

CHAPTER 6 – REFERENCES

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CHAPTER 7 – GLOSSARY

Acre-foot: A unit commonly used for measuring the volume of water; equal to the quantity of water required to cover one acre (43,560 square feet or 4,047 square meters) to a depth of 1 foot (0.30 meter) and equal to 43,560 cubic feet (1,234 cubic meters) or 325,851 gallons.

Action: In the context of the National Environmental Policy Act (NEPA), describes activities proposed to meet a specific purpose and need and that may have effects on the environment, which are potentially subject to Federal control and responsibility. Federal actions generally fall into the categories of adoption of official policy, formal plans, and programs or approval of specific projects. For this document, the term action applies to this specific project.

Affected environment: Existing biological, physical, social, and economic conditions of an area subject to change, both directly and indirectly, as the result of a proposed human action.

Air quality: A measure of the health-related and visual characteristics of the air, often derived from quantitative measurements of the concentrations of specific injurious or contaminating substances.

Allotment: A unit of land suitable and available for livestock grazing that is managed as one grazing unit.

Alluvial / Alluvium: A general term for clay, silt, sand, gravel, or similar consolidated material deposited during comparatively recent geologic time by a stream or other body of running water in the bed of the stream, river, or floodplain, or as a cone or fan at the base of a mountain slope.

Alternative: Any one of a number of options for a project.

Ambient: The surrounding natural conditions (or environment) in a given place and time, most commonly applied to air quality and noise.

American Indian tribe (or tribe): Any American Indian group in the conterminous United States that the Secretary of the Interior recognizes as possessing tribal status (listed periodically in the Federal Register).

Animal Unit Month: Grazing of a 1,000 pound cow with suckling calf for 1 month (or equivalent metabolic weight of other kinds of livestock).

Applicant- committed environmental protection measure: Actions that would eliminate or minimize adverse impacts from construction and maintenance of the Quartzsite Solar Energy Project to sensitive resources.

Aquifer: A water-bearing rock unit (unconsolidated or bedrock) that will yield water in a usable quantity to a well or spring.

Archaeological site: A discrete location that provides physical evidence of past human use.

Archaeology: The scientific study of the life and culture of past, especially ancient, peoples, as by excavation of ancient cities, relics, artifacts, etc.

Area of Critical Environmental Concern (ACEC): A Bureau of Land Management (BLM) designation pertaining to areas where specific management attention is needed to protect and prevent irreparable damage to important historical, cultural, and scenic values, fish or wildlife resources, or other natural systems or processes, or to protect human life and safety from natural hazards.

A-Weighted Sound Levels: Decibels (referenced to 20 micro-Pascals) as measured with an A-weighting network of a standard sound level meter, abbreviated dB(A).

Backfill: The process of returning excavated material (i.e. earth) into the hole or trench from which it was removed.

Background (visual): That portion of the visual landscape lying from the outer limit of the middle-ground to infinity. Color and texture are subdued in this area, and visual sensitivity analysis here is primarily concerned with the two-dimensional shape of landforms against the sky.

Base Load: The average amount of electric power that a utility must supply in any period.

Baseline: The existing conditions against which impacts of the proposed action and its alternatives can be compared.

Basin: A depressed area having no surface outlet (topographic basin); a physiographic feature or subsurface structure that is capable of collecting, storing, or discharging water by reason of its shape and the characteristics of its confining material (water); a depression in the earth's surface, the lowest part often filled by a lake or pond (lake basin); a part of a river or canal widened (drainage, river, stream basin).

Best Management Practices (BMPs): A suite of techniques that guide, or may be applied to, management actions to aid in achieving desired outcomes and help to protect the environmental resources by avoiding or minimizing impacts of an action.

Blowdown: Wastewater from the cooling tower – this water will have been recycled as many times as possible and will have reached the maximum allowable (and safe) limits of certain dissolved solids.

Borrow: Earth material, such as sand or gravel, which has been taken from one location to be used at another location.

Borrow Pit: An excavated area from which borrow has been obtained.

Clean Air Act of 1990: Federal legislation governing air pollution. The Clean Air Act established National Ambient Air Quality Standards for carbon monoxide, nitrogen oxide, ozone, particulate matter, sulfur dioxide, and lead. Prevention of Significant Deterioration classifications define the allowable increased levels of air quality deterioration above legally established levels and include the following:

Class I – minimal additional deterioration in air quality (certain national parks and wilderness areas).

Class II – moderate additional deterioration in air quality (most lands).

Class III – greater deterioration for planned maximum growth (industrial areas).

Clean Water Act of 1987: National environmental law enforced by the U.S. Environmental Protection Agency that regulates water pollution.

Code of Federal Regulations: The compilation of Federal regulations adopted by Federal agencies through a rule-making process.

Cooperating Agency: Assists the lead Federal agency in developing an environmental assessment or EIS. The CEQ regulations implementing NEPA define a cooperating agency as any agency that has jurisdiction by law or special expertise for proposals covered by NEPA (40 CFR 1501.6). Any Federal, State, or local government jurisdiction with such qualification may become a cooperating agency by agreement with the lead agency.

Council on Environmental Quality (CEQ): An advisory council to the President of the United States established by the National Environmental Policy Act of 1969. It reviews Federal programs for their effort on environmental studies, and advises the President on environmental matters.

Cultural resources: Remains of human activity, occupation, or endeavor as reflected in districts, sites, buildings, objects, artifacts, ruins, works of art, architecture, and natural features important in human events.

Cumulative impact: The impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions. Cumulative impacts are evaluated as part of the EIS, and may include consideration of additive or interactive effects regardless of what agency or person undertakes the other actions.

Decibel: A unit for expressing the relative intensity of sounds on a logarithmic scale from zero for the average least perceptible sound to about 130 for the average level at which sound causes pain to humans. For traffic and industrial noise measurements, the dBA, a frequency-weighted noise unit, is widely used. The dBA scale corresponds approximately to the frequency response of the human ear and thus correlates well with loudness.

Discharge: Outflow of surface water from a stream or canal (water). Discharge from an industrial facility that may contain pollutants harmful to fish or animals if it is released into nearby water bodies usually requires a permit issued by the U.S. Environmental Protection Agency and is monitored.

Distance zone: A visibility threshold distance where visual perception changes. They usually are defined as foreground, middleground, and background.

Drainage: The natural channel through which water flows some time of the year; natural and artificial means for affecting discharge of water as by a system of surface and subsurface passages.

Drawdown: The lowering of the water level in a well as a result of withdrawal; the reduction in groundwater level at a point caused by the withdrawal of water from an aquifer.

Dry-cooling / Dry-cooled: A process to achieve heat rejection by using atmospheric air only.

Easement: A right afforded a person, agency, or organization to make limited use of another's real property for access or other purposes.

Effect (or impact): A modification of the existing environment as it presently exists, caused by an action (such as construction or operation of facilities). An effect may be direct, indirect, or cumulative. The terms effect and impact are synonymous under the NEPA. A direct effect is caused by an action and occurs at the same time and same place (40 CFR 1508.8(a)). An indirect effect is caused by the action later in time or farther removed in distance, but still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Emission: Effluent discharged into the atmosphere, usually specified by mass per unit time, and considered when analyzing air quality.

Endangered Species: Plant or animal species identified by the Secretary of the Interior as endangered in accordance with the 1973 ESA; Any species in danger of extinction throughout all or a significant portion of its range.

Endangered Species Act of 1973: The Endangered Species Act requires Federal agencies to seek to conserve threatened and endangered species, use applicable authorities in furtherance of the purposes of the Endangered Species Act, avoid jeopardizing the continued existence of any species that is listed or proposed for listing as threatened and endangered and avoid destroying or adversely modifying its designated or proposed critical habitat. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service are responsible for administration of this act.

Environment: The surrounding conditions, influences, or forces that affect or modify an organism or an ecological community and ultimately determine its form and survival.

Environmental Impact Statement (EIS): A document prepared to analyze the impacts of a proposed action on the environment, and released to the public for review and comment. An EIS must meet the requirements of NEPA, CEQ, and the directives of the agency responsible for the proposed action.

Environmental justice: The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, State, local, and tribal programs and policies (see EO 12898).

Ephemeral wash or stream: A stream that flows only in direct response to precipitation in the immediate watershed or in response to the melting of a cover of snow and ice, and that has a channel bottom that is always above the local water table.

Erosion: The wearing away of the land surface by running water, wind, ice, or other geologic agents and by such processes as “gravitation creep.”

Eutectic: A single chemical composition that solidifies at a lower temperature than any other composition.

Federal Register: Published by the Office of the Federal Register, National Archives and Records Administration, the Federal Register is the official daily publication for rules, proposed rules, and notices of Federal agencies and organizations, as well as executive orders and other presidential documents.

Floodplain: That portion of a river or stream valley, adjacent to a river channel, that is built of sediments and is inundated with water when the stream overflows its banks.

Fluid Minerals: A BLM regulatory and legal term used to denote petroleum and natural gas resources.

Footprint: The area on the ground occupied by the facility.

Foreground: The visible area from a viewpoint or use area out to a distance of 0.5 mile. The ability to perceive detail in a landscape is greatest in this zone.

Fossil: Any remains, trace, or imprint of a plant or animal that has been preserved by natural processes in the earth’s crust since some past geologic time.

Generation tie-line (gen-tie): The transmission line that delivers generated electricity from the solar power plant to the electric grid.

Geographic information system (GIS): A system of computer hardware, software, data, people and applications that capture, store, edit, analyze, and graphically display a potentially wide array of geospatial information.

Global warming: An increase in the average temperature of the earth’s atmosphere and oceans. The term also is used to describe the theory that increasing temperatures are the result of a strengthening greenhouse effect caused primarily by manmade increases in carbon dioxide and other greenhouse gases.

Groundwater: Subsurface water that fills available openings in rock or soil materials to the extent that they are considered saturated.

Habitat: A specific set of physical conditions in a geographic area(s) that surrounds a single species, group of species, or large community. In wildlife management, the major components of habitat are food, water, cover, and living space.

Heliostat: A mirror that reflects solar rays onto a central receiver. A heliostat automatically adjusts its position to track daily or seasonal changes in the sun's position. The arrangement of heliostats around a central receiver is also called a solar collector field or array.

Hybrid-cooled/Hybrid-cooling: A means of power plant cooling that uses a combination of two or more different methods, usually wet and dry cooling.

Hydrology: The study of the movement, distribution, and quality of water throughout the earth, addressing both the hydrologic cycle and water resources.

Impact (or effect): A modification of the existing environment as it presently exists, caused by an action (such as construction or operation of facilities). An impact may be direct, indirect, or cumulative. The terms effect and impact are synonymous under NEPA.

Indirect effect (or impact): Secondary effects that occur in locations other than the initial action or later in time, but that are caused by the proposed action.

Infrastructure: The facilities, services, and equipment needed for a community or facility to function, such as roads, sewers, water lines, and electric lines.

Insolation: The solar power density incident on a surface of stated area and orientation, usually expressed as Watts per square meter or Btu per square foot per hour.

Invasive species: Describes a large number of nonnative plant species whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

Irretrievable: Applies primarily to the lost production of renewable natural resources during the life of the project.

Irreversible: Applies primarily to the use of nonrenewable resources, such as minerals, cultural resources, wetlands, or to those factors that are renewable only over long time spans, such as soil productivity. Irreversible also includes loss of future options.

Key Observation Point: An observer position on a travel route used to determine visible area.

Kilowatt (kW): A standard unit of electrical power equal to 1,000 watts, or to the energy consumption at a rate of 1,000 joules per second.

Kilowatt-Hour (kWh): 1,000 thousand watts acting over a period of 1 hour. The kWh is a unit of energy. 1 kWh=3600 kJ.

Labor force: All persons 16 years of age or over who are either employed or unemployed and actively looking for a job.

Land use plan: A plan or document developed by a government entity that outlines specific functions, uses, or management-related activities of an area, and may be identified in combination when joint or seasonal uses occur and may include land used for support facilities that are an integral part of the use.

Landform: A term used to describe the many land surfaces that exist as a result of geologic activity and weathering (e.g., plateaus, mountains, plains, and valleys).

Landscape: An area composed of interacting ecosystems that are repeated because of geology, landform, soils, climate, biota, and human influences throughout the area. Landscapes are generally of a size, shape, and pattern, which are determined by interacting ecosystems.

Laydown: An area where construction material and equipment are staged during the construction process.

LEQ: The equivalent sound level, or the time-integrated continuous sound level, that represents the same sound energy as the varying sound levels over a specified monitoring period.

Linkages (wildlife): A continuous swath of land in the natural landscape that provides suitable habitat for short-and/or long-term movements of wildlife and plants between population cores.

Megawatt (MW): A unit for measuring power equal to 1,000 kilowatts, or 1 million watts. The productive capacity of electrical generators is measured in megawatts.

Mineral resources: Any inorganic or organic substance occurring naturally in the earth that has a consistent and distinctive set of physical properties. Examples of mineral resources include coal, nickel, gold, silver, and copper.

Minimal (impact): Unless otherwise specified, “minimal” will mean non-deleterious impacts that are measurable on the short term.

Mitigation: The abatement or reduction of an impact on the environment by (1) avoiding a certain action or parts of an action, (2) employing certain construction measures to limit the degree of impact, (3) restoring an area to preconstruction conditions, (4) preserving or maintaining an area throughout the life of a project, (5) replacing or providing substitute resources to the environment, or (6) gathering data (e.g., archaeological or paleontological) prior to disturbance.

Molten salt: A heat transfer medium found inside the central receiver; can be heated up to 1,200°F. Molten salt is primarily used due to the fact that it can remain heated for a long period of time, even after the sun has set.

Multi-Use: Land use where a combination of use types can be found in close proximity together: commercial, residential, public, industrial, etc.

National Ambient Air Quality Standards: The allowable concentrations of air pollutants in the air specified by the Federal government. The air quality standards are divided into primary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public health) and secondary standards (based on the air quality criteria and allowing an adequate margin of safety and requisite to protect the public welfare) from any unknown or expected adverse effects of air pollutants.

National Environmental Policy Act of 1969 (NEPA): An Act that establishes policy, sets goals, and provides means for carrying out the environmental protection policy of the Nation. In accordance with NEPA, all Federal agencies must prepare a written statement on the environmental impacts of a proposed action. The provisions to ensure that Federal agencies act according to the letter and spirit of NEPA are in the CEQ regulations for implementing NEPA (43 CFR 1500-1508).

National Pollutant Discharge Elimination System: As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Industrial, municipal and other facilities must obtain permits if their discharges go directly to

surface waters of the United States. These permits are referred to as NPDES permits and are administered by the EPA.

National Register of Historic Places: A listing, maintained by the Secretary of the Interior, of districts, sites, buildings, structures, and objects worthy of preservation. To be eligible a property must normally be at least 50 years old, unless it has exceptional significance, and have national, State, or local significance in American history, architecture, archaeology, engineering, or culture; and possess integrity of location, design, setting, material, workmanship, feeling, and association; and (a) be associated with events that have made a significant contribution to the broad patterns of history, (b) be associated with the lives of persons significant in our past, or (c) embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; possess high artistic values; or represent a significant and distinguishable entity whose components may lack individual distinction; or (d) have yielded, or may be likely to yield, information important to prehistory or history.

Native American Graves Protection and Repatriation Act: A Federal law passed in 1990 that provides a process for museums and Federal agencies to return certain Native American cultural items --human remains, funerary objects, sacred objects, or objects of cultural patrimony --to lineal descendants, and culturally affiliated Indian tribes and Native Hawaiian organizations.

Negligible (impact): Unless otherwise specified, “negligible” will mean impacts of such a small scale such as to be non-measurable.

Noise Emission: The industry standard format of sound power level, which is the total acoustic power radiated from a given sound source as relates to a reference power level of 10 picowatts. Sound power level differs from sound pressure level, which quantifies the fluctuations in air pressure caused by acoustic energy.

Noise Level Measurements: Unless otherwise indicated, the use of A-weighted and "slow" response of a noise monitoring instrument complying with at least Type 2 requirements as defined by the latest revision of American National Standard Institute (ANSI) S1.4 Specification for Sound Level Meters.

Nonattainment area: An air quality control region (or portion thereof) in which the U.S. Environmental Protection Agency has determined that ambient air concentrations exceed national ambient air quality standards for one or more criteria pollutants.

Noxious weed: Nonnative plant species that negatively impact crops, native plant communities, and/or management of natural or agricultural systems. Noxious weeds are officially designated by a number of states (including Nevada) and Federal agencies.

Particulates: Minute, separate particles, such as dust or other air pollutants.

Perennial stream: A stream or that part of a stream that flows continuously during the calendar year as a result of groundwater discharge or surface runoff.

Perennial yield: The amount of usable water from a groundwater aquifer that can be withdrawn economically and consumed each year for an indefinite period of time. It cannot exceed the

natural recharge to that aquifer and ultimately is limited to maximum amount of discharge that can be used for beneficial use.

Public land: Land or interest in land owned by the United States and administered through the Secretary of the Interior through the BLM without regard to how the United States acquired ownership, except lands on the Outer Continental Shelf, and land held in trust for the benefit of American Indians, Aleuts, and Eskimos.

Range: A large, open area of land over which livestock can wander and graze.

Rare: A plant or animal of limited distribution and/or abundance. May be locally abundant in a limited area or few in number over a wide area.

Recharge: Replenishment of a groundwater reservoir (aquifer) by the addition of water, through either natural or artificial means.

Reclamation: Restoration of land disturbed by natural or human activity (e.g., mining, pipeline construction) to original contour, use, or condition. Also describes the return of land to alternative uses that may, under certain circumstances, be different from those prior to disturbance.

Recontouring: Return a surface to or near to its original form through some type of action such as grading.

Record of Decision: A document separate from, but associated with, an EIS that publicly and officially discloses the responsible official's decision on a proposed action.

Region of Influence: Area which is impacted by activities related to the project. Varies by species and activity.

Revegetation: The reestablishment and development of self-sustaining plant cover. On disturbed sites, this normally requires human assistance such as reseeding.

Reverse osmosis: A separation process that uses pressure to force a solvent through a membrane that retains the solute on one side and allows the pure solvent to pass to the other side. More formally, it is the process of forcing a solvent from a region of high solute concentration through a membrane to a region of low solute concentration by applying a pressure in excess of the osmotic pressure.

Right-of-way: Land authorized to be used or occupied for the construction, operation, maintenance, and termination of a project, such as a road or utility.

Riparian: Situated on or pertaining to the bank of a river, stream, or other body of water. Riparian is normally used to refer to plants of all types that grow along streams, rivers, or at spring and seep sites.

Rural: Sparsely settled places away from the influence of large cities and towns. Such areas are distinct from more intensively settled urban and suburban areas, and also from unsettled lands such as outback or wilderness. People tend to live in villages, on farms, and in other isolated houses on large plots of land.

Scoping: The process open to the public early in the preparation of an EIS for determining the scope of issues related to a proposed action and identifying significant issues to be addressed in an EIS.

Sediment: Particulate matter that can be transported by fluid flow, and which eventually is deposited; Material suspended in or settling to the bottom of a liquid. Sediment input comes from natural sources, such as soil erosion and rock weathering, construction activities, or anthropogenic sources, such as forestry or agricultural practices.

Sediment Load: The amount of sediment (sand, silt, and fine particles) carried by a stream or river.

Sedimentation: The result when soil or mineral is transported by moving water, wind, gravity, or glaciers and deposited in streams or other bodies of water or on land. Also, letting solids settle out of wastewater by gravity during treatment.

Sensitive receptor: In terms of noise, people or animals that may hear a noise or be sensitive to increased noise levels within their range of hearing.

Sensitive Receptor Location: A location of regulatory compliance where particular sensitivities to noise exist, such as residential areas, institutions, hospitals, parks, or other environmentally sensitive areas.

Sensitivity: The state of being readily affected by the actions of external influence.

Solar energy: Electromagnetic energy transmitted from the sun (solar radiation). The amount that reaches the earth is equal to one billionth of total solar energy generated, or the equivalent of about 420 trillion kilowatt-hours.

Solar power tower: A solar energy conversion system that uses a large field of independently adjustable mirrors (heliostats) to focus solar rays on a near single point atop a fixed tower (receiver). The concentrated energy may be used to directly heat the working fluid of a Rankine cycle engine or to heat an intermediary thermal storage medium (such as a molten salt).

Solar Thermal Electric Systems: Solar energy conversion technologies that convert solar energy to electricity by heating a working fluid to power a turbine that drives a generator. Examples of these systems include central receiver systems, parabolic dish, and solar trough.

Special status species: Wildlife and plant species either federally listed or proposed for listing as endangered or threatened; State listed; or priority species of concern to Federal agencies or tribes.

Species: A group of individuals of common ancestry that closely resemble each other structurally and physiologically, and in nature interbreed producing fertile offspring.

Surface water: All bodies of water on the surface of the earth and open to the atmosphere such as rivers, lakes, reservoirs, ponds, seas, and estuaries.

Surfactant: Any substance that when dissolved in water or an aqueous solution reduces its surface tension or the interfacial tension between it and another liquid.

Terrain: Used to describe the geophysiographic characteristics of land in terms of elevation, slope, and orientation.

Thermal storage: Storage of heated material for later heating or generation of steam for power production, potentially at night.

Threatened Species: Any species of plant or animal that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Animal or plant species that are listed under the Federal Endangered Species Act of 1973, as amended (federally listed), or under similar State laws (State listed).

Total dissolved solids: A term that describes the quantity of dissolved material in a sample of water.

Traditional cultural places: Named places (landscape features) that comprise the cultural landscape that provides the context for evaluating specific traditional cultural properties.

Transmissivity: The rate at which water is transmitted through a unit width of the aquifer under a unit hydraulic gradient.

Tribe: Any Indian tribe, band, group, or community having a governing body recognized by the Secretary of Interior.

Vegetation community or association: Species of plants that commonly live together in the same region or ecotone.

Visibility: The distance to which an observer can distinguish objects from their background. The determinants of visibility include the characteristics of the target object (shape, size, color, pattern), the angle and intensity of sunlight, the observer's eyesight, and any screening present between the viewer and the object (i.e., vegetation, landform, even pollution such as regional haze).

Visual resource management classes: Categories assigned to public lands based on scenic quality, sensitivity level, and distance zones. There are four classes, each of which has an objective that prescribes the amount of change allowed in the characteristic landscape.

Waters of the United States: All water bodies that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including adjacent wetlands and tributaries; and all waters by which the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce.

Watershed: All land and water within the confines of a drainage.

Well field: Area containing one or more wells that produce usable amounts of water or oil.

Wetlands: Areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Examples of wetlands include marshes, shallow swamps, lakeshores, wet meadows, estuaries, and riparian areas.

Wilderness: An area formally designated by Congress as part of the National Wilderness Preservation System.

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