

## Appendix H

### Glossary of Terms and Acronyms (Courtesy: Indiana Drinking Water Guidance Manual)

**Action Level** - The level of a contaminant which, if exceeded, requires treatment or other action that a water system must follow

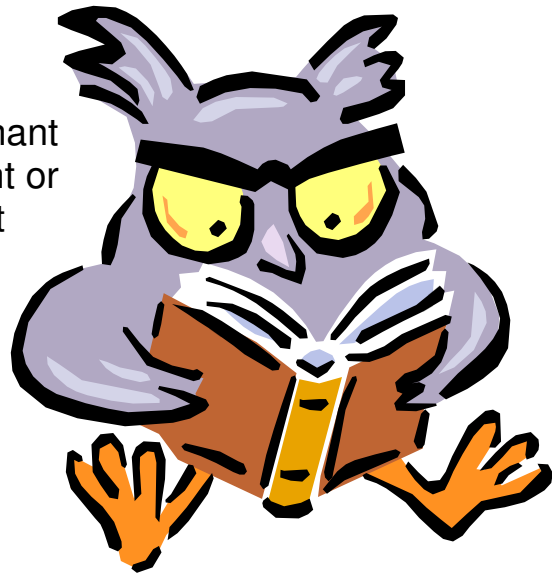
**Acute Contaminant** – A harmful substance that has a rapid effect on humans and/or animals.

**Aesthetic Qualities** – The taste, odor and appearance of drinking water.

**Agreed Order (AO)** - Specifies steps a violator must take to comply with the law. Such steps may include fines for past violations or penalties for failure to complete future compliance steps.

**Air Gap** – The unobstructed vertical distance between the discharge end of a pipeline supplied from a public water supply and the overflow rim of the receiving portion of the customer's water system.

**Alkalinity** - The capacity of water to neutralize acids; that is, the measure of how much acid can be added to a liquid without causing a significant change in pH.



Anthracite -- A dense, shiny coal that has high carbon content and little volatile matter and is often used on top of sand water treatment filters for iron removal.

Aquifer -- The saturated underground formation that will yield usable amounts of water to a well or spring. The formation could be sand, gravel, limestone or sandstone. The water in an aquifer is called groundwater.

- Confined aquifer is the saturated formation between low permeability layers that restrict movement of water vertically into or out of the saturated formation. Water is confined under pressure similar to water in a pipeline. In some areas confined aquifers produce water without pumps (flowing artesian well).
- Unconfined aquifer (water table aquifer) is the saturated formation in which the upper surface fluctuates with addition or subtraction of water. The upper surface of an unconfined aquifer is called the water table. Water, contained in an unconfined aquifer, is free to move laterally in response to differences in the water table elevations.

Arsenic – A poisonous metallic element that comes from erosion of natural deposits, found primarily in rocks, soil, water, and plants. Also comes from runoff of glass and electronics production wastes. Arsenic exposure has been linked to skin damage, circulatory system problems, and an increased risk of cancer.

Arsenic Rule – U.S. Environmental Protection Agency has issued a rule that applies to all community water systems and non-transient, non-community water systems, which sets the maximum contaminant level of arsenic at 10 milligrams per liter.

As-built maps – Maps or drawings depicting the actual installation of pipes and equipment. Also called record drawings. As-builts often differ from original plans.

Asbestos – Inorganic contaminant from old insulation, the decay of asbestos cement in water mains and the erosion of natural deposits.

Potential health effects include increased risk of lung tumors and intestinal polyps.

Backfill -- To refill an excavated area with removed earth; or the material itself that is used to refill an excavated area.

Backflow – The flow of water or contaminants into the public water supply distribution system from a source other than the public water supply. Two acts are necessary for backflow to occur. (1) There must be a link between potable water and another source. This physical arrangement is called a cross connection; and (2) There must also be a pressure difference between the two sources. As water follows the path of least resistance, it will always flow from a higher to a lower pressure. Therefore, a decrease in system pressure or an increase in pressure from the customer side could cause backflow.

Backflow prevention – The best defense for backflow is a proactive backflow prevention program requiring backflow preventers in areas where backflow can occur.

Backflow prevention device – Installed at the water meter, will reduce water pressure and will change the hydraulics of the customer's water system.

Backwash -- The up flow or counter-current flow of water through a filter or ion-exchange medium, lifting the mineral bed and flushing away to the drain the particles of foreign matter that have been filtered from the water supply during the filter cycle.

**Bacteria** – Single-cell microorganisms that typically reproduce by cell division. Although usually classed as plants, bacteria contain no chlorophyll. Many different types of bacterial organisms are often found in drinking water. Most municipally treated water is generally free of bacteria due to the addition of chlorine. Some forms of cyst type viruses have a degree of immunity to chlorine due to the cocoon-like shell around the virus. These types of organisms such as Cryptosporidium, Giardia Cyst and Giardia Lamblia, and have a physical size of three to seven microns and can be effectively removed by sub-micron filtration. Some bacteria are helpful to humans, others harmful.

**Beta particles and photon emitters** – A radionuclide from the decay of natural and manmade deposits. Can cause an increased risk of cancer.

**Biological activity reactions tests (BART)** – Gives an indication or biological fouling, including iron bacteria, slime forming bacteria, and sulfate reducing bacteria.

**Boil order (Advisory)** – A directive issued to water system users to boil their water because of known or suspected bacteriological contamination.

**Booster pump** – A pump installed on a pipeline to increase water pressure or flow.

**Bromate** – A byproduct of drinking water disinfection. Can cause an increased risk of cancer.

**Capacity development** – The process of determining the managerial, financial and technical capacities of a water system.

**Chain of Custody** – A written record that shows who handled a sample over what periods of time from the beginning to the end of the sampling and testing process.

**Check valve** – The check valve in a backflow preventor will close the system.

Chloramines (as Cl<sub>2</sub>) – Comes from a water additive used to control microbes. Can potentially cause eye/nose irritation, stomach discomfort, and anemia.

Chlorine (as Cl<sub>2</sub>) – Comes from a water additive used to control microbes. Can potentially cause eye/nose irritation and stomach discomfort.

Chlorine dioxide (as ClO<sub>2</sub>) – Comes from a water additive used to control microbes. Can potentially cause anemia and affect the nervous system of infants and young children.

Chlorine residual – Lingering chlorine in the water distribution system to kill any other bacteria that might enter the distribution system later.

Clearwells – Water storage structures usually located at the end of a treatment train or well system. Typically used for contact time when chemical treatment additives are used.

CO – Commissioner's Order – If a public water system in violation cannot settle on an Agreed Order, then IDEM will issue a CO. This requires specific action to correct a violation or pay a fine.

Coagulant -- A material such as alum that will form a gelatinous precipitate in water, and gather finely divided particles into larger ones, which can then be removed by settling and/or filtration.

Coliform -- Coliforms are naturally present in the environment. Fecal Coliforms and *E. coli* come from human and animal fecal waste. Total Coliform are used as an indicator that other potential harmful bacteria may be present.

Commissioner's Order (CO) – If a public water system in violation cannot settle on an Agreed Order, then IDEM will issue a CO. This requires specific action to correct a violation or pay a fine.

Community Water System (CWS) – A public water system that serves the same 25 or more people year-round.

Compound meters – These meters are used where there is a need to measure both high and low flows, like in a hotel, school, or a commercial account where both domestic use and production use need to be measured by one meter. They are typically available in sizes from 2” through 6”.

Condensation -- the process of water vapor in the air turning into liquid water.

Cone of depression -- A depression in groundwater levels around a well in response to groundwater withdrawal or pumping water.

Consumer Confidence Report (CCR) – All community water systems are required to deliver to their customers an annual report. This report must contain information on the quality of the water delivered by the system and characterize the risks, if any, from exposure to contaminants detected in the drinking water in an accurate and understandable manner. Systems shall deliver their reports no later than July 1 annually. Each report must contain data collected during, or prior to, the previous calendar year. A community water system that sells water to another community water system shall deliver the applicable information noted above to the buyer system no later than April 1 annually.

Contaminants – Adversely affect public health and occur in drinking water with a frequency and at levels that pose a threat to public health. U.S. EPA has set standards for 90 contaminants, seven of which are new standards that became enforceable on January 1, 2002.

Copper – Inorganic contaminant from corrosion of household plumbing systems and erosion of natural deposits. Copper is an essential nutrient in low concentrations. Potential health effects in the short term include stomach and intestinal distress. Potential health effects of long-term exposure include liver and kidney damage, and anemia. Persons with Wilson’s Disease should consult their personal doctor if their water system exceeds the copper action level.

Cross connection – The link between potable water and another source. This physical arrangement is called a cross connection. Any physical arrangement, including cross connection control devices not in working order, whereby a public water supply distribution system is directly connected, either continuously or intermittently, with any secondary source of supply, sewer, drain, conduit, pool, piping, storage reservoir, plumbing fixture, or other device which contains, or may contain, and is capable of imparting to the public water supply, contaminants, contaminated water, sewage, or other waste or liquid of unknown or unsafe quality.

Cross connection control device – Any device or assembly, approved by the Commissioner for construction on or installation in water supply piping, which is capable of preventing contaminants from entering the public water supply distribution system.

Cross connection control device inspector – A person who has: (1) Successfully completed training in testing and inspection of cross connection control devices from a training provider approved by the Commissioner; (2) Received a registration number from the Commissioner; and (3) Not been notified by the Commissioner that the registration number has been revoked.

Cross connection hazard – Any customer facility which, because of the nature and extent of activities on the premises, or the materials used in connection with the activities or stored on the premises, would present an immediate or potential danger or health hazard to customers of the public water supply should backflow occur.

Cryptosporidium – A microorganism found in human and animal fecal waste. Can cause gastrointestinal illness (e.g. diarrhea, vomiting, cramps).

Customer service line – The pipeline from the public water supply to the: (1) First tap, fixture, receptacle, or other point of customer water use; or (2) Secondary source of supply or pipeline branch in a building.

Customer water system – All piping, fixtures, and appurtenances, including secondary sources of supply, used by a customer to convey water on his premises.

DBPR -- Disinfectants/Disinfection By-Products Rule – The purpose of this rule is to reduce public exposure to three chemical disinfectants (chlorine, chloramines, and chlorine dioxide) and many disinfection by-products (total trihalomethanes, haloacetic acids, chlorite, and bromate).

Disinfectant residual – Lingering disinfectant in the water distribution system to kill any other bacteria that might enter the distribution system later.

Displacement meters – These are used for measurement of low and intermediate flows, like domestic use applications. They are typically available in sizes from 5/8” through 2”.

Double check valve assembly – A type of backflow prevention device. This device or assembly is composed of two tightly closing shut-off valves surrounding two independently acting check valves, with four test cocks, one upstream of the four valves, and one between each of the four check and shut-off valves.

Downstream – The direction of flow when only the public water supply is supplying water through the customer water system and backflow is not occurring.

Drainage basin – Area of land surface, which slopes down and receives water from rivulets, books, creeks, and streams.

Drawdown -- The lowering of the groundwater surface caused by withdrawal or pumping of water from a well. It is the difference between the static water level and the pumping water level in a well pumped at a constant flow rate.

Drinking Water Branch (Indiana Department of Environmental Management) – There are four (4) sections within the Drinking Water Branch, which perform functions related to monitoring and compliance with regulations, and technical assistance to public water systems.

Drinking Water Standards – Drinking water standards apply to all public water systems, which provide water to at least 15 connections or 25 persons at least 60 days out of the year.

*E. Coli* -- *E. coli* microorganisms come from human and animal fecal waste. Can cause gastrointestinal illness (e.g., diarrhea, vomiting, cramps).

Emergency Orders –IDEM enforcement tool which calls for immediate action to stop activities that threaten human or environmental health. This is a temporary order that expires 90 days from its issuance.

EPA – U.S. Environmental Protection Agency

Evaporation – The conversion of water from a liquid into a gas.

Feasible – As defined in the Safe Drinking Water Act – The level that may be achieved with the use of the best technology, treatment techniques, and other means which U.S. EPA finds (after examination for efficiency under field conditions) are viable, taking cost into consideration.

Fecal coliform -- Fecal coliform microorganisms come from human and animal fecal waste. Can cause gastrointestinal illness (e.g. diarrhea, vomiting, cramps).

FIFRA -- Federal Insecticide, Fungicide, and Rodenticide Act

Filter Backwash Recycle Rule (FBRR) – The purpose of this rule is to require system to review their recycle practices and, where appropriate, work with the State to make any necessary changes to recycle practices that may compromise microbial control. This FBRR applies to all public water systems that (1) use surface or ground water under the direct influence of surface water; (2) utilize direct or conventional filtration processes; and (3) recycle spent filter backwash water, sludge thickener supernatant, or liquids from dewatering processes.

Filter profile – Graphical representation of an individual filter performance.

Fire service meter – These meters are used to measure water from fire lines. There are several types of fire line meters. Some measure all of the water going through the fire line in the event of a fire – these are typically large turbo meters. Some only measure a portion of the water going through the fire line -- this is called proportional metering. Some only measure low flows of water used when there isn't a fire – these are called detector meters. There are also fire meters available that can measure both low flow domestic use and high flow fire fighting use. These are really large, parallel type compounds. They consist of a large turbo meter, a change over valve, and a 1-1/2" or 2" displacement or turbo meter to measure the domestic use.

Fixed-radius Wellhead Protection Plan – A 3,000 foot radius Wellhead Protection Area delineation that may be used by qualifying water systems that pump less than 100,000 gallons of water per day.

Fluoride – Inorganic contaminant which comes from a water additive that is used to promote strong teeth, erosion of natural deposits, and discharge from fertilizer and aluminum factories. Can cause dental fluorosis (staining) and skeletal fluorosis (bone damage).

Flush – To run large quantities of water through an item (e.g., water main).

GAC – granular activated carbon – Media often placed on top of filter to help remove taste and odor from the water.

*Giardia lamblia* – A microorganism found in human and animal fecal waste. Can cause gastrointestinal illness (e.g., diarrhea, vomiting, cramps).

Ground Water Rule (GWR) – U.S. Environmental Protection Agency rule to protect public health from waterborne microorganisms present in ground water sources (i.e., sources unaffected by surface water). The GWR specifies the appropriate use of disinfection in ground water and establishes a strategy to identify ground water systems at high risk for contamination.

GWUDI – Ground Water Under the Direct Influence (of Surface Water)

HazMat Team – Hazardous Materials Team

Heterotrophic Plate Count (HPC) – Measures a range of bacteria that are naturally present in the environment. HPC has no health effects, but can indicate how effective treatment is at controlling microorganisms.

Hydrant diffuser – Dissipates the force of flowing water.

Hydrogeologic barrier – Consists of physical, chemical, and biological factors that, singularly or in combination, prevent the movement of viable pathogens from a contaminant source to a public water supply well.

Hydrologic cycle describes the constant movement of water above, on, and below the earth's surface. Processes such as precipitation, evaporation, condensation, infiltration, runoff and transpiration comprise the cycle. Within the cycle, water changes form in response to the Earth's climatic conditions.

Hydrogeologic Sensitivity Assessment – Is designed to identify wells that may be sensitive to fecal contamination. Sensitive hydrogeologic settings are aquifers that allow ground water to travel at high velocities.

IAC – Indiana Administrative Code – Indiana regulations.

IC – Indiana Code – Indiana statutes (laws).

IDEM – Indiana Department of Environmental Management --

IDEM, DWB – Indiana Department of Environmental Management, Drinking Water Branch

IDEM OE -- Indiana Department of Environmental Management, Office of Enforcement – Office with regulatory enforcement over Indiana’s public water systems. Aims to help ensure that safe drinking water is provided by responding to violations with timely, quality enforcement actions that accomplish three goals: Achieve compliance, Deter future violations, and Result in an improved environment.

IDEM OWQ -- Indiana Department of Environmental Management, Office of Water Quality – Once a water quality violation is noted, this department evaluates the nature of the violation. If the violation is not serious, this department works with the violator to correct the problem. If the violation is deemed to be serious in nature or remains uncorrected, it is referred to the Office of Enforcement.

IDSE – Initial distribution system evaluation. Sampling process used to determine DBP sampling sites under stage 2 DPB Rule.

Judicial Order – IDEM enforcement tool which is issued by a court of record, such as a Superior Court or Circuit Court.

Lead – An inorganic contaminant from corrosion of household plumbing systems and erosion of natural deposits. Lead interferes with blood cell chemistry; can cause abnormal physical and mental development in infants and young children; slight deficits in the attention span, hearing, and learning abilities of children. Lead is also linked to high blood pressure and kidney problems in adults.

Legionella – A microorganism found naturally in water that multiplies in heating systems. Can potentially cause Legionnaire’s Disease.

Long Term 1 Enhanced Surface Water Treatment Rule (LT1-ESWTR) – The purpose of this rule is to improve small systems' control of microbial pathogens in drinking water, particularly for the protozoan *Cryptosporidium*. In addition, the rule includes provisions to assure continued levels of microbial protection while utilities take the necessary steps to comply with new disinfection by-product standards. This rule became final in July, 2001. Systems serving 500 to 9,999 people must comply with disinfection profiling requirements by January 2003. Those serving 25 to 499 people must comply by July 2003. Transient, noncommunity systems are exempt from disinfection profiling.

Long Term 2 Enhanced Surface Water Treatment Rule (LT2-ESWTR) – The purpose of this rule is to (1) improve control of microbial pathogens, particularly *Cryptosporidium*, and (2) address risk trade-offs with disinfection by-products.

Maximum Contaminant Level (MCL) – The highest level of a contaminant that is allowed in drinking water. Maximum contaminant levels are set as close to maximum contaminant level goals as feasible, using the best available treatment technology and taking cost into consideration. Maximum contaminant levels are enforceable standards.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which there is no known or expected risk to health. Maximum contaminant level goals allow for a margin of safety and are non-enforceable public health goals.

Maximum Residual Disinfection Level (MRDL) – The highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) – The level of a drinking water disinfectant below which there is no known or expected risk to health. Maximum Residual Disinfectant Level Goals do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Meter maintenance program – Scheduled program whereby meters are tested and repaired before there is a noticeable drop in consumption.

Mg/l – milligrams per liter – Equivalent to parts per million.

MRO – Monthly Report of Operations of water systems.

MSDS – Material Safety Data Sheets.

Multi-jet meters – These are used for measurement of low and intermediate flows, like domestic use applications. They are typically available in sizes from 5/8” through 2”.

Municipally-owned water system – A municipally owned water system is a public water system that is owned and operated by a local government or urban political unit with corporate status. Normally the mayor or water board is the policy making body.

National Primary Drinking Water Regulations (NPDWR or primary standards) – These are legally enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water.

National Secondary Drinking Water Regulations (NSDWR or secondary standards) – These are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. U.S. EPA recommends secondary standards to water systems, but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

Nephelometric Turbidity Unit (NTU) – A measurement of turbidity.

Nitrate (measured as nitrogen) – Inorganic contaminant from runoff from fertilizer use, leaching from septic tanks and sewage systems, and erosion of natural deposits. Converts to Nitrite that can cause Methemoglobinemia.

Nitrite (measured as nitrogen) – Inorganic contaminant from runoff from fertilizer use, leaching from septic tanks and sewage systems, and erosion of natural deposits. Can cause Methemoglobinemia (“blue baby syndrome”) in infants less than 6 months in age. This is life threatening without immediate medical attention. Symptoms: infant looks blue and has shortness of breath.

Noncommunity Water System (NCWS) – A public water system that serves the public, but does not serve the same people year-round. There are two types of noncommunity systems: Nontransient Noncommunity Water Systems and Transient Noncommunity Water Systems.

Nontransient Noncommunity Water System (NTNCWS) – A public water system that serves the same 25 or more people more than six months per year, but not year-round. For example, a school with its own water supply is considered a nontransient noncommunity system.

Notice of Violation (NOV) – Issued to a public water system in violation. Invites the system to attend a settlement conference to discuss solutions. After receiving the Notice of Violation, the violator has a 60-day settlement period to enter into an Agreed Order with IDEM.

NPDWR -- National Primary Drinking Water Regulations (or primary standards) – These are legally enforceable standards that apply to public water systems. Primary standards protect public health by limiting the levels of contaminants in drinking water.

NSDWR -- National Secondary Drinking Water Regulations (or secondary standards) – These are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. U.S. EPA recommends secondary standards to water systems, but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

O & M – operations and maintenance.

Office of Enforcement (OE) – If initial investigation does not resolve a violation, then IDEM’s Office of Enforcement issues a Notice of Violation (NOV) to the public water system inviting them to attend a settlement conference to discuss solutions.

Office of Environmental Adjudication – If a violator appeals an IDEM Commissioner’s Order, then this department reviews the case prior to a hearing.

Operator Certification – U.S. EPA finalized minimum national guidance for operator certification in February 1999, with additional requirements proposed in July 2000. Prior to the development of national guidelines, certification of drinking water system operators had been required only at the state level, with standards varying widely from state to state and many programs exempting small water systems. The recent national standards apply to all community water systems and nontransient, noncommunity water systems, regardless of system size.

Outlet structure – Controls the release of stored water.

Pathogen -- An agent that causes disease, especially a living microorganism such as a bacterium.

Pentachlorophenol – Organic contaminant from wood preserving factories discharge. Can cause damage to liver and kidneys, have adverse affects on the reproductive system, and an increased risk of cancer.

Perennial stream – Continuously flowing streams that are supplied both by surface runoff and springs, and by ground water seepage.

pH -- A measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increasing alkalinity and decreasing with increasing acidity. The pH scale usually ranges from 0 to 14

Photon emitters and beta particles – A radionuclide from the decay of natural and manmade deposits. Can cause an increased risk of cancer.

Picloram – Organic contaminant from herbicide runoff. Can cause damage to liver and kidneys.

Pitot Gauge – Measures pressure of flowing water.

Polychlorinated biphenyls (PCBs) – Organic contaminant from landfill runoff and discharge of waste chemicals. Can cause skin changes, thymus gland problems, immune deficiencies, reproductive difficulties, nervous system problems, and an increased risk of cancer.

Part-per-million (ppm) is a measure of concentration of a dissolved material in terms of a mass ratio (milligrams per kilogram, mg/kg). One part of a contaminant is present for each million parts of water. For water analysis, parts per million often is presented as a mass per unit volume (milligrams per liter, mg/l). There are one million milligrams of water in one liter.

Pressure vacuum breaker – A type of backflow prevention device. A device or assembly containing an independently operating internal loaded check valve and an independently operating loaded air inlet valve located on the downstream side of the check valve for relieving a vacuum or partial vacuum in a pipeline.

Primacy – Primary enforcement authority granted by U.S. EPA to states that meet certain requirements, including setting regulations that are at least as stringent as U.S. EPA's. Indiana has been granted primacy.

Privately-owned water system – A privately-owned water system is a public water system owned by one or more private investors (individuals, partnerships, corporations, or other qualified entity), with the equity provided by investors or shareholders.

Production meter – Meters on wells for water leaving the plant or pumping station.

Propeller meter – These meters are used to measure water from wells and water plants. They are used where there are no low or intermediate flows where the pumps are either on or off. They are typically available in sizes from 2” through 72”.

Protozoan -- Any of a large group of single-celled, usually microscopic, eukaryotic organisms, such as amoebas, ciliates, flagellates, and sporozoans.

Public Notification – The process used by water systems to notify their customers, guests, and employees when the water system has violated a drinking water regulation.

Public Water System (PWS) – A public water supply for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals daily at least sixty days out of the year. The term includes any collection, treatment, storage, and distribution facilities under control of the operator of such system, and used primarily in connection with such system and any collection or pretreatment storage facilities not under such control that are used primarily in connection with such system.

Public Water System Identification (PWSID) Number – The unique number issued by the Indiana Department of Environmental Management to identify public water supplies.

Radon – Radon is a colorless, odorless, tasteless, chemically inert, and radioactive gas. It forms naturally from the radioactive decay of uranium and is most commonly found in soils and ground waters. The primary risk of exposure is lung cancer from radon entering indoor air from soil under homes. Tap water is a smaller source of radon in air. Breathing radon released to air from household water uses also increases the risk of lung cancer, and consumption of drinking water containing radon presents a smaller risk of internal organ cancers, primarily stomach cancer.

Radon Rule – The Radon Rule was developed to reduce public radon exposure and applies to all community water systems that use ground water or mixed ground and surface water. The regulation does not apply to nontransient noncommunity public water supplies or to transient public water supplies. The Radon Rule was proposed in November 1999 and is expected to become final in 2004.

Rate – Monies collected for water provided – Every water utility must receive sufficient total revenue to ensure proper operations and maintenance, development and perpetuation of the system, and the preservation of the utility's financial integrity.

Rate structure – Means of establishing charges for water usage. Different types of rates that could be used are: Lifeline Rates and Low Income Discounts, Inverted Block Rate, Declining Block Rate, Uniform Volume Rate, Economic Development Rate, Off-Peak Rate, Seasonal Rate, Negotiated Contractual Rate, Marginal-Cost Pricing Rate, Indexing or Indexed Rate, Rate Schedule by Customer Class.

Reduced pressure principle backflow preventer – A device composed of two tightly closing shut-off valves surrounding two independently acting pressure reducing check valves that, in turn, surround an automatic pressure differential relief valve, and four test cocks, one upstream of the five valves and one between each of the four check and shut-off valves. The check valves effectively divide the structure into three chambers; pressure is reduced in each downstream chamber allowing the pressure differential relief valve to vent the center chamber to atmosphere should either or both check valves malfunction.

Reservoir – A basin designed to store water during periods in which the stream flow is greater than the demand and to deliver water during periods when the reverse condition occurs.

Retail water meter – Meters to monitor large customer water usage.

Riparian Water Right -- The legal right held by an owner of land contiguous to or bordering on a natural stream or lake, to take water from the source for use on the contiguous land.

Rural Utilities Service of the United States Department of Agriculture (USDA) Program – Federal funds program available to states for water system infrastructure improvements for regulatory compliance.

Safe Drinking Water Act – This law established national drinking water standards that were to be administered and enforced by State agencies. The SDWA was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996 and requires many actions to protect drinking water and its sources. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public right-to-know as important components of safe drinking water. The SDWA applies to every public water system in the United States.

Sanitary Survey – On-site IDEM review to inspect the water source, facilities, equipment, wellhead protection information, operation, maintenance, monitoring compliance and other important aspects of a public water system.

Secondary source of supply – Any well, spring, cistern, lake, stream, or other water source, intake structure, pumps, piping, treatment units, tanks, and appurtenances used, either continually or intermittently, to supply water other than from the public water supply to the customer, including tanks used to store water to be used only for firefighting, even though the water contained therein is supplied from the public water supply.

Shock chlorination -- The addition of chlorine for disinfecting a water supply system including the well, and all distribution pipelines. Shock chlorination is recommended when coliform bacteria are detected, or after system repairs. Treated water, with a concentration of at least 200 ppm, is pumped throughout the distribution system and allowed to set for at least 24 hours before flushing with untreated water.

Shoring equipment – Equipment installed in trenches to prevent the collapse of the trench.

Significant Water Withdrawal Facility – Any groundwater supply with a withdrawal capacity of more than 100,000 gallons per day. This supply must be registered with the Indiana Department of Natural Resources.

Specific capacity -- Expresses the productivity of a well. Specific capacity is obtained by dividing the well discharge rate by the well drawdown while pumping. It is calculated by dividing the production of the well in gallons per minute by the feet of drawdown between the static water level and the pumping water level. Water levels need to stabilize before measurements are made. The gallons per minute should be the normal production rate of the well and pumping equipment.

Stage 1 - Disinfectants/Disinfection By-Products Rule (Stage 1 DBPR) -- The purpose of this rule is to reduce public exposure to three chemical disinfectants (chlorine, chloramines, and chlorine dioxide) and many disinfection by-products (total trihalomethanes, haloacetic acids, chlorite, and bromate).

Stage 2 - Disinfectants/Disinfection By-Products Rule (Stage 2 DBPR) -- The rule builds upon the Stage 1 DBPR to further reduce public exposure to disinfection by-products. Because disinfection by-product concentrations can increase with increase time (i.e., increasing water age), the U.S. EPA is emphasizing compliance monitoring locations that reflect parts of the distribution system with older water. Compliance monitoring for the Stage 2 DBPR will be preceded by an initial distribution system evaluation to select site-specific optimal sample points for capturing peaks. The requirements for Stage 2 DBPR will apply to all community water systems and nontransient noncommunity water systems that add a disinfectant other than UV or deliver water that has been disinfected. This proposed rule is anticipated to be published in 2004. Compliance dates are anticipated between 2008 and 2010.

Static water level is the water level in a well located in an unconfined aquifer when the pump is not operating. The static water level is the surface of the water-bearing formation and typically is synonymous with the water table.

Supplemental Environmental Projects (SEPs) – Environmental improvement projects that violators can perform to further offset penalties.

Supplier of water – Any person who owns or operates a public water supply.

Toluene – Organic contaminant from petroleum factories discharge. Can cause damage to kidneys, liver, nervous system, and circulatory system.

Total Coliform (including fecal coliform and *E. coli*) – Coliforms are naturally present in the environment. Fecal Coliforms and *E. coli* come from human and animal fecal waste. Total Coliform are used as in indicator that other potential harmful bacteria may be present.

Transient Noncommunity Water System (TNCWS) – Serves the public, but not the same individuals for more than six months. For example, a rest area or campground may be considered a transient noncommunity water system.

Transmissivity -- The capacity of an aquifer to transmit water. It is dependent on the water-transmitting characteristics of the saturated formation (hydraulic conductivity) and the saturated thickness. For example, sand and gravel formations typically have greater hydraulic conductivities than sandstone formations. The sand and gravel will have a greater transmissivity if both formations are the same thickness.

Transpiration – The evaporation of water from plants.

Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

Trihalomethanes (TTHM) -- A byproduct of drinking water disinfection. Can cause liver, kidney, or central nervous system problems, as well as increase the risk of cancer.

Turbidity – a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness. Higher turbidity levels are often associated with higher levels of disease-causing microorganisms such as viruses, parasites, and some bacteria. These microorganisms can come from soil runoff. They can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Turbine meters – These meters are used to measure intermediate and high flows like commercial user with high volumes of water, or to measure the water leaving the water plant. They are typically available in sizes from 2” through 20”.

Underground Injection Control (UIC) – Program to control the injection of wastes into ground water.

Unidirectional flushing – A method of water main flushing wherein valves are closed to create artificial dead ends, thereby forcing water to flow from only one direction.

U.S. Environmental Protection Agency (U.S. EPA or USEPA) -- Indiana is part of U.S. EPA Region 5, which also includes Illinois, Michigan, Minnesota, Ohio, and Wisconsin.

Viruses (enteric) – Microorganisms found in human and animal fecal waste. Can cause gastrointestinal illness (e.g., diarrhea, vomiting, cramps).

Water table -- the upper level of a saturated formation where the water is at atmospheric pressure. The water table is the upper surface of an unconfined aquifer.

Wellhead Protection Area (WHPA) – The land surface and subsurface area surrounding a wellfield through which water, or contaminants, can enter the ground and move toward the wellfield within a specified time period.

Wellhead Protection Plan – A written plan to protect wellhead from reasonably foreseeable potential sources of contaminants.

Wilson's Disease – A disease caused by the body's inability to metabolize Copper.