CHAPTER 9: GLOSSARY

Absorbed dose: The energy imparted to matter by ionizing radiation per unit mass of irradiated material at the place of interest in that material. Expressed in units o radiation absorbed dose or grays, where 1 radiation absorbed dose equals 0.01 gray. see "radiation absorbed dose."

Accident sequence: An initiating event followed by system failures or operator erro which can result in significant core damage, confinement system failure, and/or radionuclide releases.

Accountable weapon: The number of weapons associated with each missile or aircraft limited by this treaty. This does not include non-strategic nuclear forces, Departm Defense spares or spares needed to replace weapons disassembled by Department of En surveillance testing.

Activation products: Nuclei, usually radioactive, formed by the bombardment of mate with neutrons, protons, or other nuclear particles.

Acute exposure: The exposure incurred during and shortly after a radiological relea Generally, the period of acute exposure ends when long-term interdiction is establi as necessary. For convenience, the period of acute exposure is normally assumed to week after the inception of a radiological accident.

Air quality standards: The level of pollutants in the air prescribed by regulations may not be exceeded during a specified time in a defined area.

Alpha activity: The emission of alpha particles by fissionable materials (uranium o plutonium).

Alpha particle: A positively charged particle, consisting of two protons and two ne that is emitted during radioactive decay from the nucleus of certain nuclides. It i least penetrating of the three common types of radiation (alpha, beta, and gamma).

Alpha wastes: Wastes containing radioactive isotopes which decay by producing alpha particles.

Ambient air: The surrounding atmosphere as it exists around people, plants, and structures.

American Indian Religious Freedom Act of 1978: This Act establishes national policy protect and preserve for Native Americans their inherent right of freedom to believ express, and exercise their traditional religions, including the rights of access t religious sites, use and possession of sacred objects, and the freedom to worship t traditional ceremonies and rites.

Anadromous: Fish that migrate from salt to fresh water to spawn.

Aquatic biota: The sum total of living organisms within any designated aquatic area

Aquifer: A saturated geologic unit through which significant quantities of water ca migrate under natural hydraulic gradients.

Aquitard: A less-permeable geologic unit in a stratigraphic sequence. The unit is n permeable enough to transmit significant quantities of water. Aquitards separate aq

Archaeological sites (resources): Any location where humans have altered the terrai discarded artifacts during either prehistoric or historic times.

Artifact: An object produced or shaped by human workmanship of archaeological or historical interest.

As low as reasonably achievable: A concept applied to the quantity of radioactivity released in routine operation of a nuclear system or facility, including "anticipat operational occurrences." It takes into account the state of technology, economics improvements in relation to benefits to public health and safety, and other societa economic considerations in relation to the use of nuclear energy in the public inte

Atmospheric dispersion: The process of air pollutants being dispersed in the atmosp This occurs by the wind that carries the pollutants away from their source and by turbulent air motion that results from solar heating of the Earth's surface and air movement over rough terrain and surfaces.

Atomic Energy Act of 1954: This Act was originally enacted in 1946 and amended in 1 For the purpose of this Programmatic Environmental Impact Statement "...a program f Government control of the possession, use, and production of atomic energy and spec nuclear material whether owned by the Government or others, so directed as to make maximum contribution to the common defense and security and the national welfare, a provide continued assurance of the Government's ability to enter into and enforce agreements with nations or groups of nations for the control of special nuclear mat and atomic weapons..." (Section 3(c)).

Atomic Energy Commission: A five-member commission, established by the Atomic Energ of 1946, to supervise nuclear weapons design, development, manufacturing, maintenan modification, and dismantlement. In 1974, the Atomic Energy Commission was abolishe all functions were transferred to the Nuclear Regulatory Commission and the Adminis of the Energy Research and Development Administration. The Energy Research and Deve Administration was later terminated and its functions vested by law in the Adminis- trator were transferred to the Secretary of Energy.

Background radiation: Ionizing radiation present in the environment from cosmic ray natural sources in the Earth; background radiation varies considerably with locatio Also, see "natural radiation".

Badged worker: A worker equipped with an individual dosimeter who has the potential be exposed to radiation.

Baseline: A quantitative expression of conditions, costs, schedule, or technical pr to serve as a base or standard for measurement during the performance of an effort; established plan against which the status of resources and the progress of a projec be measured. For this Programmatic Environmental Impact Statement, the environmenta baseline is the site environmental conditions as they are projected to occur in 201

BEIR V: Biological Effects of Ionizing Radiation; referring to the fifth in a serie committee reports from the National Research Council.

Beryllium: An extremely lightweight, strong metal used in weapons systems.

Benthic: Plants and animals dwelling at the bottom of oceans, lakes, rivers, and ot surface waters.

Biota (biotic): The plant and animal life of a region (pertaining to biota).

Blanket assemblies: In a heavy water reactor, lithium-aluminum alloy clad tubes pos in a ring surrounding the radial reflector zone. They prevent neutron damage to the reactor vessel's metal wall by absorbing neutrons from the reflector zone, and they produce tritium.

Boiling water reactor: A type of nuclear reactor that uses fission heat to generate in the reactor to drive turbines and generate electricity.

Burial ground: A place for burying unwanted (i.e., radioactive) materials in which

earth acts as a receptacle to prevent the dispersion of wastes in the environment a escape of radiation.

Burnable poison rod: A nuclear reactor rod used to moderate (reduce the energy of) neutrons created in the core by the fission reactions during the early core life.

Calcination: The process of converting high-level waste to unconsolidated granules powder. Calcined solid wastes are primarily salts and oxides of metals (heavy metal components of high level waste (also called calcining).

Caldera: A large crater formed by the collapse of the central part of a volcano.

Cancer: The name given to a group of diseases characterized by uncontrolled cellula growth with cells having invasive characteristics such that the disease can transfe one organ to another.

Capable fault: A fault that has exhibited one or more of the following characterist CFR 100, Appendix A):

1. Movement at or near the ground surface at least once within the past 35,000 years or movement of a recurring nature within the past 500,000 years.

2. Macro-seismicity instrumentally determined with records of sufficient precision to demonstrate a direct relationship with the fault.

3. A structural relationship to a capable fault according to characteristics (1) or (2) of this paragraph such that movement on one could be reasonably expected to be accompanied by movement on the other.

Capacity factor: The ratio of the annual average power load of a power plant to its capacity.

Carbon adsorption: A unit physiochemical process in which organic and certain inorg compounds in a liquid stream are absorbed on a bed of activated carbon; used in wat waste purification and chemical processing.

Carbon dioxide: A colorless, odorless, nonpoisonous gas that is a normal component the ambient air; it is an expiration product of normal plant and animal life.

Carbon monoxide: A colorless, odorless gas that is toxic if breathed in high concen over a period of time.

Carolina bay: Ovate, intermittently flooded depression of a type occurring on the Coastal Plain from New Jersey to Florida.

Cask (radioactive materials): A container that meets all applicable regulatory requirements for shipping spent nuclear fuel or high-level waste.

Cesium: A silver-white alkali metal. A radioactive isotope of cesium, cesium-137, i common fission product.

Chronic exposure: Low-level radiation exposure incurred over a long time period due residual contamination.

Cladding: The outer jacket of fuel elements and targets, usually made of aluminum, stainless steel, or zirconium-aluminum alloy, used to prevent fuel corrosion and re fusion products during reactor operations, or to prevent releases into the environm

during storage.

Clean Air Act: This Act mandates and enforces air pollutant emissions standards for stationary sources and motor vehicles.

Clean Air Act Amendments of 1990: Expands the Environmental Protection Agency's enforcement powers and adds restrictions on air toxics, ozone depleting chemicals, stationary and mobile emissions sources, and emissions implicated in rain and globa warming.

Clean Water Act of 1972, 1987: This Act regulates the discharge of pollutants from source into navigable waters of the United States in compliance with a National Pol Discharge Elimination System permit as well as regulates discharges to or dredging wetlands.

Climatology: The science that deals with climates and investigates their phenomena causes.

Code of Federal Regulations: All Federal regulations in force are published in codi form in the Code of Federal Regulations.

Cold standby: Maintenance of a protected reactor condition in which the fuel is rem the moderator is stored in tanks, and equipment and system layup is performed to pr deterioration, such that future refueling and restart are possible.

Collective committed effective dose equivalent: The committed effective dose equiva radiation for a population.

Committed dose equivalent: The predicted total dose equivalent to a tissue or organ 50-year period after an intake of radionuclide into the body. It does not include e dose contributions. Committed dose equivalent is expressed in units of rem or Sieve committed effective dose equivalent is the sum of the committed dose equivalents to various tissues of the body, each multiplied by the appropriate weighting factor.

Community (biotic): All plants and animals occupying a specific area under relative similar conditions.

Complex: The Nuclear Weapons Complex, which is a set of Federal sites and government-owned/ contractor-operated facilities administered by the Department of Energy.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (or S fund): This Act provides regulatory framework for remediation of past contamination hazardous waste. If a site meets the Act's requirements for designation, it is rank along with other "Superfund" sites and is listed on the National Priorities List. T ranking is the Environmental Protection Agency's way of determining which sites hav highest priority for cleanup.

Conceptual design: Efforts to develop a project scope that will satisfy program nee ensure project feasibility and attainable performance levels of the project for congressional consideration; develop project criteria and design parameters for all neering disciplines; and identify applicable codes and standards, quality assurance requirements, environmental studies, construction materials, space allowances, ener conservation features, health, safety, safeguards, and security requirements and an features or requirements necessary to describe the project.

Consumptive water use: The difference in the volume of water withdrawn from a body water and the amount released back into the body of water.

Container: The metal envelope in the waste package that provides the primary contai function of the waste package and is designed to meet the containment requirements CFR 60.

Containment design basis: For a nuclear reactor, those bounding conditions for the

of the containment, including temperature, pressure, and leakage rate. Because the containment is provided as an additional barrier to mitigate the consequences of ac involving the release of radioactive materials, the containment design basis may in an additional specified margin above those conditions expected to result from the p design-basis accidents to ensure that the containment design can mitigate unlikely unforeseen events.

Control rods: The elements of a nuclear reactor that absorb slow neutrons and are u increase, decrease, or maintain the neutron density in the reactor.

Coolant: A substance, either gas or liquid, circulated through a nuclear reactor or processing plant to remove heat.

Credible accident: An accident that has a probability of occurrence greater than or equal to one in a million years.

Cretaceous Period: Geologic time making up the end of the Mesozoic Era, dating from approximately 144 million to 66 million years ago.

Criteria pollutants: Six air pollutants for which national ambient air quality stan are established by the Environmental Protection Agency: sulfur dioxide, nitric oxid carbon monoxide, ozone, particulate matter (smaller than 10 microns in diameter), a lead.

Critical habitat: Defined in the Endangered Species Act of 1973 as "specific areas the geographical area occupied by [an endangered or threatened] species..., essenti the conservation of the species and which may require special management considerat or protection; and specific areas outside the geographical area occupied by the spe that are essential for the conservation of the species."

Criticality: A reactor state in which a self-sustaining nuclear chain reaction is achieved.

Cultural resources: Archaeological sites, architectural features, traditional use a and Native American sacred sites.

Curie: A unit of radioactivity equal to 37 billion disintegrations per second; also quantity of any nuclide or mixture of nuclides having 1 curie of radioactivity.

Decay heat (radioactivity): The heat produced by the decay of certain radionuclides

Decay (radioactive): The decrease in the amount of any radioactive material with th passage of time, due to the spontaneous transformation of an unstable nuclide into different nuclide or into a different energy state of the same nuclide; the emissio nuclear radiation (alpha, beta, or gamma radiation) is part of the process.

Decontamination: The removal of radioactive or chemical contamination from faciliti equipment, or soils by washing, heating, chemical or electrochemical action, mechan cleaning, or other techniques.

Demilitarization: An irreversible modification or destruction of a weapons componen part of a component to the extent required to prevent use in its original weapon pu

Depleted uranium: Uranium whose content of the isotope uranium-235 is less than 0.7 percent, which is the uranium-235 content of naturally occurring uranium.

Deposition: In geology, the laying down of potential rock-forming materials; sedimentation. In atmospheric transport, the settling out on ground and building surfaces of atmospheric aerosols and particles ("dry deposition") or their removal the air to the ground by precipitation ("wet deposition" or "rainout").

Design basis: For nuclear facilities, information that identifies the specific func to be performed by a structure, system, or component and the specific values (or ra values) chosen for controlling parameters for reference bounds for design. These va

may be: (1) restraints derived from generally accepted state-of-the-art practices f achieving functional goals; (2) requirements derived from analysis (based on calcul and/or experiments) of the effects of a postulated accident for which a structure, system, or component must meet its functional goals; or (3) requirements derived fr Federal safety objectives, principles, goals, or requirements.

Design-basis accident: For nuclear facilities, a postulated abnormal event that is to establish the performance requirements of structures, systems, and components th necessary to (1) maintain them in a safe shutdown condition indefinitely or (2) pre mitigate the consequences of the design-basis accident so that the general public a operating staff are not exposed to radiation in excess of appropriate guideline val

Design-basis events: Postulated disturbances in process variables that can potentia lead to design-basis accidents.

Design laboratory: Department of Energy facilities involved in the design of nuclea weapons.

Deuterium: A nonradioactive isotope of the element hydrogen with one neutron and on proton in the atomic nucleus.

Deuterium oxide: See "heavy water."

Dewatering: Pumping water from the soil to ensure proper soil characteristics for construction of facilities. May be required during operation if the water table imp on foundations.

Direct economic effects: The initial increases in output from different sectors of economy resulting from some new activity within a predefined geographic region.

Disposition: The ultimate "fate" or end use of a surplus Department of Energy facil following the transfer of the facility to the Office of the Assistant Secretary for Environmental Waste Management.

Dolomite: Calcium magnesium carbonate, a limestone-like mineral.

Dose: The energy imparted to matter by ionizing radiation. The unit of absorbed dos the rad.

Dose commitment: The dose an organ or tissue would receive during a specified perio time (e.g., 50 to 100 years) as a result of intake (as by ingestion or inhalation) or more radionuclides from a defined release, frequently over a year's time.

Dose equivalent: The product of absorbed dose in rad (or gray) and the effect of th of radiation in tissue and a quality factor. Dose equivalent is expressed in units or Sievert, where 1 rem equals 0.01 Sievert. The dose equivalent to an organ, tissu the whole body will be that received from the direct exposure plus the 50-year comm dose equivalent received from the radionuclides taken into the body during the year

Drainage basin: An aboveground area that supplies the water to a particular stream.

Drawdown: The height difference between the natural water level in a formation and reduced water level in the formation caused by the withdrawal of groundwater.

Drift: Effluent mist or spray carried into the atmosphere from cooling towers.

Drinking-water standards: The prescribed level of constituents or characteristics i drinking water supply that cannot be exceeded legally.

Dry site: For the purpose of this Programmatic Environmental Impact Statement any s where adequate water is not abundantly available for cooling of the tritium supply technologies.

Effective dose equivalent: The summation of the products of the dose equivalent rec

by specified tissues of the body and a tissue-specific weighting factor. This sum i risk-equivalent value and can be used to estimate the health effects risk of the ex individual. The tissue-specific weighting factor represents the fraction of the tot health risk resulting from uniform whole-body irradiation that would be contributed that particular tissue. The effective dose equivalent includes the committed effect dose equivalent from internal deposition of radionuclides, and the effective dose equivalent due to penetrating radiation from sources external to the body. Effectiv dose equivalent is expressed in units of rem (or Sievert).

Effluent: A gas or fluid discharged into the environment.

Emergency condition: For a nuclear facility, occurrences or accidents that might oc infrequently during start-up testing or operation of the facility. Equipment, compo and structures might be deformed by these conditions to the extent that repair is r prior to reuse.

Emission standards: Legally enforceable limits on the quantities and/or kinds of ai contaminants that can be emitted into the atmosphere.

Endangered species: Animals, birds, fish, plants, or other living organisms threate with extinction by man-made or natural changes in their environment. Requirements f declaring species endangered are contained in the Endangered Species Act of 1973.

Endangered Species Act of 1973: This Act requires Federal agencies, with the consul and assistance of the Secretaries of the Interior and Commerce, to ensure that thei actions will not likely jeopardize the continued existence of any endangered or thr species or adversely affect the habitat of such species.

Engineered safety features: For a nuclear facility, features that prevent, limit, o mitigate the release of radioactive material from its primary containment.

Entrainment: The involuntary capture and inclusion of organisms in streams of flowi water, a term often applied to the cooling water systems of power plants/reactors. organisms involved may include phyto- and zooplankton, fish eggs and larvae (ichthyoplankton), shellfish larvae, and other forms of aquatic life.

Environment, safety, and health program: In the context of the Department of Energy encompasses those Department of Energy requirements, activities, and functions in t conduct of all Department of Energy and Department of Energy-controlled operations are concerned with: impacts to the biosphere; compliance with environmental laws, regulations, and standards controlling air, water, and soil pollution; limiting the to the well-being of both operating personnel and the general public to acceptably levels; and protecting property adequately against accidental loss and damage. Typi activities and functions related to this program include, but are not limited to, environmental protection, occupational safety, fire protection, industrial hygiene, health physics, occupational medicine, and process and facilities safety, nuclear s emergency preparedness, quality assurance, and radioactive and hazardous waste mana

Environmental assessment: A written environmental analysis that is prepared pursuan the National Environmental Policy Act to determine whether a Federal action would significantly affect the environment and thus require preparation of a more detaile environmental impact statement. If the action does not significantly affect the environment, then a finding of no significant impact is prepared.

Environmental impact statement: A document required of Federal agencies by National Environmental Policy Act for major proposals or legislation significantly affecting environment. A tool for decision-making, it describes the positive and negative eff the undertaking and alternative actions.

Eocene: A geologic epoch early in the Cenozoic Era, dating from approximately 54 to million years ago.

Epicenter: The point on the Earth's surface directly above the focus of an earthqua

Epidemiology: The science concerned with the study of events that determine and inf the frequency and distribution of disease, injury, and other health-related events their causes in a defined human population.

Equivalent sound (pressure) level (Leq): The equivalent steady sound level that, if continuous during a specified time period, would contain the same total energy as t actual time-varying sound. For example, Leq (1-h) and Leq (24-h) are the 1-hour and 24-hour equivalent sound level, respectively.

Exposure limit: The level of exposure to a hazardous chemical (set by law or a stan at which or below which adverse human health effects are not expected to occur:

Reference dose is the chronic exposure dose (mg or kg per day) for a given hazardou chemical at which or below which adverse human non-cancer health effects are not ex to occur.

Reference concentration is the chronic exposure concentration (mg/m3) for a given hazardous chemical at which or below which adverse human non-cancer health effects expected to occur.

Fault: A fracture or a zone of fractures within a rock formation along which vertic horizontal, or transverse slippage has occurred. A normal fault occurs when the han wall has been depressed in relation to the footwall. A reverse fault occurs when th hanging wall has been raised in relation to the footwall.

Finding of No Significant Impact: A document by a Federal agency briefly presenting reasons why an action, not otherwise excluded, will not have a significant effect o human environment and will not require an environmental impact statement.

Fissile material: Plutonium-239, uranium-233, uranium-235, or any material containi of the foregoing.

Fission: The splitting of a heavy atomic nucleus into two nuclei of lighter element accompanied by the release of energy and generally one or more neutrons. Fission ca spontaneously or be induced by neutron bombardment.

Fission products: Nuclei formed by the fission of heavy elements (primary fission products); also, the nuclei formed by the decay of the primary fission products, ma which are radioactive.

Floodplain: The lowlands adjoining inland and coastal waters and relatively flat ar including at a minimum that area inundated by a 1-percent or greater chance flood i given year. The base floodplain is defined as the 100-year (1.0 percent) floodplain critical action floodplain is defined as the 500-year (0.2 percent) floodplain.

Flux: Rate of flow through a unit area; in reactor operation, the apparent flow of neutrons in a defined energy range (see neutron flux).

Formation: In geology, the primary unit of formal stratigraphic mapping or descript Most formations possess certain distinctive features.

Fossil: Impression or trace of an animal or plant of past geological ages that has preserved in the earth's crust.

Fossiliferous: Containing a relatively large number of fossils.

Fugitive emissions: Emissions to the atmosphere from pumps, valves, flanges, seals, other process points not vented through a stack. Also includes emissions from area such as ponds, lagoons, landfills, and piles of stored material.

Gamma rays: High-energy, short-wavelength, electromagnetic radiation accompanying fission and emitted from the nucleus of an atom. Gamma rays are very penetrating an be stopped only by dense materials (such as lead) or a thick layer of shielding mat

Gaussian plume: The distribution of material (a plume) in the atmosphere resulting the release of pollutants from a stack or other source. The distribution of concentrations about the centerline of the plume, which is assumed to decrease as a function of its distance from the source and centerline (Gaussian distribution), de on the mean wind speed and atmospheric stability.

Genetic effects: The outcome resulting from exposure to mutagenic chemicals or radi which results in genetic changes in germ line or somatic cells.

Effects on genetic material in germ line (sex cells) cause trait modifications that passed from parents to offspring.

Effects on genetic material in somatic cells result in tissue or organ modification (e.g. liver tumors) that do not pass from parents to offspring.

Geologic repository (mined geologic repository): A facility for the disposal of nuc waste; the waste is isolated by placement in a continuous, stable geologic formatio depths greater than 300 meters.

Geology: The science that deals with the Earth: the materials, processes, environme and history of the planet, including the rocks and their formation and structure.

Glove box: An airtight box used to work with hazardous material, vented to a closed filtering system, having gloves attached inside of the box to protect the worker.

Ground shine: An area on the ground where radioactivity has been deposited by a radioactive plume or cloud.

Groundwater: The supply of water found beneath the Earth's surface, usually in aqui which may supply wells and springs.

Half-life (radiological): The time in which half the atoms of a radioactive substan disintegrate to another nuclear form; this varies for specific radioisotopes from millionths of a second to billions of years.

Hazard Index: A summation of the Hazard Quotients for all chemicals now being used site and those proposed to be added to yield cumulative levels for a site. A Hazard value of 1.0 or less means that no adverse human health effects (noncancer) are exp to occur.

Hazard Quotient: The value used as an assessment of non-cancer associated toxic eff chemicals, e.g., kidney or liver dysfunction. It is independent of a cancer risk, w calculated only for those chemicals identified as carcinogens.

Hazardous material: A material, including a hazardous substance, as defined by 49 C 171.8 which poses a risk to health, safety, and property when transported or handle

Hazardous/toxic waste: Any solid waste (can also be semisolid or liquid, or contain gaseous material) having the characteristics of ignitability, corrosivity, toxicity reactivity, defined by the Resource Conservation and Recovery Act and identified or listed in 40 CFR 261 or by the Toxic Substances Control Act.

Heat exchanger: A device that transfers heat from one fluid (liquid or gas) to anot

Heavy metals: Metallic or semimetallic elements of high molecular weight, such as m chromium, cadmium, lead, and arsenic, that are toxic to plants and animals at known concentrations.

Heavy water: A form of water (a molecule with two hydrogen atoms and one oxygen ato which the hydrogen atoms consist largely or completely of the deuterium isotope. He water has almost identical chemical properties, but quite different nuclear propert as light water (common water).

Heavy Water Reactor: A nuclear reactor in which circulating heavy water is used to

the reactor core and to moderate (reduce the energy of) the neutrons created in the by the fission reactions.

High efficiency particulate air filter: A filter used to remove particulates from d gaseous effluent streams.

High-level waste: The highly radioactive waste material that results from the repro of spent nuclear fuel, including liquid waste produced directly in reprocessing and solid waste derived from the liquid. High-level waste contains a combination of transuranic waste and fission products in concentrations requiring permanent isolat

Highly enriched uranium: Uranium in which the abundance of the isotope uranium-235 increased well above normal (naturally occurring) levels.

Historic resources: Archaeological sites, architectural structures, and objects pro after the advent of written history dating to the time of the first Euro-American c in an area.

Holocene: The current epoch of geologic time, which began approximately 10,000 year

Hydraulic gradient: The difference in hydraulic head at two points divided by the d between two points.

Hydrology: The science dealing with the properties, distribution, and circulation o natural water systems.

Impingement: The process by which aquatic organisms too large to pass through the s of a water intake structure become caught on the screens and are unable to escape.

Incident-free risk: The radiological or chemical impacts resulting from packages ab vehicles in normal transport. This includes the radiation or hazardous chemical exp of specific population groups such as crew, passengers, and bystanders.

Indirect economic effects: Indirect effects result from the need to supply industri experiencing direct economic effects with additional outputs to allow them to incre their production. The additional output from each directly affected industry requir inputs from other industries within a region (i.e., purchases of goods and services results in a multiplier effect to show the change in total economic activity result from a new activity in a region.

Induced economic effects: The spending of households resulting from direct and indi economic effects. Increases in output from a new economic activity lead to an incre household spending throughout the economy as firms increase their labor inputs.

Injection wells: A well that takes water from the surface into the ground, either t gravity or by mechanical means.

Interbedded: Occurring between beds or lying in a bed parallel to other beds of a different material.

Interim (permit) status: Period during which treatment, storage, and disposal facil coming under the Resource Conservation and Recovery Act of 1980 are temporarily per to operate while awaiting denial or issuance of a permanent permit.

Ion exchange: A unit physiochemical process that removes anions and cations, includ radionuclides, from liquid streams (usually water) for the purpose of purification decontamination.

Ionizing radiation: Radiation that can displace electrons from atoms or molecules, producing ions.

Isotope: An atom of a chemical element with a specific atomic number and atomic mas Isotopes of the same element have the same number of protons but different numbers neutrons and different atomic masses.

Joule: A metric unit of energy, work, or heat, equivalent to 1 watt-second, 0.737 foot-pound, or 0.239 calories.

Klystron: An electron tube used for the generation of ultrahigh-frequency current.

Lacustrine: Found or formed in lakes; also, a type of wetland situated on or near a

Landscape character: The arrangement of a particular landscape as formed by the var and intensity of the landscape features (land, water, vegetation, and structures) a four basic elements (form, line, color, and texture). These factors give an area a tinctive quality that distinguishes it from its immediate surroundings.

Large release: A release of radioactive material that would result in doses greater 25 rem to the whole body or 300 rem to the thyroid at 1.6 kilometer from the contro perimeter (security fence) of a reactor facility.

Latent fatalities: Fatalities associated with acute and chronic environmental expos chemical or radiation that occur within 30 years of exposure.

Light water: The common form of water (a molecule with two hydrogen atoms and one o atom) in which the hydrogen atom consists largely or completely of the normal hydro isotope (one proton).

Light Water Reactor: A nuclear reactor in which circulating light water is used to the reactor core and to moderate (reduce the energy of) the neutrons created in the by the fission reactions.

Lithic: Pertaining to stone or a stone tool.

Long-lived radionuclides: Radioactive isotopes with half-lives greater than about 3 years.

Loss-of-coolant accidents: A postulated accident that results from the loss of reac coolant (at a rate that exceeds the capability of the reactor coolant makeup system breaks in the reactor coolant pressure boundary, up to and including a break equiva in size to the double-ended rupture of the largest pipe of the reactor coolant syst

Loss-of-pumping accidents: An event that involves a pipe break through which coolan (either primary or secondary) is released.

Low-level waste: Waste that contains radioactivity but is not classified as high-le waste, transuranic waste, spent nuclear fuel, or "11e(2) by-product material" as de by DOE Order 5820.2A, Radioactive Waste Management. Test specimens of fissionable material irradiated for research and development only, and not for the production o or plutonium, may be classified as low-level waste, provided the concentration of transuranic waste is less than 100 nanocuries per gram. Some low-level waste is con classified because of the nature of the generating process and/or constituents, bec the waste would tell too much about the process.

Mastodon: Any of numerous extinct mammals that differ from the related mammoths and existing elephants chiefly in the form of molar teeth.

Maximum contaminant level: The maximum permissible level of a contaminant in water delivered to any user of a public water system. Maximum contaminant levels are enforceable standards.

Maximally exposed individual: A hypothetical person who could potentially receive t maximum dose of radiation or hazardous chemicals.

Megawatt: A unit of power equal to 1 million watts. Megawatt thermal is commonly us define heat produced, while megawatt electric defines electricity produced.

Meteorology: The science dealing with the atmosphere and its phenomena, especially

relating to weather.

Migration: The natural movement of a material through the air, soil, or groundwater seasonal movement of animals from one area to another.

Miocene Epoch: Geologic time in the Cenozoic Era dating from 26 to 7 million years

Mixed waste: Waste that contains both "hazardous waste" and "radioactive waste" as in this glossary.

Moderator: A material used to decelerate neutrons in a reactor from high energies t energies.

Modified Mercalli intensity: A level on the modified Mercalli scale. A measure of t perceived intensity of earthquake ground shaking with 12 divisions, from I (not fel people) to XII (damage nearly total).

Modular High Temperature Gas-Cooled Reactor: A relatively small nuclear reactor of standardized design in which graphite (a compound of electrical carbon) is used to moderate (reduce the energy of) the neutrons created in the core by fission reactio a gas (helium) is used to cool the reactor core

Mollusks: Unsegmented, invertebrate animals including gastropods, pelecypods, and cephalopods.

National Ambient Air Quality Standards: Air quality standards established by the Cl Act, as amended. The primary National Ambient Air Quality Standards are intended to protect the public health with an adequate margin of safety, and the secondary Nati Ambient Air Quality Standards are intended to protect the public welfare from any k anticipated adverse effects of a pollutant.

National Emission Standards for Hazardous Air Pollutants: A set of national emissio standards for listed hazardous pollutants emitted from specific classes or categori new and existing sources. These were implemented in the Clean Air Act Amendments of

National Environmental Policy Act of 1969: This Act is the basic national charter f protection of the environment. It requires the preparation of an environmental impa statement for every major Federal action that may significantly affect the quality human or natural environment. Its main purpose is to provide environmental informat to decision makers so that their actions are based on an understanding of the poten environmental consequences of a proposed action and its reasonable alternatives.

National Environmental Research Park: An outdoor laboratory set aside for ecologica research to study the environmental impacts of energy developments. National environmental research parks were established by the Department of Energy to provid protected land areas for research and education in the environmental sciences and t onstrate the environmental compatibility of energy technology development and use.

National Historic Preservation Act of 1966, as amended: This Act provides that prop resources with significant national historic value be placed on the National Regist Historic Places. It does not require any permits but, pursuant to Federal code, if proposed action might impact an historic property resource, it mandates consultatio the proper agencies.

National Pollutant Discharge Elimination System: Federal permitting system required hazardous effluents regulated through the Clean Water Act, as amended.

National Register of Historic Places: A list maintained by the Secretary of the Int of districts, sites, buildings, structures, and objects of prehistoric or historic state, or national significance. The list is expanded as authorized by Section 2(b) Historic Sites Act of 1935 (16 U.S.C. 462) and Section 101(a)(1)(A) of the National Historic Preservation Act of 1966, as amended.

Neutron: An uncharged elementary particle with a mass slightly greater than that of

proton, found in the nucleus of every atom heavier than hydrogen-1; a free neutron unstable and decays with a half-life of about 13 minutes into an electron and a pro

Neutron poison: A chemical solution (e.g., boron or rare earth solution) injected i nuclear reactor to absorb neutrons and end criticality.

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

Nitrogen oxides: Refers to the oxides of nitrogen, primarily NO (nitrogen oxide) an (nitrogen dioxide). These are produced in the combustion of fossil fuels and can constitute an air pollution problem. When nitrogen dioxide combines with volatile o compounds, such as ammonia or carbon monoxide, ozone is produced.

Nuclear criticality: (See "criticality.)

Nuclear facility: A facility whose operations involve radioactive materials in such and quantity that a nuclear hazard potentially exists to the employees or the gener public. Included are facilities that: produce, process, or store radioactive liquid solid waste, fissionable materials, or tritium; conduct separations operations; con irradiated materials inspection, fuel fabrication, decontamination, or recovery operations; or conduct fuel enrichment operations. Incidental use of radioactive materials in a facility operation (e.g., check sources, radioactive sources, and x- machines) does not necessarily require a facility to be included in this definition

Nuclear grade: Material of a quality adequate for use in a nuclear application.

Nuclear material: Composite term applied to: (1) special nuclear material; (2) sour material such as uranium or thorium or ores containing uranium or thorium; and (3) by-product material, which is any radioactive material that is made radioactive by exposure to the radiation incident to the process of producing or using special nuc material.

Nuclear power plant: A facility that converts nuclear energy into electrical power. produced in a nuclear reactor is used to make steam which drives a turbine connecte electric generator.

Nuclear production: Production operations for components of nuclear weapons that ar fabricated from nuclear materials, including plutonium and uranium.

Nuclear reaction: A reaction in which an atomic nucleus is transformed into another isotope of that respective nuclide, or into another element altogether; it is alway accompanied by the liberation of either particles or energy.

Nuclear reactor: A device in which a fission chain reaction is maintained, and whic used for irradiation of materials or to produce heat for the generation of electric

Nuclide: A species of atom characterized by the constitution of its nucleus and hen the number of protons, the number of neutrons, and the energy content.

Obsidian: A black volcanic glass.

Occupational Safety and Health Administration: Oversees and regulates workplace hea safety, created by the Occupational Safety and Health Act of 1970.

Onsite population: Department of Energy and contractor employees who are on duty, a badged onsite visitors.

Operable: For a nuclear facility, a situation wherein a reactor and fuel/target cyc facilities are being operated or have the potential for being operated. A reactor a fuel/target cycle facility that cannot be operated on a day-to-day basis because of refueling, extensive modifications, or technical problems is still considered opera

Operable unit: A discrete action that comprises an incremental step toward comprehe addressing site problems. This discrete portion of a remedial response manages migr or eliminates or mitigates a release, threat of release, or pathway of exposure. Th cleanup of a site can be divided into a number of operable units.

Outfall: The discharge point of a drain, sewer, or pipe as it empties into a body o water.

Ozone: The triatomic form of oxygen; in the stratosphere, ozone protects the Earth the sun's ultraviolet rays, but in lower levels of the atmosphere ozone is consider air pollutant.

Packaging: The assembly of components necessary to ensure compliance with Federal regulations. It may consist of one or more receptacles, absorbent materials, spacin structures, thermal insulation, radiation shielding, and devices for cooling or abs mechanical shocks. The vehicle tie-down system and auxiliary equipment may be desig as part of the packaging.

Paleontology: The study of fossils.

Paleozoic Era: Geologic time dating from 570 million to 245 million years ago when seed-bearing plants, amphibians, and reptiles first appeared.

Palustrine: Found or formed in marshes; also, a type of wetland situated in or near marsh.

Perched groundwater: A body of groundwater of small lateral dimensions lying above extensive aquifer.

Permeability: geology, the ability of rock or soil to transmit a fluid.

Person-rem: The unit of collective radiation dose commitment to a given population; sum of the individual doses received by a population segment.

Physical setting: The land and water form, vegetation, and structures that compose landscape.

Pit: An assembly at the center of a nuclear device containing a sub-critical mass o fissionable material.

Playa: A dry lake bed in a desert basin or a closed depression that contains water seasonal basis.

Pleistocene Epoch: Geologic time that began approximately 3 to 5 million years ago.

Pliocene Epoch: Geologic time between the Miocene and the Pleistocene epochs approx 2 to 13 million years ago.

Plume: The elongated pattern of contaminated air or water originating at a point so such as a smokestack or a hazardous waste disposal site.

Plume immersion: Occurs when an individual is enveloped by a cloud of radioactive g effluent and receives an external radiation dose.

Plutonium: A heavy, radioactive, metallic element with the atomic number 94. It is produced artificially in a reactor by bombardment of uranium with neutrons and is u the production of nuclear weapons.

Potentiometric surface: An imaginary surface defined by the level that water will r in a tightly-cased well.

Pounds per square inch: A measure of pressure; atmospheric pressure is about 14.7 p per square inch.

Prehistoric: Predating written history. In North America, also predating contact wi Europeans.

Pressurized water reactor: A nuclear power reactor that uses water under pressure a coolant. The water boiled to generate steam is in a separate system.

Prevention of Significant Deterioration: Regulations established by the 1977 Clean Act Amendments to limit increases in criteria air pollutant concentrations above baseline.

Primary system: The system that circulates a coolant (e.g., water) through the reac core to remove the heat of reaction.

Prime farmland: Land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oil-seed, and other agricu crops with minimum inputs of fuel, fertilizer, pesticides, and labor without intole soil erosion, as determined by the Secretary of Agriculture (Farmland Protection Po Act of 1981, 7CFR 7, paragraph 658).

Probabilistic risk assessment: A comprehensive, logical, and structured methodology identify and quantitatively evaluate significant accident sequences and their consequences. (See "Level-1 probabilistic risk assessment, Level-2 probabilistic ri assessment, and Level-3 probabilistic risk assessment.")

Probable maximum flood: Flood levels predicted for a scenario having hydrological conditions that maximize the flow of surface waters.

Protected area: An area encompassed by physical barriers, subject to access control surrounding material access areas, and meeting the standards of DOE Order 5632.1C, Protection and Control of Safeguards and Security Interests.

Quality factor: The principal modifying factor that is employed to derive dose equi from absorbed dose.

Rad: See "radiation absorbed dose."

Radiation: The emitted particles or photons from the nuclei of radioactive atoms. S elements are naturally radioactive; others are induced to become radioactive by bombardment in a reactor. Naturally occurring radiation is indistinguishable from i radiation.

Radiation absorbed dose: The basic unit of absorbed dose equal to the absorption of joule per kilogram of absorbing material.

Radioactive waste: Materials from nuclear operations that are radioactive or are contaminated with radioactive materials, and for which use, reuse, or recovery are impractical.

Radioactivity: The spontaneous decay or disintegration of unstable atomic nuclei, accompanied by the emission of radiation.

Radioisotopes: Radioactive nuclides of the same element (same number of protons in nuclei) that differ in the number of neutrons.

Radionuclide: A radioactive element characterized according to its atomic mass and number which can be man-made or naturally occurring. Radionuclides can have a long soil or water pollutants, and are believed to have potentially mutagenic or carcino effects on the human body.

Radon: Gaseous, radioactive element with the atomic number 86 resulting from the radioactive decay of radium. Radon occurs naturally in the environment, and can col in unventilated enclosed areas, such as basements. Large concentrations of radon ca lung cancer in humans.

RADTRAN: A computer code combining user-determined meteorological, demographic, tra tation, packaging, and material factors with health physics data to calculate the e radiological consequences and accident risk of transporting radioactive material.

Reactor accident: See "design-basis accident; severe accident."

Reactor charge: The fuel and target assemblies loaded into specific positions in th reactor to produce the desired product; the reactor positions occupied by the assem depend on the product and the types of assemblies used.

Reactor core: In a heavy water reactor: the fuel assemblies, including the fuel and tubes, control assemblies, blanket assemblies, safety rods, and coolant/moderator. light-water reactor: the fuel assemblies, including the fuel and target rods, contr rods, and coolant/ moderator. In a modular high-temperature gas-cooled reactor: the graphite elements, including the fuel and target elements, control rods, any other shutdown mechanisms, and the graphite reflectors.

Reactor facility: Unless it is modified by words such as containment, vessel, or co term reactor facility includes the housing, equipment, and associated areas devoted the operation and maintenance of one or more reactor cores. Any apparatus that is d or used to sustain nuclear chain reactions in a controlled manner, including critic pulsed assemblies and research, test, and power reactors, is defined as a reactor. assemblies designed to perform subcritical experiments that could potentially reach criticality are also to be considered reactors.

Reactor year: A unit of time by which accident frequency and core damage frequency measured; it assumes that more than one reactor can operate during the year (a cale year during which three reactors operated would be the experience equivalent of 3 r years) and it assumes that a reactor might not operate continuously for the entire reactor operating only 60 percent of the calendar year would be the equivalent of 0 reactor year).

Receiving waters: Rivers, lakes, oceans, or other bodies of water into which wastew are discharged.

Recharge: Replenishment of water to an aquifer.

Recycling: The recovery, purification, and reuse of tritium contained in tritium reservoirs within the nuclear weapons stockpile.

Rem: See "roentgen equivalent man."

Remediation: The process, or a phase in the process, of rendering radioactive, haza or mixed waste environmentally safe, whether through processing, entombment, or oth methods.

Resource Conservation and Recovery Act, as amended: The Act that provides "cradle t grave" regulatory program for hazardous waste which established, among other things system for managing hazardous waste from its generation until its ultimate disposal

Rhyolite: A volcanic rock rich in silica; the volcanic equivalent of granite.

Riparian wetlands: Wetlands on or around rivers and streams.

Riprap: A loose assemblage of stones used in water or soft ground to prevent erosio

Risk: A quantitative or qualitative expression of possible loss that considers both probability that a hazard will cause harm and the consequences of that event.

Risk assessment (chemical or radiological): The qualitative and quantitative evalua performed in an effort to define the risk posed to human health and/or the environm the presence or potential presence and/or use of specific chemical or radiological pollutants.

Runoff: The portion of rainfall, melted snow, or irrigation water that flows across ground surface and eventually enters streams.

Safe Drinking Water Act, as amended: This Act protects the quality of public water supplies, water supply and distribution systems, and all sources of drinking water.

Safe secure trailer: A specially designed semi-trailer, pulled by an armored tracto which is used for the safe, secure transportation of cargo containing nuclear weapo special nuclear material.

Safety Analysis Report: A safety document providing a concise but complete descript safety evaluation of a site, design, normal and emergency operation, potential acci predicted consequences of such accidents, and the means proposed to prevent such ac or mitigate their consequences. A safety analysis report is designated as final whe based on final design information. Otherwise, it is designated as preliminary.

Saltstone: Low radioactivity fraction of high-level waste from the in-tank precipit process mixed with cement, flyash, and slag to form a concrete block.

Sandstone: A sedimentary rock predominantly containing individual mineral grains vi to the unaided eye.

Sanitary wastes: Wastes generated by normal housekeeping activities, liquid or soli (includes sludge), which are not hazardous or radioactive.

Sanitization: An irreversible modification or destruction of a component or part of component to the extent required to prevent revealing classified or otherwise contr information.

Scintillation: Minute flash of light caused when alpha, beta, or gamma rays strike phosphors.

Scope: In a document prepared pursuant to the National Environmental Policy Act of the range of actions, alternatives, and impacts to be considered.

Secondary system: The system that circulates a coolant (water) through a heat excha remove heat from the primary system.

Sedimentation: The settling out of soil and mineral solids from suspension in water

Seismic: Pertaining to any earth vibration, especially an earthquake.

Seismic zone: An area defined by the Uniform Building Code (1991), designating the of damage to be expected as the result of earthquakes. The United States is divided six zones: (1) Zone 0 - no damage; (2) Zone 1 - minor damage; corresponds to intens V and VI of the modified Mercalli intensity scale; (3) Zone 2A - moderate damage; corresponds to intensity VII of the modified Mercalli intensity scale (eastern U.S. Zone 2B - slightly more damage than 2A (western U.S.); (5) Zone 3 - major damage; corresponds to intensity VII and higher of the modified Mercalli intensity scale; (4 - areas within Zone 3 determined by proximity to certain major fault systems.

Seismicity: The tendency for the occurrence of earthquakes.

Severe accident: An accident with a frequency rate of less than 10-6 per year that have more severe consequences than a design-basis accident, in terms of damage to t facility, offsite consequences, or both.

Sewage: The total of organic waste and wastewater generated by an industrial establ or a community.

Short-lived activation products: An element formed from neutron interaction that ha relatively short half-life and which is not produced from the fission reaction (e.g cobalt isotope formed from impurities in the metal of the reactor piping).

Short-lived nuclides: Radioactive isotopes with half-lives no greater than about 30 (e.g., cesium-137 and strontium-90).

Shrink-swell potential: Refers to the potential for soils to contract while drying expand after wetting.

Shutdown: For a Department of Energy reactor, that condition in which the reactor h ceased operation and the Department has declared officially that it does not intend operate it further (see DOE Order 5480.6, Safety of Department of Energy-Owned Nucl Reactors).

Silt: A sedimentary material consisting of fine mineral particles intermediate in s between sand and clay.

Siltstone: A sedimentary rock composed of fine textured minerals.

Source term: The estimated quantities of radionuclides or chemical pollutants relea to the environment.

Spallation: Any nuclear reaction when several particles result from a collision, e. chain-reaction in a nuclear reactor.

Special nuclear materials: As defined in Section 11 of the Atomic Energy Act of 195 special nuclear material means (1) plutonium, uranium enriched in the isotope 233 o the isotope 235, and any other material which the Nuclear Regulatory Commission det to be special nuclear material or (2) any material artificially enriched by any of foregoing.

Standardization (Epidemiology): Techniques used to control the effects of differenc (e.g., age) between populations when comparing disease experience. The two main met are:

Direct method, in which specific disease rates in the study population are averaged as weights the distribution of the comparison population.

Indirect method, in which the specific disease rates in the comparison population a averaged, using as weights the distribution of the study population.

Standby: That condition in which a reactor facility is neither operable nor declare excess and in which documentary authorization exists to maintain the reactor for po future operation (DOE Order 5480.6).

Steppe: An area of grass-covered and generally treeless plains.

Steppe climate (semiarid climate): The type of climate in which precipitation is ve slight but sufficient for the growth of short, sparse grass.

Stratigraphy: Division of geology dealing with the definition and description of ro soils, especially sedimentary rocks.

Strike: The direction or trend that a structural surface (e.g., a bedding or fault takes as it intersects the horizontal.

Superfund Amendments and Reauthorization Act of 1986: In addition to certain free-s provisions of law, it includes amendments to Compensation Environmental Response, Compensation, and Liability Act of 1980 and the Safe Drinking Water Act.

Surface water: Water on the Earth's surface, as distinguished from water in the gro (groundwater).

Tertiary Period: The first geologic period of the Cenozoic Era, dating from 66 mill about 3 million years ago. During this time, mammals became the dominant life form.

Third Thirds waste: The Environmental Protection Agency proposed the Third Thirds R

required by the Hazardous and Solid Waste Amendments of 1984, to establish treatmen standards and effective dates for all wastes (including characteristic wastes) for treatment standards had not yet been promulgated (40 CFR 268.12), including derived wastes (i.e., multi-source leachage), and for mixed radioactive/hazardous wastes.

Threatened species: Any species that is likely to become an endangered species with foreseeable future throughout all or a significant portion of its range.

Threshold limit values: The recommended concentrations of contaminants workers may exposed to according to the American Council of Governmental Industrial Hygienists.

Toxic Substances Control Act of 1976: This Act authorizes the Environmental Protect Agency to secure information on all new and existing chemical substances and to con any of these substances determined to cause an unreasonable risk to public health o environment. This law requires that the health and environmental effects of all new chemicals be reviewed by the Environmental Protection Agency before they are manufa for commercial purposes.

Transients: Events that could cause the temporary production of more (or less) heat reactor than the cooling system; also called reactivity change or power transients.

Transuranic waste: Waste contaminated with alpha-emitting radionuclides with half-l greater than 20 years and concentrations greater than 100 nanocuries/gram at time o assay. It is not a mixed waste.

Tritium: A radioactive isotope of the element hydrogen with two neutrons and one pr Common symbols for the isotope are H-3 and T.

Unconfined aquifer: A permeable geological unit having the following properties: a water-filled pore space (saturated), the capability to transmit significant quantit of water under ordinary differences in pressure, and an upper water boundary that i atmospheric pressure.

Unsaturated zone (vadose): A region in a porous medium in which the pore space is n filled with water.

Uranium: A heavy, silvery-white metallic element (atomic number 92) with many radio isotopes. Uranium-235 is most commonly used as a fuel for nuclear fission. Another isotope, uranium-238, is transformed into fissionable plutonium-239 following its c of a neutron in a nuclear reactor.

Viewshed: The extent of the area that may be viewed from a particular location. Vie are generally bounded by topographic features such as hills or mountains.

Visual Resource Management Class: A class defines the different degrees of modifica allowed to the basic elements of landscape. They are Class 1-applied to wilderness wild and scenic rivers, and other similar situations; Class 2-contrasts are seen bu not attract attention; Class 3-contrasts caused by a cultural activity are evident, remain subordinate to the existing landscape; Class 4-contrasts that attract attent and are dominant features of the landscape in terms of scale, but repeat the contra the characteristic landscape; Class 5-applied to areas where unacceptable cultural ification has lowered scenic quality (where the natural character of the landscape been disturbed to a point where rehabilitation is needed to bring it up to one of t other classifications).

Visual sensitivity level: The relative degree of viewer numbers, visibility of the landscape and the degree of potential viewer interest, concern, and attitude for ex or proposed changes in the landscape character.

Vitrification: A waste treatment process that uses glass (e.g., borosilicate glass) encapsulate or immobilize radioactive wastes to prevent them from reacting in dispo sites.

Volatile organic compounds: A broad range of organic compounds, often halogenated,

vaporize at ambient or relatively low temperatures, such as benzene, chloroform, an methyl alcohol.

Waste Isolation Pilot Plant: A facility in southeastern New Mexico being developed the disposal site for transuranic and transuranic mixed waste, not yet in operation

Water table: Water under the surface of the ground occurs in two zones, an upper unsaturated zone and the deeper saturated zone. The boundary between the two zones water table.

Weapons-grade: Fissionable material in which the abundance of fissionable isotopes enough that the material is suitable for use in thermonuclear weapons.

Weighting factor: Represents the fraction of the total health risk resulting from u whole-body irradiation that could be contributed to that particular tissue.

Wetland: Land or areas exhibiting hydric soil conditions, saturated or inundated so during some portion of the year, and plant species tolerant of such conditions.

Wet site: For the purposes of this Programmatic Environmental Impact Statement, any where adequate water is available for evaporative cooling of tritium supply technol

Whole-body dose: Dose resulting from the uniform exposure of all organs and tissues human body. (Also, see "effective dose equivalent.")

Wind rose: A depiction of wind speed and direction frequency for a given period of

X/Q (Chi/Q): The relative calculated air concentration due to a specific air releas units are (sec/m3). For example, (Ci/m3)/(Ci/sec)=(sec/m3) or (g/m3)/(g/sec)=(sec/m

Zircaloy-4: An alloy of zirconium metal frequently used in nuclear reactors because desirable chemical and nuclear properties.

CHAPTER 10: INDEX

Subjects are indexed by page number.

DOE/EIS-0161

Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling

Volume II

United States Department of Energy
Office of Reconfiguration

October 1995

Department of Energy
Washington, DC 20585
October 19, 1995

Dear Interested Party:

The Final Programmatic Environmental Impact Statement (PEIS) for Tritium Supply and Recycling has now been completed. Tritium is an essential component of every warhead in the current and projected United States nuclear weapons stockpile. Tritium decays at a rate of 5.5 percent per year and must be replaced periodically as long as the Nation relies on a nuclear deterrent. In accordance with the Atomic Energy Act of 1954, as amended, the Department of Energy is responsible for developing and maintaining the capability to produce nuclear materials such as tritium. Currently, the Department does not have the capability to produce tritium in the required amounts.

The Tritium Supply and Recycling PEIS evaluates the siting, construction, and operation of tritium supply technology alternatives and recycling facilities at each of five candidate sites. The PEIS also evaluates the use of a commercial reactor for producing tritium.

On October 10, 1995, the Department announced its preferred alternative, a dual-track strategy under which the Department would begin work on two promising production options: use of an existing commercial light water reactor and construction of a linear accelerator. The Savannah River Site in South Carolina has been identified as the preferred site for an accelerator, should one be constructed. Details on this preferred alternative can be found in the Executive Summary and in section 3.7 of Volume I of the PEIS. A Record of Decision will follow in late November.

The Department of Energy appreciates your continued participation in this Program.

Sincerely,

Stephen M. Sohinki, Director
Office of Reconfiguration

DOE/EIS-0161
October 1995

Changes to the Draft PEIS that are less than a paragraph, are shown in double under Final PEIS. Larger text changes are shown by sidebar notation.

COVER SHEET

RESPONSIBLE AGENCY: U.S. Department of Energy

COOPERATING AGENCY: U.S. Environmental Protection Agency

TITLE: Final Programmatic Environmental Impact Statement for Tritium Supply and Rec

CONTACT: For additional information on this Statement, write or call:

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Office of Reconfiguration
U.S. Department of Energy
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For general information on the DOE National Environmental Policy Act process, write

Ms. Carol M. Borgstrom, Director
Office of NEPA Policy and Assistance (EH-42)
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585
Telephone: (202) 586-4600 or leave a message at (800) 472-2756

ABSTRACT: Tritium, a radioactive gas used in all of the Nation's nuclear weapons, h replaced periodically in order for the weapon to operate as designed. Currently, th required amounts of tritium within the Nuclear Weapons Complex.

The PEIS for Tritium Supply and Recycling evaluates the alternatives for the siting tritium supply and recycling facilities at each of five candidate sites: the Idaho Nevada Test Site, the Oak Ridge Reservation, the Pantex Plant, and the Savannah Riv tritium supply and recycling facilities consist of four different tritium supply te Modular High Temperature Gas-Cooled Reactor, Advanced Light Water Reactor, and Acce Tritium. The PEIS also evaluates the impacts of the DOE purchase of an existing ope commercial light water reactor or the DOE purchase of irradiation services contract reactors. Additionally, the PEIS includes an analysis of multipurpose reactors that plutonium, and produce electricity.

Evaluation of impacts on land resources, site infrastructure, air quality and acous soils, biotic resources, cultural and paleontological resources, socioeconomics, ra impacts during normal operation and accidents to workers and the public, waste mana are included in the assessment.

PUBLIC COMMENTS: In preparing the Final PEIS, DOE considered comments received by m hearings, transcribed from messages recorded by telephone, and those transmitted vi interactive public hearings were held in April 1995 at the following locations wher identified during discussions were summarized by notetakers: Washington, DC; Las Ve Tennessee; Pocatello, Idaho; North Augusta, South Carolina; and Amarillo, Texas.

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ACRONYMS, ABBREVIATIONS, AND CONVERSION CHARTS
Acronyms, Abbreviations, and Conversion Charts

Acronyms and Abbreviations

APT	Accelerator Production of Tritium
ALWR	Advanced Light Water Reactor
AQCR	Air Quality Control Region
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
D&D	decontamination and decommissioning
DOD	Department of Defense
DOE	Department of Enegy
DOI	Department of the Interior
DOT	Department of Transportation
DP	DOE Office of the Assistant Secretary for Defense Programs
EA	environmental assessment
EIS	environmental impact statement
EM	DOE Office of the Assistant Secretary for Environmental Management
EPA	Environmental Protection Agency
ES&H	environment, safety and health
HAP	hazardous air pollutants
HE	high explosive(s)
HEPA	high efficiency particulate air
HEU	highly enriched uranium
HI	Hazard Index
HLW	high-level waste
HQ	Hazard Quotient
HWR	Heavy Water Reactor
INEL	Idaho National Engineering Laboratory
IP	implementation plan
Leq	equivalent sound level
LLW	low-level waste
MHTGR	Modular High Temperature Gas-Cooled Reactor
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
NTS	Nevada Test Site
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
OSHA	Occupational Safety and Health Administration
PEIS	programmatic environmental impact statement
PM10	particulate matter of aerodynarnic diameter less than 10 micrometers
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
ROI	region-of-influence
SAR	Safety Analysis Report
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SHPO	State Historic Preservation Officer
SRS	Savannah River Site
START	Strategic Arms Reduction Treaty
TOC	total organic compounds
TRU	transuranic
TSCA	Toxic Substances Control Act
TSP	total suspended particulates

TSS	tritium supply site
USFWS	U.S. Fish and wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compounds
VRM	Visual Resource Management
WIPP	Waste Isolation Pilot Plant

Chemicals and Units of Measure

BGY	billion gallons per year
Btu	British thermal units
Ci	curie
CCl4	carbon tetrachloride
CO	carbon monoxide
CFC	chiorofluorocarbons
dB	decibel
dBA	decibel A-weighted
DCE	1, 2-dichlororethylene
F	Fahrenheit
ft^2	square feet
ft^3	cubic feet
ft^3/s	cubic feet per second
g	gram
gal	gallon
GPD	gallons per day
gpm	gallons per minute
GPY	gallons per year
HCFC-22	chlorodifluoromethane
HMX	cyclotetramethylenetetranitramine or 1, 3, 5, 7-tetranitro-1, 3,5, 7-tetr
hr	hour
kg	kilogram
kV	kilovolt
kVA	kilovolt-ampere
kW	kilowatt
kWh	kilowatt hour
lb	pound
lb/hr	pounds per hour
lb/yr	pounds per year
Li	lithium
mCi	millicurie (one-thousandth of a curie)
mCi/nil	millicurie per milliliter
mg	milligram (one-thousandth of a gram)
mg/l	milligram per liter
MGD	million gallons per day
MGY	million gallons per year
mrem	millirem (one-thousandth of a rem)
MVA	megavolt-ampere
MW	megawatt
Mwe	megawatt electric
Mwh	megawatt hour
MWt	megawatt thermal
nCi	nanocurie (one-billionth of a curie)
nCi/g	nanocuries per gram
NO2	nitrogen dioxide
NOx	nitrogen oxides
O3	ozone
Pb	lead
PCB	polychlorinated biphenyl
pCi	picocurie (one-trillionth of a curie)

pCi/l	picocuries per liter
PETN	pentaeryritoltetramtrate
ppb	parts per billion
ppm	parts per million
Pu	plutonium
RDX	cyclotrimethylenetrinitrainine
rem	roentgen equivalent man
SO2	sulfur dioxide
TATB	triaminotrinitrobenzene
TCA	1,1, 1-trichloroethane
TCE	trichloroethylene
TNT	trinitrotoluene
U	uranium
yd^3	cubic yards
uCi	microcurie (one-millionth of a curie)
uCi/g	microcuries per gram
ug	microgram (one-millionth of a gram)
ug/kg	micrograms per kilogram
ug/l	micrograms per liter
ug/m3	micrograms per cubic meter
um	micron or micrometer (one-millionth of a meter)

Metric Conversion Chart

To Convert Into Metric			To Convert Out of Metric		
If you Know	Multiply By	To Get	If you Know	Multiply By	To Ge
Length					
inches	2.54	centimeters	centimeters	0.3937	inch
feet	30.48	centimeters	centimeters	0.0328	fe
feet	0.3048	meters	meters	3.281	fe
yards	0.9144	meters	meters	1.0936	yar
miles	1.60934	kilometers	kilometers	0.6214	mil
Area					
Sq. inches	6.4516	sq. centimeters	Sq. centimeters	0.155	Sq. inch
Sq. feet	0.092903	Sq. meters	Sq. meters	10.7639	Sq. fe
Sq. yards	0.8361	Sq. meters	Sq. meters	1.196	Sq. yar
acres	0.40469	hectares	hectares	2.471	acr
Sq. miles	2.58999	Sq. kilometers	Sq. kilometers	0.3861	Sq. mil
Volume					
fluid ounces	29.574	milliliters	milliliters	0.0338	fluid ounc
gallons	3.7854	liters	liters	0.26417	gallo
cubic feet	0.028317	cubic meters	cubic meters	35.315	cubic fe
cubic yards	0.76455	cubic meters	cubic meters	1.308	cubic yar
Weight					
ounces	28.3495	grams	grams	0.03527	ounc
pounds	0.4536	kilograms	kilograms	2.2046	poun
short tons	0.90718	metric tons	metric tons	1.1023	short to
Temperature					
Fahrenheit	Subtract 32 then multiply by 5/9ths	Celsius	Celsius	Multiply by 9/5ths, then add 32	Fahren

Metric Prefixes

Prefix	Symbol	Multiplication Factor

exa-	E	1 000 000 000 000 000 000=10^18
peta-	P	1 000 000 000 000 000=10^15
tera-	T	1 000 000 000 000=10^12
giga-	G	1 000 000 000=10^9
mega-	M	1 000 000=10^6
kilo-	k	1 000=10^3
hecto-	h	100=i0^2
deka	da	10=10^1
deci-	d	0.1=10^-1
centi-	c	0.01=10^-2
milli-	m	0.001=10^-3
micro-	u	0.000 001=10^-6
nano-	n	0.000 000 001=10^-9
pico-	p	0.000 000 000 001=10^-12
femto-	f	0.000 000 000 000 001=10^-15
atto-	a	0.000 000 000 000 000 001=10^-18

DOE/EIS-0161

Final Programmatic Environmental Impact Statement for Tritium Supply and Recycling

Volume III

United States Department of Energy
Office of Reconfiguration

October 1995

Department of Energy
Washington, DC 20585
October 19, 1995

Dear Interested Party:

The Final Programmatic Environmental Impact Statement (PEIS) for Tritium Supply and Recycling has now been completed. Tritium is an essential component of every warhead in the current and projected United States nuclear weapons stockpile. Tritium decays at a rate of 5.5 percent per year and must be replaced periodically as long as the Nation relies on a nuclear deterrent. In accordance with the Atomic Energy Act of 1954, as amended, the Department of Energy is responsible for developing and maintaining the capability to produce nuclear materials such as tritium. Currently, the Department does not have the capability to produce tritium in the required amounts.

The Tritium Supply and Recycling PEIS evaluates the siting, construction, and operation of tritium supply technology alternatives and recycling facilities at each of five candidate sites. The PEIS also evaluates the use of a commercial reactor for producing tritium.

On October 10, 1995, the Department announced its preferred alternative, a dual-track strategy under which the Department would begin work on two promising production options: use of an existing commercial light water reactor and construction of a linear accelerator. The Savannah River Site in South Carolina has been identified as the preferred site for an accelerator, should one be constructed. Details on this preferred alternative can be found in the Executive Summary and in section 3.7 of Volume I of the PEIS. A Record

of Decision will follow in late November.

The Department of Energy appreciates your continued participation in this Program.

Sincerely,

Stephen M. Sohinki, Director
Office of Reconfiguration

DOE/EIS-0161
October 1995

Changes to the Draft PEIS that are less than a paragraph, are shown in double under Final PEIS. Larger text changes are shown by sidebar notation.

COVER SHEET

RESPONSIBLE AGENCY: U.S. Department of Energy

COOPERATING AGENCY: U.S. Environmental Protection Agency

TITLE: Final Programmatic Environmental Impact Statement for Tritium Supply and Rec

CONTACT: For additional information on this Statement, write or call:

Stephen M. Sohinki, Director
Office of Reconfiguration
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585
Attention: TSR PEIS
Telephone: (202) 586-0838

For general information on the DOE National Environmental Policy Act process, write

Ms. Carol M. Borgstrom, Director
Office of NEPA Policy and Assistance (EH-42)
U.S. Department of Energy
1000 Independence Avenue, S.W.
Washington, DC 20585
Telephone: (202) 586-4600 or leave a message at (800) 472-2756

ABSTRACT: Tritium, a radioactive gas used in all of the Nation's nuclear weapons, h replaced periodically in order for the weapon to operate as designed. Currently, th required amounts of tritium within the Nuclear Weapons Complex.

The PEIS for Tritium Supply and Recycling evaluates the alternatives for the siting tritium supply and recycling facilities at each of five candidate sites: the Idaho Nevada Test Site, the Oak Ridge Reservation, the Pantex Plant, and the Savannah Riv tritium supply and recycling facilities consist of four different tritium supply te Modular High Temperature Gas-Cooled Reactor, Advanced Light Water Reactor, and Acce Tritium. The PEIS also evaluates the impacts of the DOE purchase of an existing ope commercial light water reactor or the DOE purchase of irradiation services contract reactors. Additionally, the PEIS includes an analysis of multipurpose reactors that

plutonium, and produce electricity.

Evaluation of impacts on land resources, site infrastructure, air quality and acous soils, biotic resources, cultural and paleontological resources, socioeconomics, ra impacts during normal operation and accidents to workers and the public, waste mana are included in the assessment.

PUBLIC COMMENTS: In preparing the Final PEIS, DOE considered comments received by m hearings, transcribed from messages recorded by telephone, and those transmitted vi interactive public hearings were held in April 1995 at the following locations wher identified during discussions were summarized by notetakers: Washington, DC; Las Ve Tennessee; Pocatello, Idaho; North Augusta, South Carolina; and Amarillo, Texas.

Table of Contents

List of Tables

Table 1.3-6 Comments Sorted by Summary Code 1-61

CHAPTER 1: ISSUE CATEGORIES

This chapter describes the public comment process for the Draft Programmatic Enviro Impact Statement for Tritium Supply and Recycling and the procedure used in respond those comments. Section 1.1, the introduction, describes the means through which co were acquired, summarized, and numbered. Section 1.2 discusses the new public heari format that was used to solicit comments from the public. Section 1.3 describes the organization of this document as well as how the comments were categorized, address documented. The chapter concludes with a discussion of the major comments and chang the Draft Programmatic Environmental Impact Statement for Tritium Supply and Recycl brought about by the public comment process.

1.1 Introduction

In February 1995, the Department of Energy published the Draft Programmatic Environ Impact Statement (PEIS) for Tritium Supply and Recycling evaluating the siting, construction, and operation of tritium supply technology alternatives and recycling facilities at five candidate sites within the Nuclear Weapons Complex (Complex). Th day public comment period for the Draft PEIS began on March 17, 1995, and ended on 1995. However, comments were accepted as late as June 23, 1995.

During the comment period, public hearings were held in Las Vegas, NV; Washington, Pocatello, ID; Oak Ridge, TN; North Augusta, SC; and Amarillo,TX. Two hearings were at each location. In addition, the public was encouraged to provide comments via ma fax, electronic bulletin board (Internet), and telephone (toll-free 800-number).

Attendance at each hearing, together with the number of comment summaries recorded, presented in table 1.1-1. Attendance numbers are based on the number of participant completed and returned registration forms and may not include all of those present meetings. In addition to comments received at the public hearings, comments were al received during the public comment period through the other means described above.

All public hearing comment summaries were combined with comments received by other during the public comment period. Comments received by mail, fax, Internet, or tele were date stamped and assigned a sequential document number according to origin (i. fax, mail, etc.) of the document. Chapter 3 of this volume contains a copy of the documents DOE received. Table 1.1-2 provides an overview of the number of documents comments submitted by each method. The document number codes that were assigned to document based on the method of submission are given in parentheses in table 1.1-2. example, all documents that were handed in at public hearings have document numbers beginning with TSR-H.

Table 1.1-1.-Hearing Attendance and Comment Summaries

Hearing Location	Total Attendance	Comment Summaries
Las Vegas, NV	150	127
Washington, DC	22	33
Pocatello, ID	39	54
Oak Ridge, TN	38	70
North Augusta, SC	299	119

Amarillo, TX	105	111

Table 1.1-2.-Document and Comment Submission Overview

Method	Documents Received	Total Comments Received
Hand-in at public hearings (TSR-H)	42	71
Mail-in (TSR-M)	184	550
Petitions/mass mailings (TSR-PC)	7	499
Fax (TSR-F)	48	209
Phone (TSR-P)	90	136
Electronic Bulletin Board (TSR-E)	2	2

1.2 New Public Hearing Format

In response to public comments and feedback critical of the Department's traditiona courtroom-style hearing format, the public hearings held for the Draft PEIS were co using a new interactive format. The format chosen allowed for a two-way interaction between DOE and the public; increased public awareness and understanding on project-related impacts discussed in the Draft PEIS; and encouraged informed public and comments on the document. Neutral facilitators were present at the hearings to and clarify discussions and comments.

The public hearing format consisted of three parts: an overview session; discussion on environmental impacts and project descriptions; and a summary session. At the overview session, officials from the DOE Headquarters' Office of Reconfiguration an representative from the regional office presented an overview of the Tritium Supply Recycling Program.

Following the overview, the hearing attendees were asked to break into discussion g on either environmental impacts or project description depending on their interests concerns. In instances where there were a small number of attendees, discussion gro were not separated. Each discussion group met for one and one-half hours. Each sess began with a brief presentation by a DOE official who summarized the most important aspects of the environmental impacts or project description and alternatives as appropriate for that session. The question and discussion period commenced with a facilitator moderating the session. A notetaker was present in each session for documenting comments for consideration in preparation of the Final PEIS. At the end prescribed time for the group discussion, attendees could, if they chose to, switch discussion groups and the sessions were repeated. Following the close of the discus group, a summary session was held to present the major comments and issues identifi each discussion group and to ask for additional comments or clarification. Followin public hearings, comment summaries were prepared by the notetakers with input from facilitators who were present in the respective sessions.

1.3 Organization

The Comment Response Document has been organized into the following sections:

Chapter 1 describes the comment response process and lists the issue categories.

Chapter 2 contains comments received at the public hearings and documents received the public comment period.

Chapter 3 contains comment summaries and DOE responses by category.

Tables are provided at the end of this chapter to assist commentors and other reade locating individual comments regarding the Draft PEIS. Once comments were received, were categorized by issue (for example, land resources or water resources), and ass category code. Table 1.3-1 in chapter 3 lists the issue categories and correspondin category codes. Similar comments within the same category were then summarized and summary code.

Table 1.3-2 identifies the individuals who attended public hearings and how to loca summaries from those hearings. Commentors interested in locating their comment docu and seeing how it was coded can use tables 1.3-3 and 1.3-4. These tables contain a all the individuals who submitted comments. Table 1.3-3 consists of a list of the g public who submitted comments. Commentors are listed in last name sequence with the assigned document numbers, and the pages on which their actual comment documents ap Table 1.3-4 consists of a list of state and local officials and agencies, companies organizations, or special interest groups that submitted comments. The commentors i table 1.3-4 are listed in alphabetical order with the names of the particular indiv who submitted those documents. For each commentor, the assigned document number and pages on which their actual comment documents appear are listed.

As discussed in section 1.1, comments were received by mail, fax or telephone. In s instances, multiple duplicate documents were received from a commentor. Footnotes i 1.3-5 indicate which of those documents submitted are duplicates. As a result of th multiple submissions, documents were deleted and gaps exist in the numerical sequen tables 1.3-5 and 1.3-6. In addition, table 1.3-5 lists commentors who submitted doc which were classified as postcards. The postcards were part of mass mailing campaig conducted by various organizations and special interest groups to express either su or opposition to the Tritium Supply and Recycling Program. Although many postcards received, only one document scan is shown in chapter 2.

Table 1.3-6 is organized by summary code. Using the appropriate summary code, comme can use this table to see how many comments were included in each summary. The tabl lists the summary page on which the summary and corresponding response appear and t pages on which the actual comment documents appear. Some comment documents presente chapter 2 consist of multiple pages. The document page number given in tables 1.3-2 1.3-3, 1.3-4, 1.3-5, and 1.3-6 refers to the first page on which the comment docume appears. In some instances, it may be necessary to review the remaining pages of th comment document to view a particular sidebar.

Documents received during the public comment period are shown in chapter 2. A docum number code was assigned to each comment document based on the method of submission Documents that were handed in at public hearings, mailed, or faxed have document nu beginning with TSR-H, TSR-M, and TSR-F respectively. Some documents were mailed in of petitions or mass mailing campaigns and were given document numbers beginning wi TSR-PC. Comments that were received over the telephone were transcribed and given d numbers beginning with TSR-P. Other comments received through the electronic bullet board were downloaded and given document numbers beginning with TSR-E. Finally comm received during the special 21 day comment period (60 FR 44327) were given document numbers beginning with TSR-NM or TSR-NF depending on whether the comment document w mailed or faxed.

1.4 Changes from the Draft Programmatic Environmental Impact Statement

During public review of the Draft PEIS a large number of the comments received rega concerns that alternatives and/or candidate sites were not given the correct amount consideration on factors including cost and technical feasibility. Although these c made up the majority of the comments, many others involved the resources analyzed,

and regulatory issues, and DOE and Federal policies as they related to the PEIS. Th issues identified by the commentors include the following:

The electrical requirements of the various alternatives, particularly the APT, and potential for the ALWR and MHTGR to produce electricity;

The impacts of the alternatives on groundwater, including the potential for aquifer depletion and contamination and the consideration of the use of treated wastewater cooling;

The socioeconomic impacts, both positive and negative, of locating or failing to lo facility at one of the candidate sites;

The generation, storage, and disposal of radioactive (including spent nuclear fuel) hazardous wastes and the associated risks;

The impacts of the alternatives on human health (both from radiation and hazardous chemicals) and how these risks were determined and evaluated;

The relationship of this PEIS to other DOE documents and programs, particularly the Waste Management PEIS and the Fissile Materials Disposition Program, and the need t decisions based on all associated programs and activities concurrently;

The need for decisions to be based on many different factors, including environment cost, and safety concerns;

The failure of DOE to consider a no tritium or zero stockpile alternative, and the negative national and international implications of building a new tritium supply facility; and

The need for DOE to consider a commercial reactor alternative in greater detail.

Based upon public comments and a re-evaluation of irradiation services, DOE is now considering both the purchase of a commercial reactor and its conversion for tritiu production and the purchase of irradiation services as a reasonable alternative. DO invited public comments on these issues, in addition to comments on the potential environmental impacts described in section 4.10 of the Draft PEIS in a special 21 d comment period (60 FR 44327). Comments received during this extended comment period included in this volume. During the extended comment period, there were two major i of concern raised:

License and regulatory implications, and

Non-proliferation concerns.

All of the comments identified above are summarized and responded to in detail in c 3 of this volume. Key revisions to the PEIS resulting from public comments are disc below.

Revisions to the document include additional discussion and analysis in the followi areas: severe accidents and design-basis accidents for all tritium supply technolog site-specific environmental impacts of a dedicated power plant for the Accelerator Production of Tritium (APT); revisions to water resources sections; site-specific a of the multipurpose reactor that could produce tritium, burn plutonium as fuel, and produce electricity; and the commercial reactor alternative, specifically the purch an existing reactor and the purchase of irradiation services from a commercial reac and analysis of producing tritium at an earlier date in order to support a larger stockpile size. Each of these areas will be discussed in more detail below.

Part of the revision to the tritium supply accident analyses addressed a comment requesting that the PEIS determine the impacts to site workers from potential accid In response to this comment, sections 4.1.3.9, 4.2.3.9, 4.3.3.9, 4.4.3.9, 4.5.3.9, 4.6.3.9, and appendix E.2 of the Final PEIS have been modified to include a qualita discussion of impacts to involved workers (workers assigned to the facility and loc

close proximity to the facility as a result of the proposed action) and quantitativ impacts to noninvolved workers (workers collocated at the site independent of the p action). For involved workers, impacts were addressed qualitatively, explaining the significant risk for exposure and fatality and that mitigative features would be pr in the design and operation to minimize worker impacts from accidents.

For the noninvolved worker, the impacts were represented by the exposure of a hypothetical worker at several prescribed distances from the accident (but within t boundary). These impacts were described in terms of dose (rems), increases in the likelihood of cancer fatalities, and risk of cancer for the maximally exposed nonin worker.

Analysis of an Advanced Light Water Reactor (ALWR) design-basis accident was also re-evaluated as a result of public comments questioning the apparent severity and frequency of the accident consequences shown in the Draft PEIS. The apparent severi and frequency of the design-basis accident presented in the Draft PEIS resulted fro selection of a beyond design-basis accident, rather than a design-basis accident, d lack of information. The beyond design-basis accident used in the Draft PEIS analys represented a low-probability event that was not representative of a design-basis accident. Additional analyses were performed to accurately estimate the impacts fro more reasonable design-basis accident and these results have been included in the F PEIS in sections 4.1.3.9, 4.2.3.9, 4.3.3.9, 4.4.3.9, 4.5.3.9, 4.6.3.9, and appendix F.2.2.3.

The analyses of impacts of severe reactor accidents, located in the Final PEIS sect 4.1.3.9, 4.2.3.9, 4.3.3.9, 4.4.3.9, 4.5.3.9, 4.6.3.9, and appendix F.2.1.3, were re Since accident consequences vary greatly depending on the selected accident frequen value, a spectrum of severe accidents with a range of frequencies was used to perfo more representative analysis for each technology. The resulting impacts presented i section reflect the probable effects of a set of accidents for each reactor rather the single accident scenario.

Public comments also suggested that a disparity existed between the reactor and APT accident analyses, thereby creating a bias in favor of the APT. A new accident anal presented in sections 4.1.3.9, 4.2.3.9, 4.3.3.9, 4.4.3.9, 4.5.3.9, 4.6.3.9, and app F.2.1.4 for the APT has a more severe initiating event, a lower frequency, and a hi consequence than the analysis presented in the Draft PEIS. PEIS sections 4.1.3.9, 4.2.3.9, 4.3.3.9, 4.4.3.9, 4.5.3.9, 4.6.3.9, and appendix E.2 have been modified to include a qualitative discussion of impacts to involved workers (workers assigned t facility and located in close proximity to the facility as a result of the proposed action) and quantitative impacts to noninvolved workers (workers collocated at the independent of the proposed action).

Another change in the document is a more detailed description of potential impacts dedicated power plant for the APT, located in section 4.8.2. The section has been m to indicate that site-specific impacts for the gas-fired power plant have been incl for each site in sections 4.2 through 4.6. The discussion of the site-specific cumu impacts on land use, air quality, water resources, biotics, socioeconomics, human health, and rail transport, is presented within sections 4.2 through 4.6.

Based on public comments received at the hearings, two revisions were incorporated water resources sections for NTS and Pantex. For NTS, section 4.3.2.4 incorporated accurate recharge rates and information regarding the potential project use of the aquifer to present a more accurate impact on groundwater resources. The new data we utilized to revise section 4.3.3.4 and provide more accurate potential environmenta impacts to the NTS aquifer.

For Pantex, section 4.5.2.4 has been modified to include additional information on reclaimed sanitary wastewater sources, the Hollywood Road Wastewater Treatment Plan the Pantex Plant Wastewater Treatment Plant. Section 4.5.3.4 now includes the proje amount and availability of reclaimed water from each source and the impacts of usin reclaimed sanitary wastewater as a source of tritium supply cooling water.

To present a more detailed analysis of the multipurpose reactor option, section 4.8

has been revised. Since the multipurpose reactor would use plutonium fuel, an analy the construction impacts of a pit disassembly/conversion/mixed-oxide fuel fabricati facility to support a multipurpose ALWR has been incorporated in the site-specific analysis for each of the five candidate sites for the following resources: land use emissions, water, and socioeconomics. Impacts of just the pit disassembly/conversio part of the facility is included for the multipurpose Modular High Temperature Gas-Reactor (MHTGR) since this technology already includes a fuel fabrication component the operation of a multipurpose reactor, additional detail regarding the impacts on atmospheric emissions, liquid emissions, water requirements, socioeconomics, human health (for both normal operations and accidents), waste management, and intersite transportation has been included in the site-specific analysis. Construction and operation impacts discussed in section 4.8.3.1 have been incorporated as additional discussion in the site-specific sections (sections 4.2 through 4.6) at the end of e respective resource section for a multipurpose ALWR and MHTGR.

Revisions have also been made in sections 3.4 and 4.10 of the PEIS to provide addit information and analysis on the commercial reactor alternative. Analysis and a disc of potential impacts has been expanded and included in this PEIS on the alternative DOE purchasing an existing operating commercial reactor or an incomplete reactor an converting it to production of tritium for defense purposes.

Table 1.3-1.-Issue Categories

Category Code	Issue Category
01	Land Resources
02	Site Infrastructure
03	Air Quality and Acoustics
04	Water Resources
04.01	Surface Water
04.02	Groundwater
05	Geology and Soils
06	Biotic Resources
07	Cultural and Paleontological Resources
08	Socioeconomics
09	Intersite Transportation
10	Waste Management
11	Human Health
11.01	Human Health Normal Operations
11.02	Human Health Facility Accidents
12	General/Miscellaneous Environmental
13	Tritium Supply and Recycling Proposal and Alt
13.01	Heavy Water Reactor Technology
13.02	Modular High Temperature Gas-Cooled Reactor T

13.03	Advanced Light Water Reactor Technology
13.04	Accelerator Production of Tritium Technology
13.05	Idaho National Engineering Laboratories
13.06	Nevada Test Site
13.07	Oak Ridge Reservation
13.08	Pantex Plant
13.09	Savannah River Site
14	Relationship To Other Department of Energy Pr
15	Public Involvement and Community Relations
16	NEPA Process
17	Regulatory Compliance
18	National Nuclear Weapons Policies
19	Allocation of Federal Funds
20	Support of or Opposition to Department of Ene
21	Storage of Special Nuclear Materials
22	Commercial Reactor Alternative
23	Commercial Irradiation Services

A new section has also been added to the Final PEIS (section 4.11 "Providing Tritiu Earlier Date"). The new section evaluates the potential impacts of providing tritiu earlier date, to support a higher stockpile level. The new section was added becaus START II treaty has not been ratified. .

Table 1.3-2.-Index of Attendance at Public Hearings [Page 1 of 15]

Public Hearing Attendees

April 5, 1995-Las Vegas,Nevada
Morning Session

Aquilina, Nick C., Las Vegas,NV

Bastian, Thomas, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Black, Elbert C., Tetra Tech,Inc., Albuquerque,NM

Begley, Harold, Raytheon Services Nevada, Boulder City,NV

Brown, John, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Brown, Mary Lou, International Technology Corporation, Las Vegas,NV

Buntjer, Roger L., IBEW 357, Las Vegas,NV

Cates, Glenda, EG&G Energy Measurements,Inc., Las Vegas,NV

Claborn, Jerry D., International Union of Operating Engineers, Las Vegas,NV

Clark, Juanita M., Independent American Party, Las Vegas,NV

Dailey, Charles L., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Davis, Stephen D., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Dix, George D., RSN, Las Vegas,NV

Douglas, A.C., City of Las Vegas, Las Vegas,NV

Edwards, Thomas O., EG&G Energy Measurements,Inc., Las Vegas,NV

Gawthrop, Malu, Jacobs Engineering, Albuquerque,NM

Hagen, Edward C., EG&G Energy Measurements,Inc., Las Vegas,NV

Hall, Nancy A., Reynolds Electrical & Engineering Company,Inc., Las Vegas,NV

Hammargren, Lonnie, Lt. Governor, Las Vegas,NV

Haws, Stephen P., Las Vegas,NV

Hecht, Charles, Citizen Alert, Las Vegas,NV

Henning, Robert A., Las Vegas,NV

Herbst, Emmet L., Holmes & Narver, Las Vegas,NV

Hofrichter, Peter B., Nye County Nuclear Project Office, Pahrump,NV

Hughes, George F., EG&G Energy Measurements,Inc., Las Vegas,NV

Jenisins, Glenn, EG&G Energy Measurements,Inc., Las Vegas,NV

Jenkins, Glenn T., EG&G Energy Measurements,Inc., Las Vegas,NV

Keller, Dale, Nevtech Services, Las Vegas,NV

Kimball, Roy A., Las Vegas,NV

Lawless, Kevin L., Raytheon Services Nevada, Mercury,NV

Leedon, Steve, U.S. Department of Energy Operations Office, Las Vegas,NV

Marelli, Michael A., U.S. Department of Energy, Las Vegas,NV

Marrs-Smith, Gayle E., Bureau of Land Management, Las Vegas,NV

McGowan, Thomas J., Las Vegas,NV

McNeill, Nancy, City of North Las Vegas, North Las Vegas,NV

McSpadoen, William K., Raytheon, Las Vegas,NV

Mendenhall, Robin L., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Meyers, Calvin, Moapa Band of Paiutes, Moapa,NV

Mithyug, Allan D., EG&G Energy Measurements,Inc., North Las Vegas,NV

Moore, Billy C., PAI, Las Vegas,NV

Morris, Jeannie, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Nielsen, Richard A., Citizen Alert, Las Vegas,NV

April 5, 1995-Las Vegas,Nevada (Continued)
Morning Sessions

Possidente, William, Las Vegas,NV

Raines, Kevin T., IUOE Local 12, Las Vegas,NV

Ramos, Esther M., The Study Committee, Logandale,NV

Rigg, James L., Las Vegas,NV

Rogers, Keith A., Las Vegas Review Journal, Las Vegas,NV

Savage, George D., Las Vegas,NV

Seidler, Paul E., Rogison/Seidler, Las Vegas,NV

Silver, Rosa, IT Corp., Las Vegas,NV

Sims, Stanley H., Nye County Nuclear Waste Project Office, Pahrump,NV

Smith, Robert A., Raytheon, Las Vegas,NV

Stewart, Reginald L., Reynolds Electrical & Engineering Company,Inc., Las Vegas,NV

Turturro, Colleen Y., Office of Congressman John Ensign, Las Vegas,NV

Tussing, Frank, Nevada Test Site Contractors Association, Las Vegas,NV

Vasconi, William, IBEW Local Union #357, Las Vegas,NV

Von Winterfeldt, Deltof, OSG, Laguna Beach,CA

Ward, Bridget G., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Wohletz, Lori A., City of Las Vegas, Las Vegas,NV

Evening Sessions

Bailey, Charles S., RSN, Las Vegas,NV

Barre, Richard, Las Vegas,NV

Beck, Thelma I., Las Vegas,NV

Bell, Ezra A., Jr., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Brandon, Regina R., Las Vegas,NV

Brown, Chris, Campaign for Nevada's Future, Las Vegas,NV

Brown, John E., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Cardenas, Linda A., IT Corporation, Las Vegas,NV

Chavez, Gerald E., Las Vegas,NV

De Leo, Michael A., Plasterers Cement Masons #797, Las Vegas,NV

DeBerry, Robert D., EG&G Energy Measurements,Inc., Henderson,NV

Eliason, Glenda, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Enger, Belinda, Las Vegas,NV

Enger, Terry, Raytheon Services, Las Vegas,NV

Evered, I. Erich, Nevada Test Site Contractors Association, Las Vegas,NV

Fine, Valerie G., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Fisher, John S., SAIC, Las Vegas,NV

Flangas, William G., Las Vegas,NV

Fletcher, Donald R., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Fogg, Darreld, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Formato, Michaelina D., Las Vegas,NV

Formato, Ralph B., Las Vegas,NV

Garhardt, Charles H., Las Vegas,NV

Gelormine, Brian T., Local #135 Insulators, Las Vegas,NV

Gertz, Carl P., U.S. Department of Energy, Nevada Operations Office, Henderson,NV

April 5, 1995-Las Vegas,Nevada (Continued)
Evening Sessions

Gillespie, Glenn, Las Vegas,NV

Gillespie, Lynnae, Las Vegas,NV

Giordano, Joseph D., Reynolds Electrical & Engineering Company, Inc., Henderson,NV

Gonzales, Daniel, Reynolds Electrical & Engineering Company, Inc.,
Las Vegas,NV

Goodnough, Gene A., IBEW #357, Las Vegas,NV

Guymon, Ronald H., Reynolds Electrical & Engineering Company,Inc., Las Vegas,NV

Haygood, Robert F., Las Vegas,NV

Hickey, Thomas J., Las Vegas,NV

Hollins, A.C., Raytheon Services, Las Vegas,NV

Holmes, Terry S., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Ivey, Francis K., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Jewett, William S., Asbestos Workers Local 135, Las Vegas,NV

Jones, Leslie L., North Las Vegas,NV

Kerschner, Harrison F., Reynolds Electrical & Engineering Company, Inc., Las Vegas,

Kramer, John, Gaithersburg,MD

Kronsbein, George W., RSN, Boulder City,NV

Leon, Steve, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Lindler, Herbert B., Las Vegas,NV

Lyman, James E., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Lyman, Rhea, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Maddox, Jackson P., EG&G Energy Measurements,Inc., Las Vegas,NV

Maul, Norman J., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

McCaffery, Robert, Lt. Governor's Office, Las Vegas,NV

McCoy, Nira J., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

McEwan, Chad D., Heat & Frost Insulators & Asbestos, Henderson,NV

McKinney, Paul D., Amargosa Valley,NV

Metta, Stephen, Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Metzger, Charles G., YMP PMO, Littleton,CO

Miller, Robert, Raytheon Services Nevada, Mercury,NV

Molnar, Edward T., Bechtel National Inc., San Francisco,CA

Myers, Jochen B., Asbestos Workers Local #135, Las Vegas,NV

Nelums, Jerry C., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Niemirow, Ernest J., Reynolds Electrical & Engineering Company, Inc., North Las Veg

Ortego, Paul K., Raytheon Services Nevada, Las Vegas,NV

Owens, Ronald, Insulators Local #135, Las Vegas,NV

Phillips, Charles R., Las Vegas,NV

Phillips, Walter, Raytheon Services, Las Vegas,NV

Pinter, Rick G., Las Vegas,NV

Quiroz, George L., Asbestos Workers Local #135, Henderson,NV

Qureshi, Asad A., RSW, Las Vegas,NV

Reese, Gary L., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Sandquist, Harold D., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

April 5, 1995-Las Vegas,Nevada (Continued)
Evening Sessions

Sasso, Barbara, EG&G Energy Measurements,Inc., Las Vegas,NV

Sasso, Louis G., EG&G Energy Measurements RSL, Las Vegas,NV

Schultz, George L., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Skarda, Bill, EG&G Energy Measurements,Inc., Las Vegas,NV

Skarda, Carey, EG&G Energy Measurements,Inc., Las Vegas,NV

Sphar, Randal D., Local #135 Insulators and Asbestos Workers, Las Vegas,NV

Swogger, Tristan I., Asbestos Heat & Frost Local #135, Las Vegas,NV

Taylor, Maxwell H., North Las Vegas,NV

Thomas, Coy D., Las Vegas,NV

Tiesenhausen, Engelbrecht, Clark County, Las Vegas,NV

Titus, Robert, Las Vegas,NV

Tuthill, Harry, Raytheon Services, Las Vegas,NV

Walker, John B., State of Nevada, Carson,NV

Walker, Larry A., RSN, Las Vegas,NV

Watson, Edward L., Africans In Favor Yucca Mountain, Las Vegas,NV

Wegst, Walt, RSN, Las Vegas,NV

Welums, Jerry C., Reynolds Electrical & Engineering Company, Inc., Las Vegas,NV

Wildmon, Sean A., Local #135, Las Vegas,NV

Williams, Danny B., Reynolds Electrical & Engineering Company, Inc., Henderson, NV

Williams, Lorraine M., Henderson,NV

Willis, Edwin H., IBEW Local 357, North Las Vegas,NV

Wojcik, Jeffrey T., Las Vegas,NV

Wolfley, Roger C., Las Vegas,NV

Woolslayer, Dodd, IBEW, Las Vegas,NV

Yowell, Ronald H., Local 12, Henderson,NV

April 5, 1995-Washington,DC
Morning Session

Airozo, Dave, McGraw-Hill, Washington,DC

Alberstein, David, General Atomics, San Diego,CA

Clements, Tom, Greenpeace, Washington,DC

Collina, Tom, ISIS, Washington,DC

Gilbert, John L., Silver Spring,MD

Hardwick, Nancy E., VECTRA, Sterling,VA

Hopkins, Laura J., National Congress of American Indians, Washington,DC

Marantis, Demetrios J., Akin Gump, Washington,DC

Monroe, Rober R., Bechtel, Washington,DC

Roth, David R., Jupiter Corporation, Wheaton,MD

Stephen, Walter P., Raytheon Engineers & Construction, New York,NY

Afternoon Session

Adler, Robert E., Arlington,VA

Kulynych, George E., Babcock & Wilcox, Lynchburg,VA

Raivel, Mary S., Argonne National Laboratory, Washington,DC

April 12, 1995-Pocatello,Idaho
Morning Session

Angle, Bruce M., Lockheed Idaho Technologies Corporation, Idaho Falls,ID

Angstadt, Peter J., City of Pocatello, Pocatello,ID

Hammond, Chad, Diversified Metal Products, Idaho Falls,ID

Jahshan, Salim N., Idaho Falls,ID

Loomis, Brandon D., Post Register, Idaho Falls,ID

Milan, Georgia A., Pocatello,ID

Olsen, Kathleen A., Pocatello,ID

Smith, Terry W., U.S. Department of Energy, Pocatello,ID

Swanson, Richard W., Argonne National Laboratory, Blackfoot,ID

Worcester, Stevens J., General Atomics, San Diego,CA

Whitworth, Lin, Idaho State Senator,District 33, Inrom,ID

Evening Session

Allen, Duane S., Laborers International Union, Arco,ID

Brailsford, Beatrice, Snake River Alliance, Pocatello,ID

Daly, Katherine R., Pocatello,ID

Dold, Ann L., Idaho National Engineering Laboratory, Boise,ID

Eccher, Daniel R., Blackfoot,ID

Elle, Jean, League of Women Voters, Pocatello,ID

Fifield, Glade T., Pocatello,ID

Finger, Dave, KIFI-TV News, Pocatello,ID

Fullmer, Larry G., Pocatello,ID

Henry, Mike J., ISU NSPE, Idaho Falls,ID

Holder, Richard H., Idaho Falls,ID

Jackson, Timothy B., Idaho State Journal, Pocatello,ID

Lengyec, Arpad L., Idaho Falls,ID

Lewis, C. Gordon, Pocatello,ID

Merriam, Kathryn C., League of Women Voters, Pocatello,ID

Proksa, Margo, Snake River Alliance, Pocatello,ID

Shipley, Diana Y., Pocatello,ID

Stroupe, Elwood, INFL, Idaho Falls,ID

Sullivan, Walt H., Idaho Falls,ID

Thomas, Anita M., Pocatello,ID

Tolman, Joshua B., Idaho State University, Pocatello,ID

Turner, Roger, Bannock Shoshone Water Quality, Pocatello,ID

Wade, Marty L., Pocatello,ID

Wells, Pete C., Pocatello,ID

Whitlock, Tollan R., Idaho Falls,ID

April 12, 1995-Oak Ridge,Tennessee
Morning Session

Burcy, William D., Oak Ridge,TN

Campbell, James E., East Tennessee Economic Council, Oak Ridge,TN

Cator, Richard D., Tennessee Department of Environment & Conservation - DOE Oversig
OakRidge,TN

April 12, 1995-Oak Ridge,Tennessee (Continued)
Morning Session

Clark, Brita, Candler,NC

Delene, Jerry G., Oak Ridge,TN

Doyle, George M., Oak Ridge,TN

Fitzgerald, Amy, Oak Ridge Local Oversight Committee, Oak Ridge,TN

Foster, James, Martin Marietta, Knoxville,TN

Hutchison, Ralph, Oak Ridge,TN

Lenhart, Joe, Oak Ridge,TN

Lenyk, Robert G., Foster Wheeler, Oak Ridge,TN

McCurdy, Harold C., Oak Ridge,TN

Miller, Joseph W., Oak Ridge,TN

Murphy-Rees, Karen I., Analysas Corporation, Knoxville,TN

Nisley, Steve S., U.S. Department of Energy Oversight Division, Oak Ridge,TN

Perry, Llewellyn L., Asheville,NC

Philippone, Richard L., Oak Ridge,TN

Phillips, P.W., U.S. Department of Energy, Oak Ridge,TN

Rector, Dale, Tennessee Department of Environment and Conservation, U.S. Department Oversight, Powell,TN

Smith, Ben L., Private Consultant, Columbia,TN

Storms, Robert A., Tennessee Department of Environment and Conservation - DOE Overs OakRidge,TN

Vansickle, Ruth E., Candler,NC

Venkatesan, Padma, Tennessee Department of Environment and Conservation - DOE Overs Knoxville,TN

Williams, Kent A., Oak Ridge National Laboratory, Oak Ridge,TN

Evening Session

Bernander, Ken, Oak Ridge,TN

Gawarecki, Susan L., League of Women Voters - Oak Ridge, Andersonville,TN

Hedgepeth, David C., Nashville Peace Action, Nashville,TN

Jolley, Robert B., Tennessee Department of Environment and Conservation - DOE Overs Rockwood,TN

Kubat, Charles H., St. Mary's Church, Oak Ridge,TN

Packan, Nicolas H., Oak Ridge,TN

Peelle, Robert W., Oak Ridge,TN

Phelps, James E., Knoxville,TN

Scott, Frank, Clinton,TN

Wike, Eva M., Nashville Davidson County Schools, Oak Ridge,TN

Wike, James S., Oak Ridge,TN

April 20, 1995-North Augusta,South Carolina
Afternoon Session

Alaimo, Gary, Westinghouse Savannah River Company, Aiken,SC

Alexander, Jack, Westinghouse Savannah River Company, North Augusta,SC

Anderson, Angelia, TMO DP WSRS, North Augusta, SC

Anyike, Lisa M., North Augusta, SC

Appel, Donald, North Augusta,SC

April 20, 1995-North Augusta,South Carolina (Continued)
Afternoon Session

Arnold, Edward, Atlanta,GA

Baggott, James B., Aiken County Council, North Augusta, SC

Baker, John L., Town of Allendale, Allendale,SC

Barnes, Robert M., Augusta,GA

Baynhan, Shannon, Aiken Standard, Aiken,SC

Bell, David R., North Augusta,SC

Bell, William E., Citizens for Nuclear Technology Awareness, Aiken,SC

Black, Danny, Tri-County Alliance, Barnwell,SC

Blanchard, John P., Georgia Bank & Trust, Groveton,GA

Blanchard, Thomas M., Blanchard Calhoun, Augusta,SC

Bloodworth, William A., Augusta College, Augusta,GA

Boettinger, William L., North Augusta,SC

Booher, Sam W., Marinez,GA

Bouknight, Elmer L., North Augusta,SC

Brantley, Dale, Savannah River Site, Warrenville,SC

Bridges, Donald N., U.S. Department of Energy, Savannah River Site, North Augusta,S

Brizes, William F., Westinghouse Savannah River Company, Aiken,SC

Brothers, Gerald W., North Augusta,SC

Brown, Donald R., North Augusta,SC

Brown, Randy L., Tritium Department, Hephzibah,GA

Brush, Benjamin J., Brush & Company, Martinez,GA

Bulfinch, Clyde W., Westinghouse Savannah River Company, Jackson,SC

Butler, Linda W., Trust Company Bank, Augusta,GA

Butler, Michael, Columbia,SC

Byrd, Helen M., Trotter Realty, North Augusta,SC

Carswell, Thomas, Augusta,GA

Casey, Joel E., North Augusta,SC

Chalmers, Patricia, Trotter Realty, North Augusta,SC

Christos, Chris, Westinghouse Savannah River Company, Augusta,GA

Ciravolo, Thomas G., Aiken,SC

Clemmens, John P., Stone & Webster, Aiken,SC

Collins, Cecil L., Sr., North Augusta,SC

Connelly, Lawrence E., Du Pont SRP, North Augusta,SC

Costner, Brian, Energy Research Foundation, Columbia,SC

Craig, Mickey W., Westinghouse Savannah River Company, Blackville,SC

Craig, Norman E., RTFP, Aiken,SC

Cribb, Sharon, West Columbia,SC

Cront, Oliver S., North Augusta,SC

Crossland, Steve C., Westinghouse Savannah River Company, Aiken,SC

Daniel, Warren A., Metro Augusta Chamber of Commerce, Augusta,GA

Davison, Fred C., Augusta, GA

Derr, Stephen M., Aiken,SC

Dominguez, Tonya C., Westinghouse Savannah River Company, North Augusta, SC

April 20, 1995-North Augusta,South Carolina (Continued)
Afternoon Session

Dorr, Patrick, Westinghouse Savannah River Company, Graniteville,SC

Dowser, Edward C., North Augusta,SC

Dunn, Moses, Union 1137 Laborer, Augusta,GA

Edward, Floyd E., Local Union 1137, Groveton,GA

Ellis, James K., Jackson,SC

Fennig, Diane M., Augusta College, Augusta,GA

Fiery, Frank C., Augusta,GA

Finch, Pat, Augusta Symphony,Inc., Augusta,GA

Flowers, John B., III, Augusta College, Augusta,GA

Fowke, James G., North Augusta,SC

Franke, William F., Jr., Augusta,GA

Franklin, Tracey, Westinghouse Savannah River Company, North Augusta,SC

Freeman, Robert N., Augusta College, Martinez,GA

Girard, Guy A., Office of Congressman Charlie Norwood, Washington,DC

Goley, Julie M., Augusta College, North Augusta,SC

Gray, Peter L., Westinghouse Savannah River Company, Aiken,SC

Grimm, Edwin, Aiken,SC

Gurosik, Clyde, Berry Plantation,Inc., North Augusta,SC

Hadden, Arthur E., Jackson,SC

Hale, Kenneth, Westinghouse Savannah River Company, Aiken,SC

Hallman, Thomas L., Aiken Chamber of Commerce, Aiken,SC

Harley, William S., North Augusta, SC

Hass, Robert A., Sonalysts,Inc., Aiken,SC

Hayes, James D., Westinghouse Savannah River Company, Barnwell,SC

Hills, Warren, LIUNA, Augusta,GA

Holmes, Frank W., North Augusta,SC

Hourihan, Michael S., Tritium Engineering, Aiken,SC

House, Elizabeth, Augusta College, North Augusta,SC

Jackson, Mike, Westinghouse Savannah River Company, Aiken,SC

Johnson, Tom A., Westinghouse Savannah River Company, Aiken, SC

Karam, Ratib A., Georgia Institute of Technology, Atlanta,GA

Killian, Gerald W., Westinghouse Savannah River Company, Aiken,SC

King, Franklin D., FDK Consultants, Aiken,SC

Loadholt, Anna G., Barnwell County Council, Barnwell,SC

Long, Franklin A., Westinghouse Savannah River Company, North Augusta,SC

Long, Robert D., Economic Development Partnership, Aiken,SC

Losey, David, Aiken,SC

Mack, William C., RCO, North Augusta,SC

Maher, Robert, Westinghouse Savannah River Company, North Augusta,SC

Manley, Anthony, Westinghouse Savannah River Company, North Augusta,SC

Mayson, William P., Augusta,GA

McCullough, Brian R., Bechtel, Aiken,SC

McDowell, Ken, Halocarbon, North Augusta,SC

April 20, 1995-North Augusta,South Carolina (Continued)
Afternoon Session

Messack, Susanne C., Aiken,SC

Meyer, Jeff, Evans,GA

Mitchell, John T., Bechtel National,Inc., San Francisco,CA

Monahan, John J., North Augusta,SC

Neary, Michael, Athens,GA

New, Steven L., BSRI, North Augusta,SC

Oruch, Tobin, Savannah River Site, Augusta,GA

Osteen, H.M., Augusta,GA

Palaniswamy, Ranga, E&CSD SRS, Evans,GA

Parker, Lane D., IUOG Local 410, Aiken,SC

Partlow, Beth, Governors Office, Columbia,SC

Pedde, Robert A., Martinez,GA

Pennington, Gregg, Jacobs Engineering, Martinez,GA

Platt, Wendell J., Westinghouse Savannah River Company, Denmark,SC

Rice, Janice W., Westinghouse Savannah River Company, Martinez,GA

Robinson, Ricky D., North Augusta,SC

Rowan, Paul, Savannah River Site, Augusta,GA

Schappell, John M., Westinghouse Savannah River Company, North Augusta,SC

Schroder, Ronald, Williston,SC

Scott, James A., Westinghouse Savannah River Company, Aiken,SC

Scott, John R., Martinez,GA

Sessions, Jill, Westinghouse Savannah River Company, Evans,GA

Shelton, Chris, Westinghouse Savannah River Company, Aiken,SC

Smith, Robert A., Westinghouse Savannah River Company, Aiken,SC

Sommer, Tom W., Augusta Technical Institute, Augusta,GA

Stanley, Gary W., Aiken,SC

Steedley, Mark E., Westinghouse Savannah River Company, Belvedere,SC

Steeman, Cornelius M., Change Management Solutions, Aiken,SC

Stevenson, Edward R., Allendale Town Council, Allendale,SC

Still, James R., Barnwell,SC

Sullivan, Richard S., Westinghouse Savannah River Company, Aiken,SC

Tanner, William G., BSRI, Martinez,GA

Tewkesbury, Rene A., Office of Congressman Lindsey Graham, Aiken,SC

Thomas, Franklin B., III, Martinez,GA

Thompson, Charles B., First Union National Bank, Appling,GA

Threatt, Lorena H., First Union National Bank, Appling,GA

Till, William B., Orangeburg,SC

Toole, William R., City of Augusta, Augusta,GA

Tripp, Lowell E., U.S. Department of Energy, Aiken,SC

Tyrrell, Mark A., North Augusta,SC

Villemain, Milton W., North Augusta,SC

Walker, John, Aiken Chamber of Commerce, Aiken,SC

Washington, Sheryl, Westinghouse Savannah River Company, Blackville,SC

April 20, 1995-North Augusta,South Carolina (Continued)
Afternoon Session

Weiss, William R., Rust Environment & Infrastructure, Aiken,SC

Wheeler, Victor, Westinghouse Savannah River Company, Aiken,SC

Widener, George M., Town of Williston, Williston,SC

Widener, Jackson K., Augusta College, Augusta,GA

Wilder, Joseph B., Barnwell,SC

Wilhelm, Doug, Aiken,SC

Wilson, W. Bruce, U.S. Department of Energy, North Augusta,SC

Wolfe, Clinton R., Aiken,SC

Wood, Keith R., Westinghouse Savannah River Company, Aiken,SC

Yates, Sandra B., Trotter Realty, North Augusta,SC

Yort, Bennett A., First Union National Bank, Augusta,GA

Evening Session

Abbott, Tom E., Aiken Small Business - Chamber, Aiken,SC

Abell, Gary E., Evans,GA

Arenson, Joel A., North Augusta,SC

Attig, Sandra W., Consul Court Property Management, North Augusta,SC

Babineau, Linda W., Aiken,SC

Babineau, William R., Westinghouse Savannah River Company, Aiken,SC

Baladi, Jean Y., Westinghouse Savannah River Company, North Augusta,SC

Baura, Shane, Site Training, Martinez,GA

Benjamin, Richard W., Westinghouse Savannah River Company, North Augusta,SC

Bigwell, Dale T., North Augusta,SC

Boyd, Richard W., U.S. Department of Energy, North Augusta,SC

Britt, Russel N., Operating Engineers Local 470, North Augusta,SC

Brown, Lance T., Martinez,GA

Burckhalyer, Joe T., Westinghouse Savannah River Company, North Augusta,SC

Bursey, Brett A., Natural Guard, Columbia,SC

Butterworth, Robert R., North Augusta City, North Augusta,SC

Campbell, Ronald M., Westinghouse Savannah River Company, Aiken,SC

Cantwell, John W., Aiken,SC

Cloninger, J. Mark, Aiken,SC

Collinan, Ralph F., Aiken,SC

Cooper, Kenneth F., Augusta,GA

Corbett, Stanley W., Bechtel Savannah River,Inc., Aiken,SC

Corcoran, Patrick J., Bechtel Savannah River,Inc., Augusta,GA

Cornell, Veronica P., U.S. Energy Corporation, Aiken,SC

Cox, George D., Westinghouse Savannah River Company, Warrenville,SC

Czerwinski, John R., Westinghouse Savannah River Company, Aiken,SC

Czerwinski, Maggie E., Aiken,SC

Davis, Robert M., Lenoir City,TN

DeLoach, Charlotte B., First Union, Augusta,GA

Drutel, Emily M., BSRI, North Augusta,GA

Erwin, William D., Westinghouse Savannah River Company, Aiken,SC

April 20, 1995-North Augusta,South Carolina (Continued)
Evening Session

Eubanks, James C., Warrenville,SC

Ferrara, Russ, Aiken,SC

Geary, Leo C., Westinghouse Savannah River Company, Augusta,GA

Geddes, Richard L., North Augusta,SC

Ghosh, Indrajit K., Evands,GA

Gould, Thomas H., Westinghouse Savannah River Company, Aiken,SC

Grove, Dennie E., Martinez,GA

Hardigree, Charles I., North Augusta,SC

Harrington, Cathy G., Westinghouse Savannah River Company, North Augusta,SC

Harrington, Timothy D., Westinghouse Savannah River Company, North Augusta,SC

Harrison, James L., Evans,GA

Marty, Westinghouse Savannah River Company, Trenton,SC

Hayes, Dennis L., North Augusta,SC

Hofstetter, Kenneth J., American Nuclear Society, Aiken,SC

Holder, Jeffrey S., Westinghouse Savannah River Company, Martinez,GA

Hooks, Donavon, North Augusta,GA

Hughes, Joe P., Bechtel, Aiken,SC

Hunter, Al W., Westinghouse Savannah River Company, Aiken,SC

Hyatt, Charles E., Westinghouse Savannah River Company, Lexington,SC

Johnson, Carl V., North Augusta,SC

Johnson, Christy, Springfield Custom Homes,Inc., Martinez,GA

Johnson, Gary M., Aiken,SC

Johnson, Gwin J., Relmax Masters & Springfield, Martinez,GA

Johnson, Marsha V., Aiken,SC

Johnston, Susan C., Metro Augusta Chamber of Commerce Board of Directors, Augusta,G

Kelley, Asa C., Trenton,SC

Kinard, Neeley, Westinghouse Savannah River Company, Aiken,SC

Knotts, Ronald E., Sr., Williston,SC

Lance, Susan E., North Augusta,SC

Lanier, Clayton M., BSRI Construction, Martinez,GA

Latta, Larry G., Westinghouse Savannah River Company, Graniteville,SC

Latta, Susan M., SAIC, Graniteville,SC

Lemon, Edward, City of Barnwell City Council, Barnwell,SC

Lindholm, Mark A., Westinghouse Savannah River Company, North Augusta,SC

Marberry, Marion H., Martinez,GA

Maryak, Matthew E., Westinghouse Savannah River Company, Martinez,GA

Maxted, Anthony, BNFL, Aiken,SC

McDonnell, William R., Westinghouse Savannah River Company, Aiken,SC

McGahee, Berny, Martinez,GA

McGee, Timothy S., Martinez,GA

Mikol, David A., North Augusta,SC

Miller, Charles F., Aiken,SC

Minnick, Robert L., Westinghouse Savannah River Company, Evans,GA

April 20, 1995-North Augusta,South Carolina (Continued)
Evening Session

Moore, Robert L., North Augusta,SC

Moyer, Murray T., Graniteville,SC

Murphy, Charles E., Aiken,SC

Myers, Lynn B., Westinghouse Savannah River Company, Aiken,SC

Myler, Charles H., Westinghouse Savannah River Company, Evans,GA

Nord, Robert U., BSRI, Martinez,GA

Osbon, Julian W., Osbon Medical Systems, Augusta,GA

Osbon, Libby S., Martinez,GA

Patterson, John R., Aiken,SC

Paulus, Gerald M., Augusta,GA

Paveglio, John W., BNFL, Inc., Aiken,SC

Poe, William Lee, Aiken,SC

Posey, Charles L., Warrenville,SC

Powell, Warren F., Jr., North Augusta,SC

Rapp, Robert E., Westinghouse Savannah River Company, Aiken,SC

Rathbun, Roy W., Westinghouse Savannah River Company, North Augusta,SC

Rathbun, Sharon S., Westinghouse Savannah River Company, North Augusta,SC

Raymond, Bruce, Westinghouse Savannah River Company, Evans,GA

Rice, Clifton W., Martinez,GA

Rivard, Caroline E., Physicians for Social Responsibility, Atlanta,GA

Rogers, Bernice C., Aiken,SC

Russell, Edward R., Evans,GA

Sakoal, Benjamin F., First Union Bank, Hephzibah,GA

Schmitz, Mark A., Westinghouse Savannah River Company, Martinez,GA

Sessions, Kevin, Westinghouse Savannah River Company, Evans,GA

Shah, Mike, Evans,GA

Sharma, Vimay C., North Augusta,SC

Shete, Sham K., Martinez,GA

Simkins, Bryan, Trotter Realty Company, Augusta,GA

Sipp, Peter F., Hephzibah,GA

Smetana, Andrew O., Augusta,SC

Smith, Ronald B., Westinghouse Savannah River Company, North Augusta,SC

Snyder, Jay S., Jackson,SC

Sossman, Carl L., Aiken,SC

Striker, Gene A., Westinghouse Savannah River Company, Martinez,GA

Tansky, Richard R., Westinghouse Savannah River Company, Aiken,SC

Taylor, Frank, Westinghouse Savannah River Company, Aiken,SC

Temple, Paulette S., Augusta,GA

Temple, Ralph D., Augusta,GA

Tharin, Low S., BSRI, North Augusta,SC

Thompson, Eric P., Lower Savannah Council of Governments, Aiken,SC

Tisaranni, Jim, Community, Aiken,SC

Toole, Mary L., Belvedere,SC

April 20, 1995-North Augusta,South Carolina (Continued)
Evening Session

Travis, John H., North Augusta,SC

Travis, Peggy, North Augusta,SC

Treadway, Kathryn, Westinghouse Savannah River Company, Aiken,SC

Trotter, John D., Trotter Builders,Inc., Augusta,GA

Varn, David W., North Augusta,SC

Walker, Robert L., Martinez,GA

Walker, Ronald E., Bechtel Savannah River,Inc., Augusta,GA

Walling, Dewey M., Aiken,SC

Walling, Elaine S., Aiken,SC

Ware, William F., Westinghouse Savannah River Company, Augusta,GA

Warren, Wilson W., Bechtel, Jesup,GA

Weiler, Robert J., Babcock & Wilcox, Charlotte,NC

Whitaker, Matthew L., Consul Court Property Management, North Augusta,SC

Wilson, Frank G., Thompson,GA

Wolff, Mark F., North Augusta,SC

Wong, James W., Westinghouse Savannah River Company, North Augusta,SC

Wong, Lorilyn S., Schwartz Business Furniture, North Augusta,SC

Yanek, Joseph R., Westinghouse Savannah River Company, Aiken,SC

April 20, 1995-Amarillo,Texas
Afternoon Session

Avara, Ev, Tetra Tech,Inc., Amarillo,TX

Banner, Edwin C., Battelle Pantex, Amarillo,TX

Belisle, Mavis, Peace Farm, Panhandle,TX

Black, Cecil, Tetra Tech,Inc., Albuquerque,NM

Clemens, Carlton F., Carlton Clemens Realtor, Amarillo,TX

Coffee, Doug, Pampa,TX

Coffey, Dan, City of Amarillo, Amarillo,TX

Dalton, Pat, Mason & Hanger - Silas Mason Co., Inc., Amarillo,TX

Daniel, Louise, Pantex Plant Citizen Advisory Board, Amarillo,TX

Darrow, Gordon R., Amarillo,TX

Dewey, Amy E., Senator Teel Bivins Office, Amarillo,TX

Emeny, Mary T., Bushland,TX

Erben, Randall H., Panhandle 2000, Austin,TX

Everline, Chester J., La Jolla,CA

Forsythe, Larry, LAMB Associates,Inc., Amarillo,TX

George, Frank W., Jr., Metal Trades Council, Amarillo,TX

Green, Donald L., Plumbers & Pipefitters Local Union #196, Amarillo,TX

Halliday, Thomas, Amarillo,TX

Heim, David L., DLH & Associates, Amarillo,TX

Honea, Joe H., Battelle Pantex, Amarillo,TX

Hood, Jean C., Amarillo,TX

Hood, Odie A., Amarillo,TX

Jeans, Carl E., Southwest Public Service, Amarillo,TX

April 20, 1995-Amarillo,Texas (Continued)
Afternoon Session

Johnson, Harry P., Mason & Hanger, Fritch,TX

Kearney, Michael J., Roy F. Weston,Inc., Albuquerque,NM

Kelley, Calista L., Amarillo,TX

King, Henry H., Amarillo,TX

Madden, Wales, Jr., Panhandle 2000, Amarillo,TX

Martilletti, Joseph, Texas Department of Health, Austin,TX

Martin, Michael A., Southwestern Public Service, Amarillo,TX

Massingill, Harry, III, Radioactive Waste Dump Environmental Action League, Austin,

McBride, Jim, Amarillo Globe-News, Amarillo,TX

Neri Zagal, Rebecca, Weston, Albuquerque,NM

Neusch, Trish, Panhandle,TX

Patterson, Tom, Amarillo Chamber of Commerce, Amarillo,TX

Petraglia, Jeff, Tetra Tech,Inc., Amarillo,TX

Pollet, John, Holmes & Narver,Inc., Orange,CA

Pratt, Cary, Mason & Hanger, Claude,TX

Price, Denise C., Amarillo Association of Realtors, Amarillo,TX

Raffkind, George, Amarillo,TX

Roulston, Robert K., Amarillo,TX

Saunders, Guyon, Amarillo,TX

Seewald, William H., Amarillo,TX

Sell, George, First Bank Southwest, Amarillo,TX

Smith, Doris, PANAL, Panhandle,TX

Tucker, Tracy C., STAND of Amarillo, Amarillo,TX

Vonmetzer, Garet, Globe News, Amarillo,TX

Wilks, David M., Southwestern Public Service, Amarillo,TX

Williams, C.E., Panhandle Ground Water, White Deer,TX

Witcher, David, Borger Economic Development Corporation, Borger,TX

Evening Session

Barber, Danelle S., U.S. Representative Larry Combes, Amarillo,TX

Bass, Robert L., Chamber of Commerce, Amarillo,TX

Beleic, Sharon M., Mason & Hanger, Amarillo,TX

Berman, Herbert S., Amarillo,TX

Blakley, John F., Jr., Amarillo,TX

Bourn, Michael R., Amarillo Economic Development Corporation, Amarillo,TX

Bowman, W.A., Pantex Plant, Amarillo,TX

Brown, Michelle F., Battelle Pantex, Canyon,TX

Bryant, Fred C., Lubbock,TX

Cantwell, James C., Battelle Pantex, Amarillo,TX

Creeden, Daniel, Amarillo,TX

Creeden, Guwan H., Amarillo,TX

Criste, Tamara A., Battelle Pantex, Amarillo,TX

Dabney, Henry O., Amarillo,TX

April 20, 1995-Amarillo,Texas (Continued)
Evening Session

Dabney, Martha R., Amarillo,TX

Dalton, Don D., Amarillo,TX

Deaver, Boyd E., Texas Natural Resource Conservation Committee, Amarillo,TX

DeLoach, Jay A., Defense Nuclear Facility Safety Board, Amarillo,TX

Edmondson, Richard, State of Texas, Amarillo,TX

Enge, Roby D., Amarillo,TX

Fairrow, Nannette L., Pantex Plant, Amarillo,TX

Ferguson, Sandra A., Amarillo,TX

Gattis, Beverly E., STAND of Amarillo, Amarillo,TX

Glasscock, Denis J., Amarillo,TX

Hills, Charles R., Pantex Plant, Amarillo,TX

Jones, Bradley B., Texas Natural Resources Commission, Amarillo,TX

Keener, Carla, Hereford,TX

King, Carl L., Texas Corn Growers, Dimmitt,TX

Luce, James K., M.D., Harrington Regional Medical, Amarillo,TX

MacLiver, Jadine L., KFDA-TV, Amarillo,TX

Massie, Pam R., Mason & Hanger, Amarillo,TX

McKee, Mike T., Microase, Amarillo,TX

Medina, Socorro M., Pantex Plant Citizen Advisory Board, Amarillo,TX

Moore, Don L., Mason & Hanger, Amarillo,TX

Mousey, William E., Amarillo,TX

Osborne, Jim W., and Jeri R., Panhandle,TX

Padilla, Patrick A., Amarillo,TX

Paul, George E., Amarillo,TX

Price, Carolyn B., Amarillo,TX

Scott, Dick, Amarillo,TX

Strickland, Stacey J., Sonalysis,Inc., Amarillo,TX

Vance, Eddy, Texas Natural Resource Conservation Council, Amarillo,TX

Von Eschen, Robert L., Mason & Hanger, Amarillo,TX

Walterman, Tony, Amarillo,TX

Willhite, Martin B., Mason & Hanger, Amarillo,TX

Williams, Gary E., Amarillo,TX

Willis, Estella, Borger,TX

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Banks, Bobbie Wrenn, Decatur, Georgia	TSR-NM-032	2-400
Barre, Richard, Las Vegas, NV	TSR-M-028	2-154
Bedenbaugh, E. Todd, Barnwell, SC	TSR-PC-004	2-367
Beers, Frank T., III, P.E., Mercury, NV	TSR-M-022	2-147
Bell, Mary Lynn, Muleshoe, TX	TSR-M-127	2-239
Belzer, Frederick F., Attorney at Law, Pocatello, ID	TSR-M-111	2-217
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ABB Combustion Engineering, George A. Davis, Project Manager, Windsor, CT	TSR TSR TSR TSR TSR
Aiken City Council, Russ Ferrara, Councilman, Aiken, SC	TSR TSR TSR
Aiken County, William M. Shepherd, County Administrator, Aiken, SC	TSR
Alliance for Justice, Mary Louise Lynch, Helen Scheel, Baltimore, MD	TSR
Alternatives to Violence, Daaz, Worcester, MA	TSR

Amarillo Economic Development Corporation, Michael R. Bourn, Executive Director, George Raffkind, President, Amarillo, TX TSR

Amarillo Globe-News, Garet Von Netzer, Publisher, Amarillo, TX TSR

Amarillo National Bank, Bill Ware, Executive Vice-President, Richard Ware, II, President, Amarillo, TX TSR TSR

Atlanta Women's Action for New Directions, Bobbie Wrenn Banks TSR

City of Amarillo, Kel Seliger, Mayor, John Q. Ward, City Manager, Amarillo, TX TSR

County of Allendale, H.W. Priester, Jr., Administrator, Allendale, SC TSR

American Nuclear Society Oak Ridge/Knoxville Section, David L. Moses, Ph.D., P.E., Oak Ridge, TN TSR TSR TSR TSR

Anderson Merchandisers, Frank O. Nelson, Vice-President, Amarillo, TX TSR

Argonne National Laboratory, A. DeVolpi, Physicist, Argonne, IL TSR

Atomic Trades and Labor Council, David Ellis, Chief Steward for Refrigeration Mechanics at X-10, Andersonville, TN TSR

Augusta College, William L. Boettinger, North Augusta, SC TSR

Barnwell City Council, H.C. Sanders, Mayor, Albert P. Black, Herman L. Black, Edward Leruon, Charlie L. Seay, Barnwell, SC TSR

Barnwell County Council, Anna G. Loadholt, Barnwell, SC TSR

Bechtel National, Robert W. Braddy, Project Manager, Danville, CA TSR

Boatmens First National Bank, Joe M. Stange, Amarillo, TX TSR

Boston Architectural Center, Curt Lamb, Boston, MA TSR

BSRI, Jay S. Snyder, SC TSR

Catholic Worker House of Hospitality, Don Timmerman, Milwaukee, WI TSR

Citizens for Clean Air & Water, Paul Sacco, Ph.D., Rock Hill, SC TSR

Citizens for Nuclear Technology Awareness, Michael Butler, Executive Director Columbia, SC TSR TSR

Citizens for Nuclear Technology Awareness, William Reinig, Vice-Chairman, Columbia, SC TSR

City of Oak Ridge, Environmental Quality Advisory Board, Ellen Smith, Chairperson, Oak Ridge, TN TSR

Columbia County New Horizons Board of Commissioners, Patrick K. Farr, Sr., Chairman, Evans, GA TSR

County of Nye, Board of County Commissioners, Cameron McRae, Chairman, Richard Carver, Vice-Chairman, Ira Copass, Bill Copeland, W. Ways Perkins, Tonopah, NV TSR

Dana-Farber Cancer Institute, Arnold Freedman, Boston, MA TSR

Eco-Watch/Sonoma, Julianne Don, Fred Ensley, Lucy Nelson, C.R. Ronner, TSR

Madeleine Sone, Larry Weiss, Kimberly Witcher, Sebastopol, CA	
Egan & Associates, P.C., Joseph R. Egan,	TSR
Energy Research Foundation, Brian Costner, Director, Columbia, SC	TSR TSR TSR
FASCO, Bob Patton, Las Vegas, NV	TSR
FERMCO, Erich Evered, Las Vegas, NV	TSR
First Realty of Aiken, SC	TSR
General Atomics Power Reactor Group, A.J. Neylan, Vice-President, Power Reactor Group, San Diego, CA	TSR
General Electric Nuclear Energy, Edward Ehrlich, Project Manager, Advanced Reactor Programs, San Jose, CA	TSR TSR TSR
Georgia Power, W.G. Hairston III, Executive Vice-President, Nuclear Operations, Atlanta, GA	TSR TSR TSR
Greenpeace, Tom Clements, Washington, DC	TSR
Herbert Homes Inc., Mark Herbert, Augusta, GA	TSR
Hickory Nut Gap Farm, Elspeth M. Clarke, Fairview, NC	TSR
Home Builders Association of GA, Chris Boweles, Augusta, GA	TSR
League of Women Voters, Jean Elle, Pocatello, ID	TSR
Los Alamos County, Alex Georgieff, Deputy Administrator, Los Alamos, NM	TSR
Los Alamos Study Group, Greg Mello, Santa Fe, NM	TSR
Metal Trades Council, Frank W. George, Jr., Amarillo, TX	TSR
NAC International, John R. Patterson, Director, Aiken, SC	TSR
Nashville Peace Action, David Hedgepeth, Nashville, TN	TSR
The National Association of Home Builders, Berny McGahee, Martinez, GA	TSR TSR
National Center for Environmental Health, Kenneth W. Holt, M.S.E.H., Robert C. Whitcomb, Jr., Physical Scientist, Atlanta, GA	TSR
National Coalition to Stop Food Irradiation, Alan Horn, Burlingame, CA	TSR
National Congress of American Indians, Laura Hopkins, Washington, DC	TSR
Natural Resources Defense Council, Christopher E. Paine, Senior Research Associate, Washington, DC	TSR TSR
Natural Resources Defense Council, Jean Reynolds,	TSR
Neely, Craig and Walton, Steve Walton, Amarillo, TX	TSR
New Age Concerns, John C. Haas, Villanova, PA	TSR

Nevada Alliance for Defense, Energy, and Business, Troy E.Wade, Chairman, Las Vegas, NV	TSR
Nevada Department of Administration, Julie A. Butler, Coordinator State Clearinghouse, Carson City, NV	TSR
North Augusta, Thomas W. Greene, Mayor of North Augusta, North Augusta, SC	TSR
Nuclear Control Institute, Washington, DC	TSR
Nuclear Control Institute, Paul Leventhal, President, Washington, DC	TSR
Nuclear Waste Repository Project Office, Les Bradshaw, Manager, Nye County Defense Operations, Tonopah, NV	TSR TSR
Paddock & Mastin, Attorneys at Law, Mary Mastin, Brian Paddock, Cookeville, TN	TSR
Pahrump Economic Development Task Force, Ann Ward, Chair, Pahrump, NV	TSR
PANAL, Doris Smith, Panhandle, TX	TSR
PANAL, Doris and Phillip Smith, Panhandle, TX	TSR TSR
Panhandle Ground Water Conservation District No. 3, C.E.Williams, General Manager, White Deer, TX	TSR TSR
Panhandle 2000, Jerry Johnson, Wales Madden, Jr., Amarillo, TX	TSR
Peace Resource Project, Sherri Green, Rick Levin, Arcata, CA	TSR
People to Prevent a Texas Chernobol, John Dolley, Austin, TX	TSR
PPCAB, Louise Daniel, Amarillo, TX	TSR
Physicians for Social Responsibility, Tracy A. McCaffery, Senior Research Analyst, Washington, DC	TSR TSR TSR
Physicians for Social Responsibility, Western North Carolina, Lewis E. Patrie, M.D., M.P.H., Ashville, NC	TSR
Raytheon Services, Harold Begley, Boulder City, NV	TSR
The Real Estate Shoppe Inc., Pam Griffin, Aiken, SC	TSR
Reynolds Electrical & Engineering Co. Inc., Danny B.Williams, Division Quality Coordinator, Las Vegas, NV	TSR
Sacred Heart Monastery, Mary McGehee, Cullman, AL	TSR
Savannah River Site, Marvin Weimer, Aiken, SC	TSR
Save Our World, Marjorie Leonard, Director, Sag Harbor, NY	TSR
Scottco, William B. Martin, Amarillo, TX	TSR
Scripps Consulting Group Inc., Glenn Niblock, San Diego, CA	TSR TSR
Sierra Club Nuclear Waste Task Force, John Winchester, Ph.D., Chairman, Tallahassee, FL	TSR

Shoshone Bannock Tribe, Diana K. Yupe, Ft. Hall, ID TSR

South Carolina, David M. Beasley, Governor, Columbia, SC TSR

South Carolina, House of Representatives, J. Roland Smith, South Carolina 84th District, Langley, SC TSR

South Carolina Department of Agriculture, David Thompkins, Assistant Commissioner, Columbia, SC TSR

South Carolina Department of Health & Environmental Control, Division of Radioactive Waste, Virgil Autry, Director, Columbia, SC TSR

South Carolina Department of Health and Environmental Control, Planning and Federal Certification, Robert D. Mikell, Director, Charleston, SC TSR TSR

South Carolina Department of Probation, Parole, & Pardon Services, Richard P. Stroker, Deputy Director for Field Services, Columbia, SC TSR

South Carolina Employment Security Commission, Robert E. David, Executive Director, Columbia, SC TSR

South Carolina Office of the Adjunct General, George J. Schneider, Assistant Director, Columbia, SC TSR

South Carolina Office of Community Grant Program, Olney England, Columbia, SC TSR

South Carolina State Ports Authority, Larry W. Setzler, Engineering Project Manager, Columbia, SC TSR

South Carolina Wildlife and Marine Resources Department, Robert E. Duncan, Environmental Programs Director, Columbia, SC TSR

South-Central Nevada Federal Complex Advisory Board, Wade Barton, Chairman, Tonopah, NV TSR TSR

Southwestern Public Service Company, William J. Crenshaw, Amarillo, TX TSR

Southwestern Public Service Company, David M.Wilks, Senior Vice-President, Amarillo, TX TSR TSR

Space-PSI, R.P. Borsody, Senior Consultant, Redan, GA TSR

SPS Panhandle 2000, Bill Helton, Amarillo, TX TSR

STAND/Peace Farm, Marcia A. Keevan, Amarillo, TX TSR

Stanford Watch, Lynn Sims, Portland, OR TSR

State of Idaho Oversight Program, Bob Ferguson, Administrator, Boise, ID TSR

State Senate of South Carolina, Thomas Moore, Senator, Clearwater, SC TSR

State Senate of Texas, Teel Bivins, Senator, Amarillo, TX TSR

State Senate of Texas, Tom Haywood, Senator, Austin, TX TSR TSR

Tennessee Department of Environment and Conservation, Earl Leming, Director, Oak Ridge, TN TSR TSR

Tennessee Historical Commission, Herbert L. Harper, Executive Director, Nashville, TN	TSR
Tennessee Valley Authority, James S. Blackburn, Acting NA&L Director, Hollywood, AL	TSR
Texas Corn Growers Association, Lois Wales, Dimmitt, TX	TSR
Texas House of Representatives, Warren Chisum, State Representative from Texas, Austin, TX	TSR
Texas House of Representatives, John Smithee, State Representative from Texas, Amarillo, TX	TSR
Texas House of Representatives, David Swinford, State Representative from Texas, Dumas, TX	TSR
Texas Office of State - Federal Relations, T. C. Adams, State Single Point of Contact, Austin, TX	TSR
Texas Nuclear Responsibility Network, Ellen Barfield, Dallas, TX	TSR
Texas Nuclear Waste Task Force, Hereford, TX	TSR
Thomas Merton Center, Molly Rush, Pittsburgh, PA	TSR
Tri County Alliance, Jim Kearse, Chairman Barnwell County Council, Barnwell, SC	TSR
Trotter Realty, David N. Barnes, Appling, GA	TSR
Ultra Energy Project, Mary Ellen Bowen, Summertown, TN	TSR
Underwood Wilson Berry Stein & Johnson, P.C., Richard F. Brown, Amarillo, TX	TSR
University of North Carolina, Dot Sulock, Math Department, Asheville, NC	TSR
U.S. Department of Agriculture, Luana Kiger, State Conservationist, Boise, ID	TSR
U.S. Department of Energy, Dale Brantley, Warrenville, SC	TSR
U.S. Department of the Interior, Martin Chattah, Las Vegas, NV	TSR
U.S. Environmental Protection Agency, Richard Sanderson, Director, Office of Federal Activities, Washington, DC	TSR
U.S. House of Representatives, Larry Combest, U.S. Representative for Texas, Washington, DC	TSR
U.S. House of Representatives, Arthur Ravenel, Jr., U.S. Representative for South Carolina, Washington, DC	TSR
U.S. Senate, Richard H. Bryan, U.S. Senator for Nevada, Washington, DC	TSR
U.S. Senate, Phil Gramm, U.S. Senator for Texas, Washington, D.C.	TSR
U.S. Senate, Kay Bailey Hutchison, U.S. Senator for Texas, Washington, DC	TSR
U.S. Senate, Harry Reid, U.S. Senator for Nevada, Washington, DC	TSR
U.S. Senate, Strom Thurmond, U.S. Senator for South Carolina, Washington, DC	TSR

Utility Engineering Corp., Steven Fruscella, Amarillo, TX	TSR
Westinghouse, William Brizes, Aiken, SC	TSR
Westinghouse Electric Corporation, Mike Travis, Manager, Pittsburgh, PA	TSR TSR
Westinghouse Hanford Company, Walter D. Blair, Hanford Advisory Board, Richland, WA	TSR
Westinghouse Savannah River Company, Daniel C. Wood, Aiken, SC	TSR
Wiley Hicks Jr. Inc., James P. Hicks, President, Amarillo, TX	TSR
Williams Ranch, Jim Williams, Panhandle, TX	TSR
Williston Town Council, Thomas R. Ruillo, Mayor, Michael Bayoun, Michael Duncan, Phil Frederick, Penny Halus, Billie Jean Spraus, D. Milton Widener, Williston, SC	TSR

Table 1.3-5.-Comment Document and Summary Locator [Page 1 of 25]

Document Number	Comment Number	Issue Code	Summary Page Number	Comment Document Page Number
TSR-E-001	001	18.05	3-141	2-40
TSR-E-002	001	15.03	3-129	2-40
TSR-F-001	001	03.08	3-11	2-41
-	002	11.00.16	3-54	2-41
-	003	03.09	3-11	2-41
TSR-F-002	001	08.02	3-29	2-41
TSR-F-003	001	08.02	3-29	2-42
TSR-F-004	001	14.02	3-126	2-42
-	002	20.06	3-145	-
TSR-F-005	001	13.06.01	3-120	2-43
TSR-F-006	001	13.06.01	3-120	2-43
TSR-F-008	001	18.01	3-139	2-44
TSR-F-009	001	13.09.01	3-123	2-44
TSR-F-010	001	13.04.08	3-114	2-45
-	002	13.06.01	3-120	-
TSR-F-012	001	13.09.01	3-123	2-45
-	002	13.00.38	3-94	-

-	003	18.01	3-139		-
TSR-F-013	001	20.07	3-145	2-46	
TSR-F-014	001	13.00.01	3-79	2-46	
-	002	18.01	3-139		-
-	003	11.00.36	3-60		-
-	004	18.13	3-142		-
-	005	06.04	3-23		-
-	006	20.01	3-144		-
TSR-F-016	001	13.00.63	3-103	2-47	
-	002	13.00.64	3-103		-
-	003	18.10	3-141		-
-	004	14.07	3-127		-
-	005	16.24	3-137		-
-	006	16.25	3-137		-
-	007	16.26	3-137		-
-	008	13.00.65	3-103		-
-	009	22.03	3-147		-
-	010	13.00.19	3-87		-
-	011	13.00.51	3-98		-
-	012	16.27	3-138		-
-	013	16.28	3-138		-
-	014	16.29	3-138		-
-	015	13.00.43	3-95		-
-	016	14.01	3-125		-
-	017	18.15	3-142		-
-	018	13.00.40	3-94		-
-	019	18.15	3-142		-
-	020	16.30	3-138		-
-	021	13.00.34	3-92		-
-	022	22.03	3-147		-
TSR-F-017	001	16.01	3-130	2-49	
TSR-F-018	001	13.08.01	3-122	2-51	

TSR-F-019	001	13.08.01	3-122	2-51	
TSR-F-020	001	13.00.33	3-92	2-52	
-	002	13.08.01	3-122		-
TSR-F-021	001	13.06.01	3-120	2-52	
-	002	13.06.01	3-120		-
-	003	21.01	3-146		-
-	004	13.04.01	3-111		-
TSR-F-022	001	11.00.33	3-59	2-53	
-	002	11.00.34	3-59		-
-	003	11.00.37	3-60		-
TSR-F-024	001	13.04.01	3-111	2-54	
-	002	13.06.01	3-120		-
TSR-F-027	001	18.01	3-139	2-55	
TSR-F-029	001	13.08.01	3-122	2-55	
-	002	06.01	3-22		-
-	003	04.02.01	3-12		-
-	004	09.03	3-37		-
-	005	13.04.01	3-111		-
TSR-F-030	001	19.01	3-143	2-57	
-	002	18.15	3-142		-
-	003	13.00.01	3-79		-
-	004	22.01	3-146		-
-	005	15.01	3-128		-
-	006	13.00.07	3-83		-
-	007	16.21	3-136		-
TSR-F-031	001	06.14	3-27	2-58	
-	002	06.15	3-27		-
-	003	13.04.01	3-111		-
-	004	15.09	3-130		-
TSR-F-032	001	18.15	3-142	2-58	
-	002	13.00.01	3-79		-
-	003	19.01	3-143		-

-	004	16.14	3-134		-
-	005	13.00.55	3-99		-
-	006	18.08	3-141		-
-	007	13.00.09	3-83		-
-	008	08.10	3-32		-
-	009	16.21	3-136		-
-	010	13.00.16	3-85		-
-	011	18.01	3-139		-
-	012	11.01.03	3-61		-
-	013	18.15	3-142		-
TSR-F-033	001	10.18	3-43	2-66	
-	002	08.13	3-34		-
-	003	04.02.02	3-13		-
-	004	02.06	3-7		-
-	005	13.06.01	3-120		-
TSR-F-034	001	18.01	3-139	2-68	
TSR-F-035	001	15.01	3-128	2-68	
-	002	16.05	3-132		-
-	003	13.09.01	3-123		-
TSR-F-036	001	13.08.01	3-122	2-69	
-	002	16.14	3-134		-
-	003	02.04	3-6		-
-	004	04.02.01	3-12		-
-	005	13.00.10	3-84		-
-	006	01.06	3-2		-
-	007	01.07	3-3		-
-	008	02.04	3-6		-
-	009	01.08	3-3		-
-	010	11.00.25	3-57		-
-	011	03.04	3-10		-
-	012	04.02.01	3-12		-
-	013	05.04	3-21		-

-	014	06.13	3-26	-
-	015	06.05	3-23	-
-	016	07.05	3-29	-
-	017	10.10	3-41	-
-	018	13.04.18	3-116	-
TSR-F-037	001	18.08	3-141	2-84
-	002	18.01	3-139	-
-	003	16.14	3-134	-
TSR-F-038	001	18.01	3-139	2-95
-	002	20.01	3-144	-
-	003	13.00.16	3-85	-
-	004	13.00.01	3-79	-
TSR-F-040	001	13.00.44	3-95	2-96
-	002	13.00.45	3-95	-
-	003	13.00.46	3-96	-
-	004	13.03.03	3-108	-
-	005	13.03.04	3-109	-
-	006	14.01	3-125	-
TSR-F-041	001	13.07.02	3-122	2-96
-	002	12.05	3-77	-
-	003	08.15	3-34	-
TSR-F-043	001	13.06.01	3-120	2-97
TSR-F-046	001	13.04.03	3-112	2-98
-	002	13.00.21	3-88	-
-	003	13.00.02	3-79	-
-	004	11.02.04	3-71	-
-	005	13.00.02	3-79	-
-	006	13.04.02	3-111	-
-	007	13.04.07	3-113	-
-	008	13.04.28	3-119	-
-	009	18.04	3-140	-
-	010	14.01	3-125	-

-	011	16.07	3-133	-
-	012	14.01	3-125	-
-	013	13.04.03	3-112	-
-	014	13.05.03	3-120	-
-	015	08.10	3-32	-
-	016	13.00.58	3-99	-
-	017	13.04.07	3-113	-
-	018	02.03	3-5	-
-	019	13.04.03	3-112	-
-	020	13.03.07	3-109	-
-	021	13.03.11	3-111	-
-	022	13.03.12	3-111	-
-	023	13.04.03	3-112	-
-	024	04.02.02	3-13	-
-	025	11.00.08	3-51	-
-	026	13.00.61	3-102	-
-	027	05.05	3-21	-
-	028	11.00.10	3-52	-
-	029	13.00.05	3-81	-
-	030	13.04.21	3-117	-
-	031	13.00.35	3-92	-
-	032	13.04.07	3-113	-
-	033	11.00.15	3-54	-
-	034	13.03.10	3-110	-
-	035	13.03.09	3-110	-
-	036	11.00.19	3-55	-
-	037	13.00.62	3-103	-
-	038	11.02.07	3-72	-
TSR-F-047	001	16.07	3-133	2-101
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-	003	02.04	3-6	-
-	004	13.00.31	3-91	-

-	005	13.09.01	3-123	-
TSR-F-048	001	16.31	3-138	2-102
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-	003	11.00.02	3-50	-
TSR-F-049	001	13.04.01	3-111	2-104
-	002	13.00.39	3-94	-
-	003	12.03	3-75	-
-	004	16.23	3-137	-
-	005	10.37	3-49	-
-	006	11.02.06	3-72	-
-	007	12.08	3-77	-
-	008	11.01.19	3-67	-
-	009	03.03	3-10	-
-	010	06.11	3-25	-
-	011	04.02.06	3-16	-
-	012	06.06	3-24	-
-	013	06.09	3-24	-
-	014	04.02.09	3-18	-
-	015	02.07	3-7	-
-	016	04.01.04	3-12	-
-	017	08.09	3-32	-
-	018	03.05	3-11	-
-	019	04.02.04	3-14	-
-	020	06.09	3-24	-
-	021	04.02.01	3-12	-
-	022	10.34	3-47	-
-	023	04.02.02	3-13	-
-	024	17.05	3-139	-
-	025	08.21	3-36	-
-	026	08.22	3-36	-
TSR-F-050	001	18.01	3-139	2-108
-	002	19.01	3-143	-

TSR-H-001	001	18.01	3-139	2-109
TSR-H-002	001	18.01	3-139	2-109
-	002	19.01	3-143	-
TSR-H-003	001	13.00.05	3-81	2-110
-	002	13.09.01	3-123	-
TSR-H-004	001	13.09.01	3-123	2-110
TSR-H-005	001	20.01	3-144	2-111
TSR-H-006	001	18.01	3-139	2-111
TSR-H-007	001	18.01	3-139	2-112
TSR-H-008	001	13.09.01	3-123	2-113
TSR-H-009	001	13.09.01	3-123	2-114
TSR-H-010	001	13.09.01	3-123	2-114
TSR-H-011	001	13.09.01	3-123	2-115
-	002	13.00.05	3-81	-
TSR-H-012	001	13.00.05	3-81	2-116
-	002	13.09.01	3-123	-
TSR-H-013	001	13.01.04	3-105	2-116
TSR-H-014	001	13.09.01	3-123	2-117
TSR-H-015	-	No comment identified	-	2-117
TSR-H-016	001	13.09.01	3-123	2-118
TSR-H-017	001	13.09.01	3-123	2-118
-	002	13.00.37	3-93	-
TSR-H-018	001	11.00.17	3-54	2-119
TSR-H-019	001	13.09.01	3-123	2-119
TSR-H-020	001	13.09.01	3-123	2-120
TSR-H-021	001	13.09.01	3-123	2-121
TSR-H-022	001	13.09.01	3-123	2-122
TSR-H-023	001	13.09.01	3-123	2-122
TSR-H-024	001	13.09.01	3-123	2-123
-	002	13.00.05	3-81	-
TSR-H-025	001	13.04.11	3-114	2-124
-	002	16.12	3-133	-

-	003	02.04	3-6		-
TSR-H-026	001	13.09.01	3-123	2-124	
-	002	13.00.05	3-81		-
TSR-H-027	001	13.00.27	3-90	2-126	
-	002	13.09.01	3-123		-
TSR-H-028	001	19.03	3-144	2-127	
-	002	08.04	3-30		-
-	003	13.09.01	3-123		-
-	004	10.04	3-40		-
TSR-H-029	001	13.00.05	3-81	2-127	
TSR-H-030	001	13.01.03	3-105	2-128	
-	002	10.28	3-46		-
-	003	16.08	3-133		-
-	004	16.13	3-134		-
-	005	13.00.22	3-88		-
-	006	11.02.01	3-70		-
-	007	22.03	3-147		-
TSR-H-031	001	13.09.01	3-123	2-129	
TSR-H-032	001	13.04.07	3-113	2-130	
TSR-H-034	001	13.00.38	3-94	2-130	
-	002	04.02.01	3-12		-
-	003	02.04	3-6		-
TSR-H-035	001	16.06	3-132	2-131	
TSR-H-036	001	19.01	3-143	2-131	
TSR-H-038	001	13.08.01	3-122	2-132	
-	002	14.03	3-127		-
-	003	14.09	3-128		-
TSR-H-039	001	01.01	3-1	2-132	
-	002	04.02.01	3-12		-
-	003	18.01	3-139		-
TSR-H-040	001	13.08.01	3-122	2-133	
-	002	06.17	3-27		-

-	003	08.11	3-33		-
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-	005	04.02.01	3-12		-
-	006	07.04	3-29		-
-	007	02.01	3-4		-
-	008	08.10	3-32		-
-	009	04.02.10	3-18		-
TSR-H-041	001	18.04	3-140	2-134	
TSR-H-042	001	18.04	3-140	2-135	
TSR-H-043	001	13.00.17	3-85	2-135	
TSR-M-001	001	18.01	3-139	2-136	
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-	003	13.00.01	3-79		-
TSR-M-002	001	18.01	3-139	2-136	
TSR-M-004	001	13.00.01	3-79	2-137	
-	002	20.01	3-144		-
TSR-M-005	001	13.08.01	3-122	2-137	
TSR-M-006	001	08.02	3-29	2-138	
TSR-M-008	001	13.00.01	3-79	2-138	
TSR-M-009	001	13.07.01	3-122	2-139	
TSR-M-010	001	20.09	3-145	2-139	
-	002	13.09.04	3-124		-
TSR-M-011	001	13.00.01	3-79	2-141	
-	002	20.01	3-144		-
TSR-M-012	001	10.24	3-45	2-141	
-	002	04.02.01	3-12		-
-	003	01.01	3-1		-
-	004	06.01	3-22		-
TSR-M-013	001	08.02	3-29	2-142	
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TSR-M-014	001	15.01	3-128	2-142	
TSR-M-015	001	16.07	3-133	2-143	

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-	004	13.00.05	3-81	-
-	005	11.00.08	3-51	-
-	006	13.00.35	3-92	-
-	007	13.00.60	3-101	-
-	008	13.03.02	3-108	-
TSR-M-016	001	14.04	3-127	2-144
TSR-M-017	001	13.06.01	3-120	2-145
TSR-M-019	001	18.01	3-139	2-146
-	002	13.00.01	3-79	-
TSR-M-020	001	13.06.01	3-120	2-146
TSR-M-021	001	08.02	3-29	2-147
TSR-M-022	001	11.00.10	3-52	2-147
TSR-M-023	001	22.01	3-146	2-148
-	002	09.09	3-38	-
-	003	13.09.02	3-124	-
-	004	13.09.07	3-125	-
TSR-M-024	001	16.06	3-132	2-150
-	002	22.01	3-146	-
-	003	14.01	3-125	-
-	004	15.04	3-129	-
TSR-M-025	001	13.04.17	3-116	2-150
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-	003	13.04.05	3-113	-
-	004	08.02	3-29	-
TSR-M-026	001	18.05	3-141	2-153
-	002	13.06.01	3-120	-
TSR-M-027	001	18.01	3-139	2-153
-	002	13.00.01	3-79	-
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TSR-M-029	001	13.06.01	3-120	2-154

-	002	13.04.01	3-111		-
TSR-M-030	001	13.06.01	3-120	2-155	
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TSR-M-031	001	13.06.01	3-120	2-155	
TSR-M-032	001	18.01	3-139	2-156	
TSR-M-033	001	18.01	3-139	2-157	
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-	003	19.01	3-143		-
-	004	18.01	3-139		-
-	005	13.00.01	3-79		-
TSR-M-034	001	13.00.16	3-85	2-157	
TSR-M-035	001	13.00.01	3-79	2-158	
TSR-M-036	001	13.00.01	3-79	2-158	
TSR-M-037	001	14.02	3-126	2-159	
-	002	13.00.01	3-79		-
TSR-M-038	001	13.00.01	3-79	2-159	
TSR-M-039	001	19.01	3-143	2-160	
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TSR-M-040	001	13.08.01	3-122	2-160	
TSR-M-041	001	18.01	3-139	2-161	
-	002	19.01	3-143		-
TSR-M-042	001	19.01	3-143	2-161	
-	002	18.01	3-139		-
TSR-M-043	001	18.01	3-139	2-162	
TSR-M-044	001	15.01	3-128	2-162	
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-	003	14.03	3-127		-
-	004	13.08.01	3-122		-
-	005	14.09	3-128		-
TSR-M-045	001	13.08.01	3-122	2-163	

TSR-M-046	001	20.01	3-144	2-164	
-	002	19.01	3-143		-
-	003	18.15	3-142		-
TSR-M-047	001	13.00.01	3-79	2-164	
TSR-M-048	001	13.08.01	3-122	2-165	
TSR-M-049	001	13.08.01	3-122	2-165	
TSR-M-050	001	13.06.01	3-120	2-166	
TSR-M-051	001	18.01	3-139	2-167	
-	002	19.01	3-143		-
-	003	13.00.01	3-79		-
TSR-M-052	001	13.08.01	3-122	2-168	
TSR-M-053	001	18.01	3-139	2-169	
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TSR-M-055	001	13.00.20	3-87	2-170	
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-	003	19.01	3-143		-
TSR-M-056	001	15.01	3-128	2-170	
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-	003	14.03	3-127		-
-	004	14.09	3-128		-
TSR-M-057	001	18.01	3-139	2-171	
TSR-M-059	001	13.07.01	3-122	2-172	
TSR-M-060	001	18.01	3-139	2-172	
-	002	10.02	3-39		-
-	003	18.01	3-139		-
TSR-M-061	001	13.00.02	3-79	2-173	
-	002	18.01	3-139		-
TSR-M-062	001	18.01	3-139	2-173	
-	002	11.00.12	3-53		-
-	003	18.03	3-140		-
TSR-M-063	001	20.01	3-144	2-174	
TSR-M-064	001	16.16	3-135	2-174	

-	002	16.04	3-131	-
-	003	13.00.06	3-82	-
-	004	13.00.49	3-96	-
-	005	13.00.26	3-89	-
-	006	13.00.66	3-103	-
-	007	22.02	3-147	-
-	008	13.03.08	3-111	-
-	009	13.00.66	3-103	-
-	010	22.02	3-147	-
-	011	13.00.28	3-90	-
-	012	22.02	3-147	-
-	013	13.04.04	3-112	-
-	014	15.05	3-129	-
TSR-M-065	001	13.08.01	3-122	2-180
TSR-M-066	001	20.05	3-145	2-181
TSR-M-068	001	15.01	3-128	2-181
-	002	15.03	3-129	-
-	003	18.01	3-139	-
-	004	10.02	3-39	-
TSR-M-069	001	18.01	3-139	2-182
-	002	13.00.55	3-99	-
TSR-M-070	001	13.04.03	3-112	2-183
-	002	11.00.07	3-51	-
TSR-M-071	001	18.01	3-139	2-183
-	002	19.01	3-143	-
TSR-M-072	001	13.09.01	3-123	2-184
TSR-M-073	001	17.02	3-139	2-185
TSR-M-075	001	No comment identified	-	2-185
TSR-M-076	001	17.02	3-139	2-186
TSR-M-077	001	17.02	3-139	2-186
TSR-M-078	001	17.02	3-139	2-187
TSR-M-079	001	No comment identified	-	2-187

TSR-M-080	001	No comment identified	-	2-188	
TSR-M-082	001	17.02	3-139	2-188	
TSR-M-083	001	17.02	3-139	2-189	
TSR-M-084	001	11.00.06	3-51	2-189	
-	002	11.00.30	3-58		-
-	003	11.00.31	3-58		-
-	004	11.00.32	3-59		-
TSR-M-085	001	07.01	3-27	2-191	
TSR-M-086	001	13.00.05	3-81	2-192	
-	002	13.09.01	3-123		-
TSR-M-087	001	13.06.01	3-120	2-192	
-	002	14.05	3-127		-
-	003	10.01	3-39		-
TSR-M-088	001	13.00.01	3-79	2-193	
-	002	18.15	3-142		-
TSR-M-090	001	18.01	3-139	2-194	
TSR-M-091	001	02.04	3-6	2-194	
TSR-M-092	001	15.01	3-128	2-198	
-	002	13.03.01	3-107		-
-	003	02.04	3-6		-
-	004	13.09.01	3-123		-
-	005	13.00.25	3-89		-
TSR-M-093	001	18.09	3-141	2-199	
-	002	10.03	3-40		-
-	003	13.04.02	3-111		-
-	004	11.02.04	3-71		-
-	005	13.04.12	3-114		-
-	006	10.36	3-48		-
-	007	10.03	3-40		-
-	008	14.01	3-125		-
-	009	13.04.13	3-115		-
TSR-M-094	001	13.09.04	3-124	2-206	

TSR-M-095	001	13.09.01	3-123	2-206
TSR-M-096	001	14.02	3-126	2-207
-	002	04.02.09	3-18	-
TSR-M-097	001	08.04	3-30	2-208
-	002	18.01	3-139	-
TSR-M-098	001	13.00.09	3-83	2-208
-	002	20.02	3-147	-
-	003	13.00.12	3-84	-
-	004	22.02	3-147	-
-	005	13.00.31	3-91	-
-	006	18.01	3-139	-
TSR-M-099	001	13.08.01	3-122	2-209
-	002	15.01	3-128	-
-	003	14.09	3-128	-
TSR-M-100	001	13.09.01	3-123	2-210
TSR-M-101	001	13.00.01	3-79	2-211
-	002	18.01	3-139	-
-	003	13.07.01	3-122	-
TSR-M-102	001	13.05.02	3-120	2-211
-	002	11.00.12	3-53	-
TSR-M-103	001	13.00.01	3-79	2-213
TSR-M-104	001	04.02.01	3-12	2-213
-	002	11.00.12	3-53	-
-	003	18.01	3-139	-
-	004	19.01	3-143	-
-	005	08.05	3-31	-
TSR-M-105	001	11.00.12	3-53	2-214
-	002	20.01	3-144	-
TSR-M-106	001	13.09.01	3-123	2-214
TSR-M-107	001	18.01	3-139	2-215
-	002	19.01	3-143	-
TSR-M-108	001	18.01	3-139	2-215

TSR-M-109	001	18.01	3-139	2-216
-	002	19.01	3-143	-
TSR-M-110	001	18.01	3-139	2-216
-	002	11.00.10	3-52	-
TSR-M-111	001	18.01	3-139	2-217
-	002	19.01	3-143	-
TSR-M-112	001	13.00.03	3-80	2-217
-	002	13.00.05	3-81	-
-	003	13.00.60	3-101	-
-	004	02.04	3-6	-
-	005	02.03	3-5	-
-	006	13.00.57	3-99	-
-	007	12.05	3-77	-
-	008	13.03.05	3-109	-
-	009	13.00.30	3-91	-
-	010	13.00.24	3-89	-
-	011	13.00.59	3-100	-
-	012	13.00.33	3-92	-
-	013	13.00.18	3-86	-
-	014	16.14	3-134	-
-	015	13.00.04	3-80	-
-	016	13.04.23	3-118	-
-	017	14.06	3-127	-
-	018	13.02.04	3-106	-
-	019	02.09	3-8	-
-	020	02.04	3-6	-
-	021	01.09	3-3	-
-	022	13.02.05	3-106	-
-	023	13.02.06	3-106	-
-	024	13.04.24	3-118	-
-	025	11.01.24	3-68	-
-	026	11.01.25	3-68	-

-	027	11.01.26	3-68	-
-	028	11.01.27	3-69	-
-	029	11.01.28	3-69	-
-	030	11.01.29	3-69	-
-	031	11.01.30	3-69	-
-	032	11.02.05	3-72	-
-	033	11.02.09	3-73	-
-	034	11.02.10	3-73	-
-	035	10.12	3-42	-
-	036	02.03	3-5	-
-	037	13.04.27	3-119	-
-	038	02.03	3-5	-
-	039	13.02.07	3-106	-
-	040	13.00.59	3-100	-
-	041	13.02.08	3-106	-
-	042	13.03.06	3-109	-
-	043	13.00.22	3-88	-
-	044	13.02.09	3-107	-
-	045	13.00.18	3-86	-
-	046	13.00.03	3-80	-
-	047	13.02.11	3-107	-
-	048	13.02.10	3-107	-
-	049	13.02.03	3-106	-
-	050	13.03.07	3-109	-
-	051	13.03.05	3-109	-
-	052	13.04.25	3-119	-
-	053	13.04.26	3-119	-
-	054	13.00.03	3-80	-
-	055	13.00.35	3-92	-
-	056	13.00.18	3-86	-
-	057	13.00.22	3-88	-
-	058	13.00.05	3-81	-

-	059	13.04.19	3-117	-
-	060	13.02.02	3-105	-
-	061	03.06	3-11	-
-	062	11.00.26	3-57	-
-	063	11.01.31	3-69	-
-	064	11.01.32	3-69	-
-	065	11.01.33	3-70	-
-	066	11.01.34	3-70	-
-	067	11.01.35	3-70	-
-	068	11.01.36	3-70	-
-	069	11.01.23	3-68	-
-	070	11.02.11	3-73	-
-	071	11.02.12	3-73	-
-	072	11.00.20	3-55	-
-	073	11.02.12	3-73	-
-	074	11.01.24	3-68	-
-	075	11.02.16	3-74	-
-	076	11.00.19	3-55	-
-	077	11.02.15	3-74	-
-	078	11.00.20	3-55	-
-	079	11.00.28	3-58	-
-	080	11.02.14	3-73	-
-	081	11.02.13	3-73	-
-	082	11.02.08	3-73	-
-	083	02.01	3-4	-
-	084	13.04.06	3-113	-
-	085	11.01.22	3-68	-
-	086	13.00.59	3-100	-
-	087	13.00.22	3-88	-
-	088	13.00.60	3-101	-
-	089	13.00.59	3-100	-
-	090	14.01	3-125	-

TSR-M-115	001	18.01	3-139	2-232	
TSR-M-116	001	11.00.29	3-58	2-232	
-	002	13.08.01	3-122		-
-	003	14.09	3-128		-
TSR-M-117	001	13.00.20	3-87	2-233	
-	002	18.01	3-139		-
-	003	19.01	3-143		-
TSR-M-118	001	10.02	3-39	2-234	
-	002	18.01	3-139		-
TSR-M-119	001	16.20	3-136	2-235	
-	002	17.03	3-139		-
-	003	13.00.21	3-88		-
-	004	18.01	3-139		-
TSR-M-120	001	18.01	3-139	2-236	
TSR-M-122	001	18.15	3-142	2-238	
TSR-M-123	001	16.07	3-133	2-238	
-	002	13.00.22	3-88		-
-	003	13.03.01	3-107		-
-	004	13.09.01	3-123		-
-	005	13.05.04	3-120		-
TSR-M-124	001	18.01	3-139	2-239	
TSR-M-127	001	18.01	3-139	2-239	
TSR-M-128	001	13.08.03	3-123	2-240	
TSR-M-129	001	14.01	3-125	2-240	
-	002	09.04	3-37		-
-	003	04.02.04	3-14		-
-	004	13.05.01	3-119		-
-	005	13.00.41	3-95		-
-	006	10.38	3-49		-
-	007	12.08	3-78		-
-	008	04.01.03	3-12		-
-	009	16.18	3-136		-

-	010	13.00.52	3-98	-
-	011	10.38	3-49	-
-	012	10.37	3-49	-
-	013	13.00.19	3-87	-
-	014	13.00.19	3-87	-
-	015	10.37	3-49	-
-	016	13.00.53	3-98	-
-	017	13.00.53	3-98	-
-	018	11.00.27	3-57	-
-	019	02.01	3-4	-
-	020	03.02	3-9	-
-	021	06.10	3-25	-
-	022	09.07	3-38	-
-	023	04.02.04	3-14	-
-	024	04.02.08	3-18	-
-	025	10.35	3-48	-
-	026	02.09	3-8	-
-	027	08.18	3-35	-
-	028	10.33	3-47	-
-	029	13.00.13	3-84	-
-	030	11.02.02	3-71	-
-	031	08.19	3-35	-
-	032	12.05	3-77	-
-	033	08.20	3-36	-
-	034	11.01.20	3-67	-
-	035	11.01.21	3-68	-
-	036	11.01.04	3-61	-
-	037	11.01.05	3-61	-
-	038	11.01.06	3-63	-
-	039	11.01.07	3-63	-
-	040	11.01.08	3-63	-
-	041	11.01.09	3-64	-

-	042	11.01.10	3-64	-
-	043	11.01.11	3-65	-
-	044	11.01.12	3-66	-
-	045	11.01.13	3-66	-
-	046	11.01.14	3-66	-
-	047	11.01.15	3-66	-
-	048	11.01.16	3-67	-
-	049	11.01.17	3-67	-
-	050	11.01.18	3-67	-
-	051	11.02.03	3-71	-
-	052	11.00.37	3-60	-
-	053	10.32	3-47	-
-	054	10.31	3-46	-
-	055	10.30	3-46	-
-	056	02.11	3-9	-
-	057	16.19	3-136	-
TSR-M-131	001	13.00.01	3-79	2-252
-	002	19.01	3-143	-
-	003	10.02	3-39	-
-	004	18.15	3-142	-
TSR-M-132	001	18.01	3-139	2-253
TSR-M-133	001	04.02.01	3-12	2-253
-	002	02.01	3-4	-
TSR-M-134	001	18.01	3-139	2-255
-	002	19.01	3-143	-
-	003	04.02.01	3-12	-
-	004	20.01	3-144	-
-	005	11.00.12	3-53	-
-	006	11.01.02	3-61	-
-	007	15.08	3-130	-
TSR-M-135	001	11.00.12	3-53	2-256
-	002	19.01	3-143	-

-	003	18.01	3-139	-
TSR-M-136	001	13.00.15	3-85	2-257
-	002	19.01	3-143	-
-	003	13.00.02	3-79	-
-	004	04.02.01	3-12	-
-	005	18.01	3-139	-
-	006	08.14	3-34	-
TSR-M-137	001	13.08.01	3-122	2-258
TSR-M-138	001	13.09.01	3-123	2-259
-	002	10.02	3-39	-
-	003	13.00.54	3-98	-
-	004	13.02.01	3-105	-
-	005	13.00.17	3-85	-
-	006	13.04.22	3-117	-
TSR-M-139	001	13.09.01	3-123	2-260
-	002	22.02	3-147	-
-	003	13.01.01	3-104	-
-	004	13.05.01	3-119	-
-	005	13.04.14	3-115	-
-	006	13.00.29	3-91	-
TSR-M-140	001	04.02.12	3-19	2-262
-	002	18.01	3-139	-
-	003	13.04.01	3-111	-
-	004	20.01	3-144	-
TSR-M-141	001	06.16	3-27	2-263
-	002	15.01	3-128	-
TSR-M-142	001	13.00.01	3-79	2-263
-	002	18.14	3-142	-
-	003	13.00.08	3-83	-
-	004	08.12	3-33	-
TSR-M-143	001	13.08.03	3-123	2-268
-	002	19.01	3-143	-

TSR-M-144	001	11.00.12	3-53	2-269	
-	002	18.01	3-139		-
-	003	19.01	3-143		-
TSR-M-145	001	13.00.01	3-79	2-270	
TSR-M-147	001	04.02.01	3-12	2-270	
-	002	13.08.03	3-123		-
-	003	18.01	3-139		-
TSR-M-148	001	15.01	3-128	2-271	
-	002	13.08.03	3-123		-
TSR-M-149	001	14.02	3-126	2-272	
-	002	04.02.01	3-12		-
-	003	15.09	3-130		-
-	004	18.01	3-139		-
-	005	20.01	3-143		-
-	006	10.20	3-44		-
TSR-M-150	001	15.08	3-130	2-273	
-	002	10.09	3-41		-
TSR-M-151	001	18.08	3-141	2-273	
TSR-M-152	001	15.03	3-129	2-274	
TSR-M-153	001	No comment identified	-	2-274	
TSR-M-154	001	13.00.47	3-96	2-275	
-	002	02.04	3-6		-
-	003	13.07.03	3-122		-
-	004	13.04.15	3-115		-
-	005	13.00.48	3-96		-
-	006	22.02	3-147		-
-	007	10.21	3-44		-
-	008	18.09	3-141		-
-	009	22.01	3-146		-
-	010	16.14	3-134		-
-	011	06.08	3-24		-
-	012	10.22	3-45		-

-	013	09.10	3-39		-
-	014	13.04.20	3-117		-
-	015	10.23	3-45		-
-	016	13.04.15	3-115		-
-	017	03.07	3-11		-
-	018	04.01.02	3-12		-
-	019	04.01.02	3-12		-
-	020	04.02.11	3-19		-
-	021	08.16	3-34		-
-	022	10.18	3-43		-
-	023	10.36	3-48		-
-	024	06.10	3-25		-
-	025	06.07	3-24		-
-	026	06.12	3-26		-
-	027	10.27	3-46		-
-	028	10.18	3-43		-
-	029	13.00.50	3-97		-
-	030	17.04	3-139		-
-	031	08.17	3-35		-
-	032	11.00.22	3-56		-
TSR-M-156	001	13.00.01	3-79	2-277	
TSR-M-159	001	18.01	3-139	2-278	
TSR-M-160	001	13.09.01	3-123	2-278	
-	002	13.00.05	3-81		-
TSR-M-162	001	13.00.01	3-79	2-279	
TSR-M-163	001	13.00.01	3-79	2-279	
TSR-M-164	001	15.03	3-129	2-280	
-	002	13.04.09	3-114		-
-	003	10.19	3-44		-
TSR-M-165	001	13.01.01	3-104	2-280	
-	002	13.00.55	3-99		-
TSR-M-166	001	18.01	3-139	2-282	

TSR-M-167	001	08.02	3-29	2-284	
-	002	12.06	3-77		-
-	003	09.09	3-38		-
-	004	21.01	3-146		-
-	005	13.06.04	3-121		-
-	006	04.02.02	3-13		-
-	007	05.06	3-21		-
-	008	05.03	3-20		-
-	009	16.08	3-133		-
-	010	22.02	3-147		-
TSR-M-168	001	11.00.20	3-55	2-290	
-	002	13.04.07	3-113		-
-	003	13.00.05	3-81		-
TSR-M-169	001	No comment identified	-	2-291	
TSR-M-170	001	13.09.01	3-123	2-292	
-	002	13.00.05	3-81		-
TSR-M-171	001	13.00.01	3-79	2-295	
TSR-M-172	001	13.00.19	3-87	2-295	
-	002	13.00.07	3-83		-
TSR-M-175	001	15.02	3-128	2-299	
-	002	18.12	3-142		-
-	003	18.15	3-142		-
-	004	18.01	3-139		-
-	005	13.00.09	3-83		-
-	006	15.05	3-129		-
-	007	13.00.05	3-81		-
-	008	12.05	3-77		-
-	009	16.22	3-137		-
TSR-M-176	001	13.08.03	3-123	2-301	
TSR-M-177	001	13.08.01	3-122	2-301	
TSR-M-178	001	13.09.01	3-123	2-302	
-	002	13.00.05	3-81		-

TSR-M-179	001	18.01	3-139	2-302	
TSR-M-180	001	13.00.01	3-79	2-303	
TSR-M-181	001	13.09.01	3-123	2-303	
TSR-M-182	001	13.09.01	3-123	2-304	
TSR-M-183	001	13.08.01	3-122	2-304	
-	002	14.09	3-128		-
TSR-M-185	001	13.06.01	3-120	2-305	
TSR-M-186	001	04.02.01	3-12	2-306	
-	002	13.08.01	3-122		-
-	003	04.02.01	3-12		-
-	004	13.08.04	3-123		-
TSR-M-187	001	13.06.01	3-120	2-307	
TSR-M-189	001	13.06.01	3-120	2-309	
TSR-P-001	001	18.01	3-139	2-309	
TSR-P-002	001	18.01	3-139	2-310	
-	002	13.09.04	3-124		-
TSR-P-003	001	12.02	3-75	2-310	
TSR-P-004	001	18.01	3-139	2-311	
-	002	20.01	3-144		-
TSR-P-005	001	13.08.01	3-122	2-311	
TSR-P-006	001	20.01	3-144	2-312	
TSR-P-007	001	18.01	3-139	2-312	
TSR-P-008	001	15.01	3-128	2-313	
TSR-P-009	001	13.05.01	3-119	2-313	
-	002	15.04	3-129		-
TSR-P-010	001	14.04	3-127	2-314	
TSR-P-011	001	13.09.01	3-123	2-315	
TSR-P-012	001	18.01	3-139	2-316	
TSR-P-013	001	13.09.04	3-124	2-317	
-	002	18.01	3-139		-
TSR-P-015	001	13.06.01	3-120	2-317	
TSR-P-016	001	13.06.01	3-120	2-318	

TSR-P-017	001	18.01	3-139	2-318	
TSR-P-018	001	13.06.01	3-120	2-319	
TSR-P-019	001	13.06.01	3-120	2-319	
TSR-P-020	001	13.06.01	3-120	2-320	
TSR-P-021	001	20.01	3-144	2-320	
TSR-P-022	001	No comment identified	-	2-321	
TSR-P-023	001	18.01	3-139	2-321	
TSR-P-024	001	13.06.01	3-120	2-322	
TSR-P-025	001	08.02	3-29	2-322	
-	002	13.04.01	3-111		-
TSR-P-026	001	13.06.01	3-120	2-323	
TSR-P-027	001	08.02	3-29	2-323	
TSR-P-028	001	04.02.04	3-14	2-324	
-	002	05.01	3-20		-
-	003	09.04	3-37		-
TSR-P-029	001	13.00.11	3-84	2-325	
TSR-P-030	001	18.01	3-139	2-325	
TSR-P-031	001	13.00.01	3-79	2-326	
TSR-P-032	001	13.05.02	3-120	2-326	
-	002	04.02.04	3-14		-
TSR-P-033	001	18.01	3-139	2-327	
TSR-P-034	001	20.01	3-144	2-327	
TSR-P-035	001	18.02	3-140	2-328	
TSR-P-036	001	13.05.01	3-119	2-328	
TSR-P-037	001	04.02.04	3-14	2-329	
TSR-P-038	001	18.01	3-139	2-329	
TSR-P-039	001	13.05.01	3-119	2-330	
-	002	18.06	3-141		-
TSR-P-040	001	08.06	3-31	2-330	
TSR-P-041	001	13.05.01	3-119	2-331	
TSR-P-042	001	13.05.01	3-119	2-331	
TSR-P-043	001	13.00.07	3-83	2-332	

TSR-P-044	001	13.05.01	3-119	2-332	
TSR-P-045	001	18.01	3-139	2-333	
TSR-P-046	001	13.05.02	3-120	2-333	
-	002	14.02	3-126		-
TSR-P-047	001	08.06	3-31	2-334	
TSR-P-048	001	18.15	3-142	2-334	
TSR-P-050	001	18.01	3-139	2-335	
TSR-P-052	001	14.04	3-127	2-335	
-	002	04.02.04	3-14		-
-	003	09.04	3-37		-
TSR-P-053	001	08.05	3-31	2-336	
TSR-P-054	001	15.01	3-128	2-336	
TSR-P-055	001	18.01	3-139	2-337	
-	002	15.01	3-128		-
TSR-P-056	001	13.09.01	3-123	2-338	
TSR-P-057	001	13.09.01	3-123	2-339	
TSR-P-058	001	13.09.01	3-123	2-339	
-	002	20.08	3-145		-
TSR-P-059	001	13.09.01	3-123	2-340	
-	002	08.04	3-30		-
TSR-P-060	001	13.09.01	3-123	2-340	
TSR-P-061	001	18.01	3-139	2-341	
-	002	11.00.12	3-53		-
TSR-P-062	001	13.09.01	3-123	2-341	
TSR-P-063	001	13.09.01	3-123	2-342	
TSR-P-064	001	19.01	3-143	2-342	
TSR-P-065	001	13.00.01	3-79	2-343	
-	002	15.01	3-128		-
TSR-P-066	001	13.09.01	3-123	2-343	
TSR-P-067	001	18.01	3-139	2-344	
-	002	20.01	3-144		-
TSR-P-068	001	13.09.01	3-123	2-344	

TSR-P-069	001	18.01	3-139	2-345	
TSR-P-070	001	13.09.01	3-123	2-345	
TSR-P-071	001	18.01	3-139	2-346	
TSR-P-072	001	13.04.01	3-111	2-346	
TSR-P-073	001	18.01	3-139	2-347	
-	002	20.01	3-144		-
TSR-P-074	001	18.01	3-139	2-347	
-	002	04.02.01	3-12		-
TSR-P-075	001	13.05.02	3-120	2-348	
TSR-P-076	001	10.19	3-44	2-348	
TSR-P-077	001	13.04.01	3-111	2-349	
-	002	13.06.01	3-120		-
-	003	13.04.05	3-113		-
-	004	09.05	3-37		-
TSR-P-078	001	13.00.34	3-92	2-349	
-	002	13.04.03	3-112		-
-	003	13.01.02	3-104		-
-	004	13.03.01	3-107		-
-	005	13.02.01	3-105		-
-	006	13.00.56	3-99		-
TSR-P-079	001	13.00.01	3-79	2-350	
TSR-P-080	001	13.04.01	3-111	2-351	
-	002	04.02.01	3-12		-
-	003	09.09	3-38		-
-	004	13.08.02	3-123		-
-	005	06.05	3-23		-
-	006	11.00.23	3-56		-
-	007	03.04	3-10		-
-	008	05.02	3-20		-
-	009	13.08.01	3-122		-
TSR-P-081	001	18.01	3-139	2-352	
-	002	04.02.01	3-12		-

-	003	13.04.01	3-111		-
TSR-P-082	001	13.07.01	3-122	2-353	
TSR-P-083	001	13.00.01	3-79	2-354	
TSR-P-084	001	04.02.01	3-12	2-354	
-	002	18.01	3-139		-
-	003	10.09	3-41		-
TSR-P-085	001	13.00.01	3-79	2-355	
TSR-P-086	001	13.09.01	3-123	2-356	
-	002	22.01	3-146		-
TSR-P-087	001	16.07	3-133	2-357	
-	002	04.02.01	3-12		-
-	003	15.08	3-130		-
TSR-P-088	001	01.05	3-2	2-358	
-	002	04.02.04	3-14		-
-	003	07.03	3-28		-
-	004	14.01	3-125		-
TSR-P-089	001	18.01	3-139	2-359	
-	002	15.03	3-129		-
-	003	15.06	3-129		-
-	004	19.02	3-143		-
TSR-P-090	001	13.07.01	3-122	2-361	
TSR-PC-002	001	13.08.01	3-122	2-361	
TSR-PC-003	001	04.02.01	3-12	2-363	
-	002	13.08.01	3-122		-
-	003	11.00.23	3-56		-
-	004	09.09	3-38		-
-	005	10.10	3-41		-
-	006	06.03	3-22		-
-	007	05.02	3-20		-
-	008	16.15	3-135		-
-	009	13.08.01	3-122		-
-	010	13.04.17	3-116		-

TSR-PC-004	001	13.09.01	3-123	2-367
-	002	13.00.05	3-81	-
TSR-PC-006	001	13.09.01	3-123	2-367
-	002	13.09.06	3-125	-
-	003	13.00.05	3-81	-
TSR-PC-008	001	04.02.01	3-12	2-368
-	002	13.08.04	3-123	-
-	003	01.03	3-1	-
-	004	18.01	3-139	-
-	005	13.00.01	3-79	-
TSR-PC-011	001	13.00.01	3-79	2-369
-	002	18.01	3-139	-
TSR-PC-012	001	13.09.01	3-123	2-369
-	002	18.11	3-142	-
-	003	13.00.05	3-81	-
TSR-NE-002	001	22.02	3-147	2-370
TSR-NF-001	001	13.00.07	3-83	2-371
-	002	18.04	3-140	-
TSR-NM-001	001	22.02	3-147	2-371
-	002	18.01	3-139	-
-	003	23.01	3-148	-
TSR-NM-002	001	13.00.05	3-81	2-372
-	002	22.02	3-147	-
TSR-NM-003	001	22.02	3-147	2-372
TSR-NM-004	001	22.02	3-147	2-373
-	002	23.01	3-148	-
TSR-NM-005	001	20.01	3-144	2-373
TSR-NM-006	001	15.07	3-130	2-374
-	002	22.02	3-147	-
TSR-NM-007	001	22.02	3-147	2-374
TSR-NM-008	001	22.02	3-147	2-375
TSR-NM-009	001	13.00.05	3-81	2-375

-	002	22.02	3-147		-
-	003	13.04.03	3-112		-
-	004	13.00.17	3-85		-
TSR-NM-010	001	20.01	3-144	2-377	
TSR-NM-011	001	18.15	3-142	2-377	
-	002	19.01	3-143		-
-	003	13.00.55	3-99		-
TSR-NM-012	001	22.02	3-147	2-378	
-	002	13.00.05	3-81		-
TSR-NM-013	001	13.00.55	3-99	2-380	
-	002	23.01	3-148		-
-	003	22.02	3-147		-
TSR-NM-014	001	22.04	3-148	2-382	
-	002	22.02	3-147		-
-	003	22.04	3-148		-
TSR-NM-015	001	22.02	3-147	2-384	
-	002	23.01	3-148		-
-	003	11.02.01	3-70		-
-	004	20.01	3-144		-
-	005	07.01	3-27		-
TSR-NM-016	001	22.02	3-147	2-384	
-	002	13.09.04	3-124		-
-	003	18.01	3-139		-
TSR-NM-017	001	18.01	3-139	2-385	
TSR-NM-018	001	13.09.04	3-124	2-385	
-	002	13.00.20	3-87		-
-	003	18.01	3-139		-
-	004	22.02	3-147		-
-	005	22.01	3-146		-
-	006	18.01	3-139		-
TSR-NM-019	001	22.04	3-148	2-386	
-	002	18.01	3-139		-

-	003	13.00.20	3-87		-
TSR-NM-020	001	13.00.20	3-87	2-386	
-	002	22.02	3-147		-
TSR-NM-021	001	18.01	3-139	2-387	
-	002	13.09.04	3-124		-
TSR-NM-022	001	18.01	3-139	2-387	
-	002	19.01	3-143		-
-	003	22.02	3-147		-
TSR-NM-023	001	22.02	3-147	2-388	
TSR-NM-025	001	16.02	3-131	2-389	
-	002	22.02	3-147		-
TSR-NM-026	001	22.02	3-147	2-391	
-	002	13.01.01	3-104		-
-	003	23.01	3-148		-
TSR-NM-027	001	18.01	3-139	2-392	
-	002	18.15	3-142		-
-	003	23.01	3-148		-
-	004	22.02	3-147		-
-	005	14.01	3-125		-
-	006	13.00.55	3-99		-
TSR-NM-028	001	22.02	3-147	2-393	
-	002	18.01	3-139		-
TSR-NM-029	001	22.02	3-147	2-393	
-	002	13.04.03	3-112		-
-	003	13.00.55	3-99		-
-	004	13.09.01	3-123		-
TSR-NM-030	001	18.01	3-139	2-394	
-	002	19.01	3-143		-
-	003	22.02	3-147		-
-	004	23.01	3-148		-
-	005	22.04	3-148		-
-	006	18.15	3-142		-

TSR-NM-032	001	22.02	3-147	2-400	
-	002	18.01	3-139		-
TSR-NM-033	001	22.02	3-147	2-401	
TSR-NM-034	001	22.02	3-147	2-402	
-	002	18.01	3-139		-
-	003	10.02	3-39		-
TSR-NM-035	001	18.15	3-142	2-403	
-	002	22.02	3-147		-
-	003	19.01	3-143		-
TSR-NM-037	001	18.01	3-139	2-403	
-	002	20.05	3-145		-
-	003	19.01	3-143		-
-	004	22.02	3-147		-
TSR-NM-040	001	22.02	3-147	2-404	
-	002	13.04.01	3-111		-

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Summary Code	Total Comments Received	Summary Page Number	Document Page Number
			Land Resources
01.01	2	3-1	2-132, 141
01.02	1	3-1	2-34
01.03	33	3-1	2-368
01.04	1	3-2	2-3
01.05	1	3-2	2-358
01.06	1	3-2	2-69
01.07	1	3-3	2-69
01.08	1	3-3	2-69
01.09	1	3-3	2-217
			Site Infrastructure

02.01	15	3-4	2-3, 8, 11, 13, 26, 31, 34
02.02	5	3-5	2-1, 6, 11, 34
02.03	5	3-5	2-24, 98, 217
02.04	23	3-6	2-11, 13, 18, 24, 28, 31, 275
02.05	1	3-7	2-31
02.06	1	3-7	2-66
02.07	1	3-7	2-104
02.08	2	3-8	2-18
02.09	4	3-8	2-11, 217, 240
02.10	1	3-8	2-1
02.11	1	3-9	2-240
			Air Quality and Acoustics
03.01	4	3-9	2-20, 37
03.02	1	3-9	2-240
03.03	1	3-10	2-104
03.04	3	3-10	2-69, 133, 351
03.05	1	3-11	2-104
03.06	1	3-11	2-217
03.07	1	3-11	2-275
03.08	1	3-11	2-41
03.09	1	3-11	2-41
			Surface Water
04.01.01	1	3-11	2-8
04.01.02	2	3-12	2-275
04.01.03	1	3-12	2-240
04.01.04	1	3-12	2-104
			Groundwater
04.02.01	79a	3-12	2-1, 31, 34, 35, 36, 37, 3 253, 255, 257, 270, 272, 3
04.02.02	15	3-13	2-1, 5, 31, 36, 37, 66, 98
04.02.03	2	3-14	2-6
04.02.04	11	3-14	2-15, 104, 240, 324, 326,

04.02.05	3	3-16	2-31, 34
04.02.06	1	3-16	2-104
04.02.07	6	3-17	2-20, 28, 34, 36, 37
04.02.08	1	3-18	2-240
04.02.09	2	3-18	2-104, 207
04.02.10	3	3-18	2-28, 31, 133
04.02.11	1	3-19	2-275
04.02.12	1	3-19	2-262
			Geology and Soils
05.01	4	3-20	2-6, 8, 37, 324
05.02	4a	3-20	2-351, 363
05.03	1	3-20	2-284
05.04	1	3-21	2-69
05.05	1	3-21	2-98
05.06	1	3-21	2-284
05.07	1	3-21	2-9
			Biotic Resources
06.01	2	3-22	2-55, 141
06.02	2	3-22	2-1, 34
06.03	3a	3-22	2-363
06.04	1	3-23	2-46
06.05	2	3-23	2-69, 351
06.06	1	3-24	2-104
06.07	1	3-24	2-275
06.08	1	3-24	2-275
06.09	2	3-24	2-104
06.10	2	3-25	2-240, 275
06.11	1	3-25	2-104
06.12	1	3-26	2-275
06.13	1	3-26	2-69
06.14	1	3-27	2-58
06.15	1	3-27	2-58

06.16	1	3-27	2-263
06.17	2	3-27	2-34, 133
		Cultural and Paleontological Resource	
07.01	2	3-27	2-191, 384
07.02	1	3-28	2-34
07.03	1	3-28	2-358
07.04	1	3-29	2-133
07.05	1	3-29	2-69
		Socioeconomics	
08.01	1	3-29	2-13
08.02	18	3-29	2-1, 6, 9, 41, 42, 138, 14
08.03	8	3-30	2-6, 18, 20, 34
08.04	5	3-30	2-24, 127, 208, 340
08.05	3	3-31	2-38, 213, 336
08.06	2	3-31	2-330, 334
08.07	3	3-31	2-1, 3
08.08	4	3-32	2-1, 6, 155
08.09	1	3-32	2-104
08.10	4	3-32	2-20, 58, 98, 133
08.11	2	3-33	2-34, 133
08.12	1	3-33	2-263
08.13	1	3-34	2-66
08.14	1	3-34	2-257
08.15	1	3-34	2-96
08.16	1	3-34	2-275
08.17	1	3-35	2-275
08.18	1	3-35	2-240
08.19	1	3-35	2-240
08.20	1	3-36	2-240
08.21	1	3-36	2-104
08.22	1	3-36	2-104
		Intersite Transportation	

09.01	1	3-36	2-8
09.02	1	3-37	2-9
09.03	1	3-37	2-55
09.04	3	3-37	2-240, 324, 335
09.05	2	3-37	2-8, 349
09.06	1	3-38	2-37
09.07	1	3-38	2-240
09.08	1	3-38	2-8
09.09	6a	3-38	2-148, 284, 351, 363
09.10	1	3-39	2-275
			Waste Management
10.01	6	3-39	2-1, 6, 8, 9, 192
10.02	16	3-39	2-1, 6, 15, 20, 24, 37, 39
10.03	5	3-40	2-31, 35, 38, 199
10.04	1	3-40	2-127
10.05	1	3-40	2-8
10.06	2	3-41	2-18, 28
10.07	1	3-41	2-15
10.08	2	3-41	2-13
10.09	3	3-41	2-39, 273, 354
10.10	5a	3-41	2-31, 69, 363
10.11	1	3-42	2-20
10.12	1	3-42	2-217
10.13	1	3-42	2-21
10.14	1	3-42	2-24
10.15	1	3-43	2-24
10.16	1	3-43	2-13
10.17	1	3-43	2-8
10.18	5	3-43	2-18, 20, 66, 275
10.19	2	3-44	2-280, 348
10.20	1	3-44	2-272
10.21	1	3-44	2-275

10.22	1	3-45	2-275
10.23	1	3-45	2-275
10.24	1	3-45	2-141
10.25	1	3-45	2-18
10.26	3	3-46	2-18, 35
10.27	1	3-46	2-275
10.28	1	3-46	2-128
10.29	2	3-46	2-31
10.30	1	3-46	2-240
10.31	1	3-46	2-240
10.32	1	3-47	2-240
10.33	1	3-47	2-240
10.34	1	3-47	2-104
10.35	1	3-48	2- 240
10.36	2	3-48	2-199, 275
10.37	4	3-49	2-15, 104, 240
10.38	2	3-49	2-240
			Human Health
11.00.01	1	3-50	2-3
11.00.02	1	3-50	2-102
11.00.03	1	3-50	2-24
11.00.04	1	3-50	2-6
11.00.05	1	3-51	2-11
11.00.06	1	3-51	2-189
11.00.07	3	3-51	2-24, 28, 183
11.00.08	2	3-51	2-98, 143
11.00.09	1	3-52	2-24
11.00.10	5	3-52	2-24, 34, 98, 147, 216
11.00.11	1	3-53	2-28
11.00.12	12	3-53	2-20, 34, 173, 211, 213, 2
11.00.13	1	3-53	2-20
11.00.14	1	3-54	2-28

11.00.15	1	3-54	2-98
11.00.16	1	3-54	2-41
11.00.17	1	3-54	2-119
11.00.18	1	3-54	2-11
11.00.19	2	3-55	2-98, 217
11.00.20	3	3-55	2-217, 290
11.00.21	1	3-56	2-18
11.00.22	1	3-56	2-275
11.00.23	4a	3-56	2-351, 363
11.00.24	1	3-57	2-31
11.00.25	1	3-57	2-69
11.00.26	1	3-57	2-217
11.00.27	1	3-57	2-240
11.00.28	1	3-58	2-217
11.00.29	2	3-58	2-162, 232
11.00.30	1	3-58	2-189
11.00.31	1	3-58	2-189
11.00.32	1	3-59	2-189
11.00.33	1	3-59	2-53
11.00.34	1	3-59	2-53
11.00.35	1	3-59	2-8
11.00.36	1	3-60	2-46
11.00.37	2	3-60	2-53, 240
			Human Health Normal Operations
11.01.01	1	3-60	2-18
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