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## APPENDIX D: GLOSSARY OF TERMS

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**Board of Public Utilities (BPU):** The Los Alamos Department of Public Utilities (DPU) operates the county-owned electric, gas, water & wastewater systems under the jurisdiction and control of the Board of Public Utilities (BPU). The BPU consists of five voting members appointed by County Council.

**British Thermal Unit (Btu):** A unit of energy measure that indicates the amount of heat required to raise the temperature of one pound of water by 1°F at a constant atmospheric pressure.

**Carbon Free Power Project (CFPP):** CFPP is a nuclear power plant, which would be comprised of up to a dozen 50-MW pressurized light water reactor modules at the Idaho National Engineering Laboratory in Idaho Falls. The project is proposed by the Utah Associated Municipal Power Systems (UAMPS).

**Clean Power Plan (CPP):** The CPP is an Obama administration policy through the Environmental Protection Agency (EPA) to reduce carbon emissions from power plants.

**Combined Cycle (CC):** A form of power generation that captures exhaust heat often from a CT (or multiple CTs) to create additional electric power beyond that created by the simple CT and enhance the overall efficiency of the unit by producing more output for the same level of input.

**Combustion Turbine (CT):** A form of power generation that forces air into a chamber heated through the combustion of a type of fuel (often diesel or natural gas) which causes the heated air to expand and power the circulation of a turbine that spins an electric generator to produce electricity.

**Capital Cost:** The cost of various sources of funds used in a financing an entity's operations.

**Debt service:** The amount of capital required to repay principal and/or interest on issued debt over a given period of time. Such repayment typically follows a predetermined schedule.

**Discount rate:** The percentage at which future cash flows are discounted based on the risk and uncertainty of the receipt of such cash flows over time. The greater the uncertainty of future cash flows, the more such cash flows will be discounted (assigned a higher discount rate) in determining the value of that stream of cash flows.

**Distributed generation (DG):** Electrical generation that is located on the distribution system (rather than the transmission system), often located at a customer's site on either the customer's or the utility's side of the electric meter.

**Duct fire:** Duct firing is firing of supplemental fuel in the gas turbine exhaust gas to raise its temperature entering the Heat Recovery Steam Generator, resulting in higher steam and power production.

**Energy efficiency (EE):** Any number of technologies employed to reduce energy consumption. Examples include more efficient lighting, refrigeration, heating, etc.

**Engineering, Procurement and Construction (EPC):** EPC is a prominent form of contracting agreement in the construction industry. The engineering and construction contractor will carry out the detailed engineering design of the project, procure all the equipment and materials necessary, and then construct to deliver a functioning facility or asset to their clients.

**Future Energy Resources (FER):** The Los Alamos Future Energy Resources committee is an ad hoc citizens committee formed by Board of Public Utilities.

**Fixed operations and maintenance expenses (FOM):** Expenses incurred as a result of operations and maintenance that do not vary with operations.

**Fossil fuel:** A fuel source that is derived from the decomposition of plant and animal matter under the ground. Typically, coal, oil, and natural gas fall under the definition of fossil fuels.

**Gas combustion turbine (GT):** A form of power generation that forces air into a chamber heated through the combustion of a type of fuel (often diesel or natural gas) which causes the heated air to expand and power the circulation of a turbine that spins an electric generator to produce electricity.

**Heat rate:** The efficiency at which a generator converts input fuel to electric output, typically measured in Btu/kWh.

**Hydroelectric generation:** Electrical generation that converts the kinetic energy of moving water to electricity by turning a turbine.

**Risk-integrated Resource Plan (RIRP):** Pace Global's process of projecting future energy demand, and analyzing current and future energy, transmission, and distribution resources utilizing a stochastic approach to plan to meet such future demand at minimized cost to the system owner/operator and its stakeholder.

**Kilowatt (kW):** One thousand watts.

**Kilowatt-hour (kWh):** One thousand watts produced for one hour.

**Los Alamos Power Pool (LAPP):** Based on the Energy Coordination Agreement (ECA) in place since 1985, Incorporated County of Los Alamos (LAC) and Los Alamos National Laboratory (LANL) pool their generation resources together and operate in the Los Alamos Power Pool.

**Load forecast:** A forecast of expected future energy demand based on an analysis of underlying economic indicators and past correlation between energy consumption and such economic conditions.

**Laramie River Station (LRS):** The Laramie River Station, located east of Wheatland, WY, is one of the largest consumer-operated, regional, joint power supply ventures in the U.S. Laramie River Station has three coal-based units: Unit 1: 570 net megawatts; began operating in 1980; Unit 2: 570 net megawatts; began operating in 1981; Unit 3: 570 net megawatts; began operating in 1982.

**Megawatt (MW):** One million watts or 1,000 kilowatts.

**Megawatt-hour (MWh):** One million watts (or 1,000 kilowatts) produced for one hour.

**MMBtu:** One million Btus.

**Net Present Value (NPV):** A method of calculating the current value of a series of cash flows, which considers the time value of money, and discounts future cash flows based on a determined discount rate or cost of capital.

**Operating reserves:** Operating reserve is a portion of generating capacity available to the operator of a power system that may be increased or decreased in order to match short-term fluctuations in energy demand on the system.

**Power Purchase Agreement (PPA):** A contract by which energy is bought and sold at prices and over time periods specified by the contractual terms.

**Purchased power:** Power purchased from a third party used to meet retail or wholesale electric demand.

**Reciprocating Internal Combustion Engine (RICE):** A generating unit type that utilizes the movement of pistons to convert pressure into a rotating motion, which can be used to turn an electric generator and produce electricity.

**Regional Greenhouse Gas Initiative (RGGI):** The Regional Greenhouse Gas Initiative (RGGI) is the first mandatory market-based program in the United States to reduce greenhouse gas emissions. RGGI is a cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont to cap and reduce CO<sub>2</sub> emissions from the power sector.

**Regulation:** An ancillary service product that provides extremely short term (intra-minute) upward and/or downward generation flexibility to meet fluctuations in load.

**Renewable generation:** Electric generation produced by a source that is considered to be readily renewable, including power generated by the wind, the sun (through photovoltaic processes or solar thermal processes), water (hydroelectric generation), biomass, etc.

**Renewable Portfolio Standard (RPS):** An energy policy which specifies the proportion of the energy mix that must come from renewable resources for an electricity provider. Typically, an RPS will require a certain percentage of renewables be used (on a capacity or energy basis) by a certain year in the future. Such policies will typically specify interim percentage targets in addition to final goals for renewable generation.

**Renewable Energy Credits (RECs):** Renewable Energy Certificates (RECs) are tradable and non-tangible energy commodities in the U.S. that represent proof that the electricity was generated from an eligible renewable energy source. Solar Renewable Energy Certificates (SRECs) are RECs that are specifically generated by solar energy.

**Reserve Margin:** A measure of available capacity over and above the capacity needed to meet normal peak demand levels.

**Photovoltaics (PV):** Solar PV converts solar energy into direct current electricity using semiconducting materials that exhibit the photovoltaic effect, a phenomenon commonly studied in physics, photochemistry and electrochemistry.

**San Juan Generation Station (SJGS):** The San Juan Generation Station is operated by PNM and owned by nine companies, including the Public Service Company of New Mexico (PNM). The plant has a net capacity of 1,683 megawatts: Unit 1 340 MW, Unit 2 340 MW, Unit 3 496 MW and Unit 4 507 MW. The oldest unit (Unit 2) went online in 1973, and the newest unit (Unit 4) went online in 1982.

**Small Modular Reactors (SMRs) or Small Modular Nuclear Reactors (SMNRs):** SMRs or SMNRs are nuclear power plants that are smaller in size (300 MWe or less) than current generation base load plants

(1,000 MWe or higher). These smaller, compact designs are factory-fabricated reactors that can be transported by truck or rail to a nuclear power site.

**Spinning reserves:** An ancillary services product that provides available capacity to a power system operator over short- to medium-term time intervals, typically within ten minutes.

**Thermal generation:** Power generation created through the creation of heat, as contrasted against many renewable generation technologies (biomass and biogas excepted), which do not rely on heat to produce electricity.

**Transmission system:** The series of towers and wires that transmit electricity from generation sources to the distribution system at higher voltages than the distribution system to minimize technical losses of transmitted electricity.

**Utah Associated Municipal Power Systems (UAMPS):** UAMPS is a political subdivision of the State of Utah that provides comprehensive wholesale electric-energy, transmission, and other energy services, on a nonprofit basis, to community-owned power systems throughout the Intermountain West.

**Variable Operations and Maintenance Expenses (VOM):** Operations and maintenance expenses that vary as a function of the amount of energy that is being produced.

**Weighted Average Cost of Capital (WACC):** A calculation of a firm's cost of capital in which each category of capital is proportionately weighted. All capital sources - common stock, preferred stock, bonds and any other long-term debt - are included in a WACC calculation.