.
REGIONAL ASSISTANCE COMMITTEE (RAC)	Regional Assistance Committee is a federal committee chaired by the regional Representative of FEMA in regional evaluations of Emergency Preparedness.
RELEASE	Escape, planned or unplanned, of radioactive materials into the environment. May be in the form of solids, liquids, or gases.
RELOCATION	The removal or continued exclusion of persons from contaminated areas to avoid chronic radiation exposure.
RESTRICTED ZONE	Refers to an area of controlled access from which the population has been evacuated or relocated.
RETURN	The reoccupation of areas cleared for unrestricted residence or use for previously evacuated populations.
ROENTGEN EQUIVALENT MAN (REM)	Roentgen Equivalent Man is the unit of dose equivalent of any ionizing radiation. It is numerically equal to RADS times a quality factor, which represents a particular radiation's ability to damage.
RUMOR CONTROL (RC)	Rumor Control is also known as the APS Customer Care Center, and responds to telephone calls from the general public regarding plant status and utility emergency response activities. Operators provide information from approved Media Statements or from stock plant and emergency plan information.
SAFETY INJECTION	The rapid insertion of a chemically soluble neutron poison (such as boric acid) into the Reactor Coolant System to ensure reactor shutdown.
SCRAM	Sudden shutting down of a nuclear reactor, usually by rapid insertion of control rods, either automatically or manually by the reactor operator.
SECONDARY SYSTEM	The steam generator tubes, steam turbine, condenser and associated pipes, pumps, and heaters used to convert the heat energy of the reactor coolant system into mechanical energy for electrical generation. Most commonly used in reference to pressurized water reactors.
SHELTER- IN-PLACE	Staying inside a person's home, business, or vehicle as a protection from a radioactive release that may be present in the outside air.

SHIELDING	Any material or obstruction that absorbs radiation and thus tends to protect personnel or materials from the effects of ionizing radiation.
SHUTDOWN	A decrease in the rate of fission (and heat production) in a reactor (usually by the insertion of control rods into the core).
SIREN WARNING SYSTEM	A system of sirens, located in the 10-mile EPZ around PVGS when activated inform people that they should tune to local radio and television stations for protective action instructions from government officials.
SITE AREA EMERGENCY (SAE)	Site Area Emergency is the next to the highest of the four Emergency Classification Levels. A SAE is declared when events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts: 1) toward site personnel or equipment that could lead to the likely failure of or; 2) that prevent effective access to the equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA PAG exposure levels beyond the site boundary.
SOMATIC EFFECTS OF RADIATION	Effects of radiation limited to the exposed individual as distinguished from genetic effects, which may also affect unexposed generations.
SPENT (DEPLETED) FUEL	Nuclear reactor fuel that has been used to the extent that it can no longer effectively sustain a chain reaction.
STARTUP	An increase in the rate of fission (and heat production) in a reactor usually by the removal of control rods from the core.
STATE EMERGENCY OPERATIONS CENTER (SEOC)	The State Emergency Operations Center is the facility from which state officials exercise centralized direction and control of state emergency response activities. The SEOC is under the supervision of the Director, Arizona Division of Emergency Management and is responsible to the Governor. The SEOC is located at 5636 East McDowell Road, Phoenix, Arizona.
STATE OF EMERGENCY	May be declared by the Governor upon the recommendation of the Director, DEMA during any major technological or natural disaster. When the Governor declares a state of emergency, state resources and funding to manage the emergency are made available at an increased level.
STEAM GENERATOR	The heat exchanger used in some reactor designs to transfer heat from the primary (reactor coolant) system to the secondary (steam) system. This design permits heat exchange with little or no contamination of the secondary system equipment.
SURVEY	Any portable radiation detection instrument used for inspecting an area to establish the presence of radioactive materials.
SURVEY METER	Any portable radiation detection instrument used for inspecting an area to establish the presence of radioactive materials.

TECHNICAL OPERATIONS CENTER (TOC) GOVERNMENT	Technical Operations Center is located at the State EOC. The TOC houses the representatives of ADHS who are responsible for evaluating field and laboratory data for making PARs to the Governor and Director, DEMA.
TECHNICAL SUPPORT CENTER (TSC)	Technical Support Center is the focal point for onsite emergency operations and for directing and assisting the Control Room during unit emergency conditions. Key station management and technical personnel are stationed at the TSC during the emergency to provide the guidance required for accident termination and mitigation.
THYROID EXPOSURE	Exposure of the thyroid gland to radiation from radioactive isotopes of iodine that have been either absorbed, ingested, or inhaled.
TLD	Thermoluminescent Dosimeter is a device used to measure an individual's radiation dose.
TRANSIENT	A change in the reactor coolant system temperature and/or pressure due to a change in power output of the reactor. Transients can also be caused by adding or removing neutron poisons, by increasing or decreasing electrical load on the turbine generator, or by incident conditions. A significant transient can result in the activation of emergency systems and/or a reactor scram. If the protection systems fail to shut down the reactor, the event is called an anticipated transient without scram.
TRIP	The sudden shutting down of a nuclear reactor, usually by the rapid insertion of control rods, either automatically or manually by the reactor operators. It may also apply to equipment stoppage such as a turbine trip or breaker trip.
TURBINE	A rotating device made with a series of curved vanes on a rotating shaft, usually turned by water or steam.
TURBINE BUILDING	This is located next to the Containment and Auxiliary Buildings. It houses four turbines, a single electric generator, steam condensers, and parts of the steam system, and feed water systems.
TURBINE GENERATOR	A steam turbine directly connected to an electrical generator.
UNUSUAL EVENT (UE)	Unusual Event is the lowest of four emergency classification levels at a nuclear power plant. An Unusual Event is declared when events are in progress or have occurred that indicates a potential degradation of the level of safety of the plant or indicate a security threat to facility protection. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.
URANIUM	A radioactive element with the atomic number of 92, and, as found in natural ores, and atomic weight of approximately 238. The two principal natural isotopes are uranium-235 (0.7 percent of a natural uranium), and uranium-238 (99.3 percent natural uranium).

WASTE	Solid, liquid or gaseous materials from nuclear operations that are radioactive or become radioactive and for which there is no further use.
WHOLE-BODY COUNTER	A device used to identify and measure the radiation in the body of human beings and animals; it uses heavy shielding to keep out background radiation.
WHOLE-BODY EXPOSURE	An exposure of the body to external radiation, in which the entire body rather than an isolated part is irradiated.
ZIRCALLOY	An alloy of the element zirconium, highly resistant to corrosion, used as cladding on nuclear fuel elements.