Term
Accuracy Definition: The degree of agreement between an observed value and an accepted reference value. Accuracy includes random error (precision) and systematic error (bias or recovery) that are caused by sampling and analysis. A data quality indicator. [EPA/600/Z-92/001; EPA 815-B-04-001]
Airborne Transmission Definition: Situations where droplet nuclei (residue from evaporated droplets) or dust particles containing microorganisms can remain suspended in air for long periods of time. These organisms must be capable of surviving for long periods of time outside the body and must be resistant to drying. Airborne transmission allows organisms to enter the upper and lower respiratory tracts. [Introduction to Epidemiology. Section 10. Chain of Infection. In: Principles of Epidemiology in Public Health Practice]
Bias Definition: The systematic or persistent distortion of a measurement process which deprives the result of representativeness (i.e., the expected sample measurement is different than the sample's true value.) A data quality indicator. [QA Glossary]
Binary Data Definition: Data that can only have two possible values. [EPA 240/R-02/005]
Calibration Definition: The comparison of a measurement standard or instrument with another standard or instrument to report or eliminate, by adjustment, any variation (deviation) in accuracy of the item being compared. The levels of calibration standards should bracket the

Term
range of levels for which actual measurements are to be made. [EPA/600/Z-92/001]
Censoring (data) Definition: Data that includes both detected and non-detected results. Expressing a positive analytical measurement falling below the LOQ as less than the established quantification limit or expressing a non-detect result as less than the detection limit. [EPA/240/B-06/003; EPA 600/R-14/331]
Chain of Custody Definition: Provides a chronological record of who has possessed the sample(s) from the moment of collection through receipt in the laboratory, to the eventual destruction or disposal. Also documents all analyses that were performed on the samples. [EPA/600/R-18/164]
Characterization Definition: Assessment of the extent, location, and magnitude of contamination. Characterization systematically expands on the initial assessment findings to identify other contaminated locations and determine the contamination footprint at the affected locations, in order to better define the boundaries. The sampling information, specifics of the incident, and the data collected during the initial assessment might take on many forms and might come from several different groups involved in the initial response and assessment activities. The data will be evaluated and reviewed, and used to assist in formulating the objectives, strategy, and approach for the characterization phase. The information that results from the characterization affects and shapes the planning and implementation of the remediation phase. [Remediation Guidance for Major Airports after a Bio terrorist Attack; EPA/600/R-17/356; EPA/600/R-18/164]
Combined Targeted and Probabilistic Sampling

Term
Definition: Uses Bayesian statistical methodology to combine results from targeted and probabilistic samples to make statistical confidence statements. This sampling approach ensures that samples are collected from locations perceived as most likely to be contaminated (through targeted samples) while protecting against the possibility that contamination may exist in less likely areas (through probabilistic samples). [PNNL-16636; PNNL 19315; EPA/600/R-18/164]
Comparability Definition: The degree to which different methods or data agree or can be represented as similar. Comparability describes the confidence that two data sets can contribute to a common analysis and interpolation. Comparability for sampling primarily involves sampling designs and time periods, while analytical comparability focuses on whether different laboratories were used, the units of measure, and sample preparation procedures. A data quality indicator. [EPA/600/Z-92/001; Compendium: Project Quality Assurance and Quality Control: Chapter 1; QA Glossary]
Completeness Definition: A measure of the amount of valid data obtained from a measurement system compared with the amount that was expected to be obtained under correct, normal conditions. A data quality indicator. [Compendium: Project Quality Assurance and Quality Control: Chapter 1; QA Glossary]
Composite Sampling Definition: Sampling method used where several samples are physically mixed into a larger composite sample. The entire composite sample may be measured for desired information, or one or more random sub-samples may be measured individually. In general, individual samples which are composited must be the same size or volume and the composite sample must be completely mixed. Composite sampling can be useful for estimating mean concentration of a substance, and if appropriate, compositing can result in substantial savings where the cost of analyzing individual samples is high. [EPA 240/R-02/005.]

Term
substantial savings where the cost of analyzing individual samples is high. [EPA 240/R-02/005.]
Confidence interval Definition: Statistically, a measure of the probability of taking action when action is required or that an observed value is correct. A confidence limit is a value above or below a measured parameter that is likely to be observed at a specified level of confidence. [EPA 240/R-02/005]
Culture (method) Definition: Preferred and definitive method (gold standard) to assess the viability of a target organism, in addition to determining its presence. Common culture-based protocols include: (1) bacterial assays that use either selective growth (preferential growth of a bacteria) or non-selective growth (general or non-specific growth) media and colony formation or turbidity as an indicator of bacterial growth and (2) viral assays that use cultured mammalian host cells (e.g., total culturable virus assay [TCVA]) and either cytopathic effects or plaque formation as an indicator of virus growth or replication. Less common, but important for viability assessment, are culture-based protocols for protozoa and helminths. [EPA/600/R-18/164]
Data Definition: Facts or figures from which conclusions can be inferred. [QA Glossary]
Data of Known Quality Definition: Data are of known quality when the qualitative and quantitative components associated with their derivation are documented appropriately for their intended use and such documentation is verifiable and defensible. [EPA 240-B-06-001]
Data Quality Assessment

Term
Definition: The evaluation of environmental data to determine if they meet the quality criteria required for a specific application. [QA Glossary]
Data Quality Indicators Definition: A performance measure for sampling and analytical procedures; a quantitative measure of the achievement of data quality objectives; qualitative statistics and quantitative descriptors that are used to interpret the degree of acceptability or utility of data to the user. The principal data quality indicators are precision, accuracy, comparability, completeness, and representativeness. [EPA/240/R-02/008; QA Glossary]
Data Quality Objectives Definition: Qualitative and quantitative statements of the overall level of uncertainty that a decision maker is willing to accept in results or decisions derived from environmental data. DQOs provide the statistical framework for planning and managing environmental data operations consistent with the data user's needs. [EPA/240/R-02/008; EPA 240-B-06-001; QA Glossary] Acronym: DQOs
Data Review Definition: The evaluation process that determines the quality of reported analytical results. It involves examination of raw data (e.g., instrument output), quality control and method parameters, and statistical analyses by a professional with knowledge of the tests performed. [EPA/240/B-06/002]
Data Transformation

Term
Definition: Any mathematical function that is applied to every point in a data set. By transforming the data, assumptions that are not satisfied in the original data can be satisfied by the transformed data. [EPA/240/B-06/003]
Data Usability Definition: The process of determining and ensuring that the quality of the data produced meets the intended use of the data and the criteria set forth in the QAPP. [EPA QA/G-8]
Data Validation Definition: The process of determining that the data satisfy the requirements as defined by the data user. [QA Glossary]
Decontamination Verification Definition: This phase involves monitoring decontamination processes to confirm decontamination has been conducted according to the specified parameters. Examples include use of biological indicators used during fumigation, monitoring decontaminant concentrations, and documentation of process parameters. [Remediation Guidance for Major Airports after a Bioterrist Attack; EPA/600/R-18/164]
Defensible Definition: The ability to withstand any reasonable challenge related to the veracity of integrity of laboratory documents and derived data. [QA Glossary]
Detection Limit Definition: A measure of the capability of an analytical method of distinguished samples that do not contain a specific analyte from a

Term
sample that contains a low concentration of the analyte; the level of target analyte that can be determined to be different from zero by a single measurement at a stated level of probability DLs are analyte- and matrix-specific and may be laboratory dependent. [EPA 240/R-02/005] Acronym: DL
Direct Contact Transmission Definition: Direct contact transmission requires physical contact between an infected person and a susceptible person, and the physical transfer of microorganisms. This type of transmission requires close contact with an infected individual, and will usually occur between members of the same household or close friends and family. [Introduction to Epidemiology. Section 10. Chain of Infection In: Principles of Epidemiology in Public Health Practice, Third Edition]
Discrete Data Definition: Data where there is a real scale but not all values are possible (e.g. ‘number of eggs in a nest’ or ‘number of species in a sample’). [Choosing and Using Statistics: A Biologist's Guide]
Distribution Definition 1: The concentration of an environmental contaminant at a point over time, over an area, or within a volume. [EPA 240/R-02/005] Definition 2: A probability function (density function, mass function, distribution function) used to describe a set of observations or a population from which the observations are generated. [EPA 240/R-02/005]
Documentation Definition: Description of the data collection activities sufficient to be able to evaluate the completeness, comparability,

Term
representativeness, precision, and accuracy of the analytical data sets; types of documentation can include sampling and analysis plan, standard operating procedures, field and analytical records, and chain-of-custody records. [EPA/240/B-06/002]
Droplet Transmission Definition: Transfer of diseases by infected droplets contacting surfaces of the eye, nose, or mouth. Droplets containing microorganisms can be generated when an infected person coughs, sneezes, or talks. Droplets can also be generated during certain medical procedures, such as bronchoscopy. Droplets are too large to be airborne for long periods of time, and quickly settle out of air. [Introduction to Epidemiology. Section 10. Chain of Infection In: Principles of Epidemiology in Public Health Practice, Third Edition]
Environmental Data Definition: Any measurements or information that describe environmental processes, location, or conditions; ecological or health effects consequences; or the performance of environmental technologies. For EPA, environmental data include information collected directly from measurements, produced from models, and complied from others sources such as data bases or the literature. [EPA 240/R-02/005]
Environmental Sample Definition: A sample of any material that is collected from an environmental source. [QA Glossary]
Equipment Blank Definition: This control is performed by passing sterile reagent grade water or buffer through the equipment and processing the water as if it were a PCR negative control. If this control is found to be positive, all analysis should cease until the source of the problem is identified. Equipment blanks should then be run more frequently until it is shown that the problem has been corrected. [EPA 815-B-

Term
04-001]
False Negative Definition: Estimation that an analyte is not present when it actually is present. Also called a Type II (beta) error or false acceptance decision error. [EPA 240/R-02/005; QA Glossary]
False Positive Definition: Estimation that an analyte is present when it is actually not present. Also called a Type I (alpha) error or false rejection decision error. [EPA 240/R-02/005; QA Glossary]
Fecal-oral Transmission Definition: Associated with organisms that infect the digestive system. Microorganisms enter the body through ingestion of contaminated food and water. Inside the digestive system (usually within the intestines) these microorganisms multiply and are shed from the body in feces. [About Parasites.Centers for Disease Control and Prevention]
Field Blank Definition: A sample used to identify and estimate contamination immediately before and after sampling (evaluation of protocols), during sample shipment, and for samples awaiting measurement in the laboratory. [EPA/600/R-14/027]
Geometric Mean Definition: The antilog of the mean of the logged data; it is always smaller than the arithmetic mean. [Choosing and Using Statistics: A Biologist's Guide; EPA/600/Z-92/001]

Term
Hazard Definition: Represents the pathogens potential to generally cause adverse effects in normally healthy humans. [Thesaurus of Terms Used in Microbial Risk Assessment]
Immunoassays Definition: Procedure that utilizes specific antibodies to detect specific antigens. Two common types of immunoassays are the enzyme-linked immunosorbent assay (ELISA) and immunomagnetic separation (IMS). [EPA/600/R-18/164]
Indirect Contact Transmission Definition: Situations where a susceptible person is infected from contact with a contaminated surface or fomite (vehicle-borne transmission) or through vector borne transmission. [Introduction to Epidemiology. Section 10. Chain of Infection. In: Principles of Epidemiology in Public Health Practice, Third Edition]
Infectivity Definition: The ability of a pathogen to enter, survive, and multiply in a host. [Thesaurus of Terms Used in Microbial Risk Assessment]
Inhibition Positive Control Definition: A sample used to verify that interfering constituents from an environmental matrix carried over from the isolation of the organism or nucleic acids do not inhibit the PCR. [EPA 815-B-04-001]
Intended Use of Data Collection: Decision-making

Term
Definition: Making a choice between alternative conditions and usually occurs during regulatory activities, emergency responses, and other contexts where action is taken. [EPA 240-B-06-001]
Intended Use of Data Collection: Estimation Definition: The evaluation of the magnitude of an environmental parameter or characteristic. Estimation usually supports longer term Agency activities, such as scientific background for rulemaking. For example, estimation of the density of fecal indicator organisms in water, or the microbial sources that contribute to pathogen and indicator fluctuations in watersheds. The resulting estimate might be used in further research, input to a model, or perhaps eventually to support decision making. [EPA 240-B-06-001]
Internal Positive Control Definition: The internal positive controls of known concentrations consists of a simple DNA template material for the assay target added to its own dedicated PCR reaction run in parallel with the samples on a test. A positive test result in this reaction validates the function not only of the shared master mix components tested by an internal control, but also uniquely shows the function of target-specific primers and probes. These controls might form the basis for a standard curve for quantitative assays by allowing the quantitation standard to take into direct account possible variations in extraction efficiency across a range of target concentrations. [EPA 815-B-04-001]
Invasiveness Definition: The ability to degrade and migrate through the extracellular matrix.[Thesaurus of Terms Used in Microbial Risk Assessment]
Limit of Detection

Term
Definition: Minimum amount of analyte that can be detected reliably and distinguished from a known and characterized background with a given level of confidence; LODs establish a baseline detection value for optimal conditions.[FEM Document Number 2012-01] Acronym: LOD
Limit of Quantification Definition: Lowest amount of analyte that can be measured with acceptable precision and accuracy as required by data quality objectives. [FEM Document Number 2012-01] Acronym: LOQ
Lognormal Distribution Definition: An important probability distribution when analyzing environmental data where normality cannot be assumed. Bounded on the left by 0, has a fatter right-tail than the normal distribution, and has a right-skewed shape. [EPA/240/B-06/003]
Matrix Definition: The type of media in which the analyte of interest is contained (e.g., waste water, storm water). [EPA 815-B-04-001]
Matrix Spike Definition: A sample used for quality control in which a known amount of the target analyte is added to a specified amount of matrix. These samples can be used to evaluate the effect of the matrix on the recovery efficiency and performance of a method. [EPA 815-B-04-001]
Measurement Quality Objective

Term
Definition: The acceptance threshold or goal that the data quality indicator must achieve. [EPA/600/R-18/164]
Media Blank Definition: Unexposed samples not taken to the field or shipped. Media blank results are used for background correction of sample readings and for recovery studies. [EPA/600/R-18/164]
Media (growth) Definition: Liquid or gel designed to support the growth of microorganisms or cells; different types of media support the growth of different microorganisms or cells. [EPA/600/R-18/164]
Method Blank Definition: A sample used to simulate the sample matrix conditions and analyzed using the exact same calibration standards, samples, and quality control samples. Intended to discover any bias in the analysis and detect within-batch variability of the blank response. [EPA 815-B-04-001]
Method Positive Control Definition: Verify that the entire method is performing properly and is capable of amplifying the target nucleic acid from the organism of interest. [EPA 815-B-04-001]
Most Probable Number Definition: A statistically derived estimate of the presence of microorganisms based on the presence or absence of growth in serially diluted samples. [Most Probable Number (MPN) Calculator Version 2.0.]

Term
Acronym: MPN
Negative Control Definition: A control with a known negative outcome. [FEM Document Number 2012-01]
Non-detect Definition: Data generated from analysis that fall below the detection limit of the analytical procedure. [EPA/240/B-06/003]
Normal Distribution Definition: A symmetrical, continuous distribution and is described by two parameters: the mean, μ (mu, describing the position), and the standard deviation, σ (sigma, describing the spread). These two parameters are estimated from samples and assigned the letters m and s. The most important distribution in statistics and it is often assumed that data are distributed in this way. [Choosing and Using Statistics: A Biologist's Guide]
Null hypothesis Definition: The “baseline” condition and will be rejected in favor of the alternative hypothesis only when there is overwhelming evidence the null cannot be true. [EPA 240/R-02/005]
Opportunistic Microorganism Definition: Refers to potential to cause adverse human outcomes under certain environmental and health conditions, most often when the host is compromised. [Thesaurus of Terms Used in Microbial Risk Assessment]

Term
Outlier Definition: Data points well outside the range of others. [Choosing and Using Statistics: A Biologist's Guide]
Pathogen Definition: Microorganisms (e.g., bacteria, viruses, or parasites) that can cause disease in humans, animals and plants. [Thesaurus of Terms Used in Microbial Risk Assessment]
Pathogenicity Definition: The ability to cause a disease state, it is the cumulative effect of virulence and invasiveness. [Thesaurus of Terms Used in Microbial Risk Assessment]
PCR Negative Control Definition: Verify that no contaminating nucleic acid has been introduced into the master mix. [EPA 815-B-04-001]
PCR Positive Control Definition: Verify that the PCR master mix and reagents were prepared correctly to produce amplification of the target nucleic acid. [EPA 815-B-04-001]
Performance or Acceptance Criteria Definition: Statements of the type and content of deliverables and results that are necessary to assess the usability of data for risk

Term
assessment. Specific limits placed on the characteristic of an item, process, or service. [EPA 240/R-02/005; EPA 240-B-06-001]
Persistence Definition: The ability of the microorganism to survive in the environment of host. [Thesaurus of Terms Used in Microbial Risk Assessment]
Plaque assay Definition: Standard method used to determine virus concentration in terms of infectious dose. Viral plaque assays determine the number of plaque forming units (PFU) in a virus sample, which is one measure of virus quantity. One variation is the focus forming assay. [EPA/600/R-18/164]
Poisson Distribution Definition: A distribution describing the number of times an event occurs in a unit of time or space. Usually a sample of time or space is taken and the number of events recorded. [Choosing and Using Statistics: A Biologist's Guide]
Polymerase Chain Reaction Definition: Laboratory technique used to make multiple copies of a segment of DNA. PCR is very precise and can be used to amplify, or copy, a specific DNA target from a mixture of DNA molecules. [EPA 815-B-04-001; EPA/600/R-18/164] Acronym: PCR
Post-Decontamination Sampling Definition: Assessment of the body of data generated to verify that the originally contaminated environment has been sufficiently

Term
decontaminated to meet cleanup endpoints. As part of this sampling, a body of data of adequate quantity and quality is developed to enable Incident Command (IC)/Unified Command (UC) to verify that the originally contaminated environment has been sufficiently decontaminated to allow re-occupancy of the area without the use of personal protective equipment (PPE) or other protective measures. [Anthrax eTool; EPA/600/R-17/356]
Precision Definition: A measure of how closely values from replicate measurements of a sample agree with each other. Usually expressed as standard deviation, variance, or range in either absolute or relative terms. A data quality indicator. [EPA 815-B-04-001; QA Glossary]
Probabilistic Sampling – Simple Random Sampling Definition: Most fundamental type of probabilistic sampling. Sampling locations are selected completely at random from a population of possible locations. [Remediation Guidance for Major Airports after a Bioterrist Attack; EPA 240/R-02/005; EPA/600/R-18/164]
Probabilistic Sampling – Stratified Sampling Definition: A sampling area is subdivided into separate strata (for example, within or outside the ventilation zone) and a sampling approach is implemented separately within each stratum. [EPA QA/G-5S ; EPA/600/R-18/164]
Probabilistic Sampling – Systematic Sampling Definition: Consists of collecting samples at locations or over time in a specified pattern. Systematic sampling ensures that the target population is fully and uniformly represented by the set of samples collected. To make systematic sampling a probabilistic sampling approach, the initial sampling location is chosen at random. [Remediation Guidance for Major Airports after a Bioterrist Attack; EPA/600/R-18/164]

Term
Qualifier Definition: A code appended to an analytical result that indicates possible qualitative or quantitative uncertainty in the result. [EPA/540/1-89/002]
Qualitative Definition: An observation that is assigned to a category that, although it may be coded as a number, has no numerical value (e.g., positive/negative or presence/absence). [Choosing and Using Statistics: A Biologist's Guide]
Quality Assurance Definition: An integrated system of activities involving planning, quality control, quality assessment, reporting, and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence. [QA Glossary] Acronym: QA
Quality Assurance Project Plan Definition: A document describing in comprehensive detail the necessary QA, QC, and other technical activities that must be implemented to ensure that the results of the work performed will satisfy the stated performance objectives and criteria. [Compendium: Project Quality Assurance and Quality Control: Chapter 1; QA Glossary] Acronym: QAPP
Quality Control Definition: The overall system of technical activities that measures the attributes and performance of a process, item, or service

Term
against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality. [EPA/240/B-01/003; EPA/240/B-01/002; QA Glossary] Acronym: QC
Quantitative Definition: An observation that has a meaningful numerical value. It can be either a direct observation or a count. [Choosing and Using Statistics: A Biologist's Guide.]
Recovery Definition: The total amount of the analyte found in the sample, corrected for background, divided by the amount of the analyte added into the sample. [EPA 815-B-04-001]
Recovery Efficiency Definition: The recovery of an analyte in an assay is the detector response obtained from an amount of the analyte added to and extracted from the biological matrix, compared to the detector response obtained for the true concentration of the pure authentic standard. [FEM Document Number 2012-01; EPA/600/R-18/164]
Repeatability Definition: The degree of agreement between independent test results produced by the same analyst, using the same test method and equipment on random aliquots of the same sample within a short time period. [EPA/240/R-02/008]
Replicate

Term
Definition: An additional sample that allows for averaging two or more samples to ensure the most accurate results and improves quality assurance. [FEM Document Number 2012-01]
Replication Definition: The ability for microorganism to multiply within the environment or host. [Thesaurus of Terms Used in Microbial Risk Assessment]
Representativeness Definition: The degree to which data accurately and precisely represent a characteristic of a population, a parameter variation at a sampling point, a process condition, or an environmental condition. A data quality indicator. [EPA 240/R-02/005; QA Glossary]
Sample Integrity Definition: The maintenance of the sample in the same condition as when sampled. [EPA/600/R-18/164]
Sample Preservation Definition: Techniques that stabilize parameters of interest by retarding chemical or biological changes. [FEM Document Number 2012-01]
Sample Process Control, or Internal Control Definition: Functions like the target in its ability to be collected, concentrated and detected. A sample process control, or internal control, may be required or needed when the target organism is low in prevalence and highly pathogenic (i.e., low infectious dose), or if the surrogate is an indicator for a specific pathogen or set of pathogens. [FEM Document Number 2012-01]

Term
Sample Processing Definition: The processing of biologically contaminated environmental samples prior to sample analysis in order to remove debris, chemical components, and biological impurities. [Recent literature review of soil processing methods for recovery of Bacillus anthracis spores Ann Microbiol; Review of processing and analytical methods for Francisella tularensis in soil and water Annals of Microbiology; EPA/600/R-18/164]
Sampled Population Definition: Part of the target population (see definition of “target population”) that is accessible and available for sampling. Ideally, the sampled population and the target population are the same. If they are not, then professional judgment is used to verify that data drawn from the sampled population is appropriate for drawing conclusions about the target population. [EPA 240/R-02/005]
Sampling Unit Definition: The member of the population that may be selected for sampling, such as individual trees, or a specific volume of air or water. [EPA 240/R-02/005]
Semi-quantitative Definition: Yielding an approximation of the quantity or amount of a substance; falling short of a quantitative result.[Approaching Microbiological Method Validation]
Sensitivity Definition 1: The capability of a method or instrument to discriminate between small differences in analyte concentration. [EPA 815-B-

Term
04-001; FEM Document Number 2012-01] Definition 2: A qualitative description of an instrument's or analytical method's detection limit. The sensitivity of a test can be described as the proportion of all positive results detected that were truly positive. All positives are the sum of (detected) true positives (TP) and (undetected) false negatives (FN). Sensitivity is therefore: TP / (TP + FN) × 100%. [EPA 815-B-04-001; FEM Document Number 2012-01]
Specificity Definition: The specificity of a test can be described as the proportion of all negatives it detects that truly were negative. All negatives are the sum of (detected) true negatives (TN) and false positives (FP). Specificity is therefore: TN / (TN + FP) × 100% [EPA 815-B-04-001; FEM Document Number 2012-01]
Spiked Sample/Positive Control Definition: Known amounts of analyte are added to a sample and the percent recovery is calculated. Used to test an analytical method at varying concentrations of analyte. [EPA/600/R-18/164]
Standard Deviation Definition: Measure of the dispersion or imprecision of a sample or population distribution as expressed as the square root of the variance and has the same unit of measurement as the mean. The standard deviation is calculated as the square root of the variance. [EPA 240/R-02/005]
Standard Operating Procedures Definition: A written document that details the method for an operation, analysis, or action with thoroughly prescribed techniques and step. Some SOPs are officially approved as the method for performing certain routine or repetitive tasks. [EPA/240/B-01/002;

Term
Compendium: Project Quality Assurance and Quality Control: Chapter 1] Acronym: SOPs
Substitution (data) Definition: The process of replacing a variable in an expression with it's a different value. [EPA/240/B-06/003]
Target Population Definition: The set of all units that comprise the items of interest in a scientific study, that is, the population about which the decision maker wants to be able to draw conclusions. [EPA 240/R-02/005]
Targeted Sampling Definition: Each member of the population from which the sample was selected has a known probability of selection. When a probabilistic sampling approach is used, statistical inferences may be made from the sampling data about the sampled population. [Remediation Guidance for Major Airports after a Bioterrist Attack; EPA/600/R-18/164]
Taxonomy and Strain Definition: Definition of the hazards with respect to traditional biological classification taxonomy and strain variations have potentially a large impact on risk assessment. The difference in dose response range between isolates and strain can be orders of magnitude. Some strains may not be infective to humans, in addition the ratio of different strains the environment can fluctuate. [Thesaurus of Terms Used in Microbial Risk Assessment]
Transmissibility

Term
Definition: The ability of the microorganism to survive, replicate, and pass through animate or inanimate matrixes and stay infected. [Thesaurus of Terms Used in Microbial Risk Assessment]
Transparency Definition: This is conducting a risk assessment in such a manner that all of the scientific analyses, uncertainties, assumptions and science policies which underlie the decisions made throughout the risk assessment are clearly stated (i.e., made readily apparent). For risk assessment to be transparent, methods, and assumptions should be clearly stated and understandable to the intended audience, so that the audience is able to evaluate the adequacy of the data and methods. [USDA/FSIS/2012-001; EPA/100/J12/001]
Uncertainty Definition: Uncertainty is imperfect knowledge of the microbiological hazard (e.g., its virulence), environmental pathways/processes, or the human populations under consideration (from MRA). Uncertainty represents a lack of knowledge about factors affecting risk assessments and can lead to inaccurate or biased estimates or risk and hazard. Some of the types of uncertainty include scenario uncertainty, parameter uncertainty, and model uncertainty. Uncertainty can be reduced by further study. NRC Definition: Lack or incompleteness of information. Quantitative uncertainty analysis attempts to analyze and describe the degree to which a calculated value may differ from the true value; it sometimes uses probability distributions. Uncertainty depends on the quality, quantity, and relevance of data and on the reliability and relevance of models and assumptions. [USDA/FSIS/2012-001; EPA/100/J12/001]
Uncertainty Analysis Definition: This is used to estimate the uncertainty associated with model inputs, assumptions, and structure/form and the process of interpreting the influence of uncertainty on the results of a risk assessment. [USDA/FSIS/2012-001; EPA/100/J12/001]
Validated Method

Term
Definition: The process that demonstrates the suitability of an analytic method for its intended purpose. [FEM Document Number 2012-01]
Variability Definition: This refers to the observed differences attributable to true heterogeneity or diversity in a parameter. Examples include human physiological variation (e.g., natural variation in body weight, height, breathing rate, drinking water intake rate), weather variability, variation in soil types, and differences in contaminant concentrations in the environment. Variability is usually not reducible by further measurements of study, but it can be better characterized. NRC Definition: Variability refers to true differences in attributes due to heterogeneity or diversity. Variability is usually not reducible by further measurements of study, although it can be better characterized. [USDA/FSIS/2012-001; EPA/100/J12/001]
Vector-borne Transmission Definition: Vectors are animals that are capable of transmitting diseases. Examples of vectors are flies, mites, fleas, ticks, rats, and dogs. [Introduction to Epidemiology. Section 10. Chain of Infection; About the Division of Vector-Borne Diseases]
Virulence Definition: The ability of the pathogen to defeat the host defenses, increase the severity and longevity of the symptoms. [Thesaurus of Terms Used in Microbial Risk Assessment]
Waste Characterization Definition: Assessment of the waste based on all available information [e.g., sampling results] to document that the waste meets

Term
regulatory requirements and any additional requirements of waste receivers prior to off-site disposal. [Best Practices to Minimize Laboratory Resources for Waste Characterization During a Wide-Area Release of Chemical Warfare Agents]