DETERMINING THE CATEGORY OF WATER

The Categories of water, as defined by this document, refer to the range of contamination in water, considering both its originating source and its quality after it contacts materials present on the job site. Time and temperature can also affect the quality of water, thereby changing its Category. Restorers should consider potential contamination, defined as the presence of undesired substances; the identity, location and quantity of which are not reflective of a normal indoor environment, and may produce adverse health effects, cause damage to structure and contents and/or adversely affect the operation or function of building systems.

Category 1 - Category 1 water originates from a sanitary water source and does not pose substantial risk from dermal, ingestion, or inhalation exposure. Examples of Category 1 water sources can include, but are not limited to: broken water supply lines; tub or sink overflows with no contaminants; appliance malfunctions involving water-supply lines; melting ice or snow; falling rainwater; broken toilet tanks, and toilet bowls that do not contain contaminants or additives. However, once clean water leaves the exit point, it may not remain clean once it contacts other surfaces or materials.

The cleanliness of Category 1 water may deteriorate to Category 2 or 3 for many reasons, including but not limited to: contact with building materials, systems and contents; mixing with soils and other contaminants. Some factors which influence the potential organic and inorganic load in a structure include the age and history of the structure, previous water losses, general housekeeping, the type of use of the structure (e.g., nursing home, hospital, day care, warehouse, veterinary clinic), and elapsed time or elevated temperature. Odors can indicate that Category 1 water has deteriorated.

Category 2 - Category 2 water contains significant contamination and has the potential to cause discomfort or sickness if contacted or consumed by humans. Category 2 water can contain potentially unsafe levels of microorganisms or nutrients for microorganisms, as well as other organic or inorganic matter (chemical or biological). Examples of Category 2 water can include, but are not limited to: discharge from dishwashers or washing machines; overflows from washing machines; overflows from toilet bowls on the room side of the trap with some urine but no feces; seepage due to hydrostatic pressure; broken aquariums and punctured water beds.

The cleanliness of Category 2 water can deteriorate for many reasons, including but not limited to: contact with building materials, systems, and contents; mixing with soils and other contaminants. Some factors that influence the potential organic and inorganic load in a structure include the age and history of the structure, previous water losses, general housekeeping, the type of use of the structure, and elapsed time or elevated temperature.

Category 3 - Category 3 water is grossly contaminated and can contain pathogenic, toxigenic or other harmful agents. Examples of Category 3 water can include, but are not limited to: sewage; toilet backflows that originate from beyond the toilet trap regardless of visible content or color; all forms of flooding from seawater; ground surface water and rising water from rivers or streams, and other contaminated water entering or affecting the indoor environment, such as wind-driven rain from hurricanes, tropical storms, or other weather-related events. Such water sources may carry silt, organic matter, pesticides, heavy metals, regulated materials, or toxic organic substances.

Chapter 11: Inspections, Preliminary Determinations and Pre-Restoration Evaluations (Project Planning)

IICRC Reference Guide for Professional Water Damage Restoration (IICRC S500)

Special Situations - If a regulated or hazardous material is part of a water damage restoration project, then a specialized expert may be necessary to assist in damage assessment, and government regulations apply. Regulated materials posing potential or recognized health risks may include, but are not limited to: arsenic, mercury, lead, asbestos, polychlorinated biphenyls (PCBs), pesticides, fuels, solvents, caustic chemicals, radiological residues. For situations involving visible or suspected mold, refer to IICRC S520 *Standard and Reference Guide for Professional Mold Remediation*.

It is important to remember that the Category of water initially determined can change during the course of the project (reference Standard Figure 1, *To Prevent Amplification of Microorganisms, Prompt Response is Necessary for all Categories of Water Intrusion*).

CLASSES OF WATER

Determining the Class of Water

Classes designate water-damaged environments by their relative degree of saturation, which is then used to determine the approximate initial amount of dehumidification equipment necessary for an efficient drying system. Note that Class of water is combined with volume (ft^3) to determine initial dehumidification requirements. The relevant factor, however, is not only the air volume in ft^3 in the affected area; it is the quantity and type of wet materials in the affected space. Areas that are divided into separate rooms, and thus have more square feet (ft^2) of wall surface, generally require more dehumidification capacity than large open spaces of the same volume and Class, which may have comparatively fewer wet or less-absorbent materials.

The term "Class of water" also is the initial determination of the amount of water and the likely or anticipated rate of evaporation. It is used to determine the initial dehumidification capacity necessary to handle the potential amount of water that will be evaporated within an affected area.

Class 1 (least amount of water, absorption and evaporation): Water losses that affect only part of a room or area, or larger areas containing materials that have absorbed minimal moisture. Little or no wet carpet and/or cushion is present.

Class 2 (large amount of water, absorption and evaporation): Water losses that affect at least an entire room of carpet and cushion (pad). Water has wicked up walls less than 24 inches. There is moisture remaining in structural materials; e.g., plywood, particle board, structural wood, VCT, concrete and substructure soil.

Class 3 (greatest amount of water, absorption and evaporation): Water may have come from overhead. Ceilings, walls, insulation, carpet, cushion and subfloor in virtually the entire area are saturated.

Class 4: (specialty drying situations): These consist of wet materials with very low permeance/porosity (e.g., hardwood, plaster, brick, concrete, light weight concrete and stone). Typically, there are deep pockets of saturation, which require very low specific humidity. These types of losses may require longer drying times and special methods.