

		Facility Type	Check Facilities for Which Respondent has Design Experience (X)
		Power Plants	
		Substations	
		Electric Transmission	
		Electric Distrbuton	
		Water Treatment Plants	
		Water Pump Stations	
		Valve Vaults	
		Dams	
		Wastewater Treatment Plants	
		Wastewater Lift Stations	
		Water Pipelines	
		Natural Gas Pipelines	
		Natural Gas Peaking Plants	
		Engineering Services	
Civil Engineering Services			Check Services Responent is proposing to provide (X)
		Structural	
		Equipment Foundation Designs	X
		Structural Design - Buildings, concrete walls, concrete ceilings, retaining structures and walls, etc.	
		Structural Design - Substations	
		Structural Design - Transmission Towers	
		Structural Platform Design/Evaluation/Modification	
		Structure Capacity Design and Evaluation	
		Footing and Foundation Design, Evaluation and Repair	x
		Underground Transmission Duct and Vault Structure Design (up to 230kV)	
		Grading and Drainage	
		Site Grading, Drainage and Erosion Control Design (Substations, Construction Sites, etc.)	
		Hydraulics/Hydrology	
		Hydrologic/Hydraulic Studies	
		Open Channel Hydraulics Design	
		Stream Restoration, Channel Stabilization, Erosion Mitigation Design	
		Drop Structure Design	
		Hydraulic Structure Design (Tanks, Vaults, etc.)	
		FEMA Permitting	
		Water Resources	
		Water Rights Engineering and Appraisals	
		Watershed Protection and Mitigation	

	Water Distribution Modelling	
	Pipeline Analysis and Design	x
	Pressure Reducing Valve and Air Vac Design	
	Embankment Dam Design & Analysis (including slope stability, seepage analysis, etc.)	
	Stormwater Improvements Design	
	Roads/Pavement	
	Asphalt Design for Pavement	
	Hydraulic Asphalt Design (for Dams and Reservoirs)	
	Miscellaneous	
	Preparation of construction related permits	x
	Engineering Services During Construction	x
	Land development planning and engineering	
	Zoning process assistance	
	Construction Management Services	
	Construction Oversight and Management	x
	Scheduling	x
	Cost Estimating	x
	Architectural Design	
	Industrial and Commercial Facility Building Code Review and Studies	
	Industrial and Commercial Facility Building Design	
	Geotechnical Engineering Services	
	Geotechnical Design (investigation work is covered by another GES)	
	Directional Drilling Design	
	Foundation Design	
	Retaining Wall Design	
	Excavation/Backfill/Compaction Design	
	Process Mechanical Engineering Services	
	Water/Wastewater	
	Water Treatment Process & Equipment Design	x
	Water Treatment Process Analysis & Optimization Services	
	Wastewater Treatment Process & Equipment Design	x
	Wastewater Treatment Process Analysis & Optimization Services	
	Pump Station Design	x
	Pump Station Analysis & Optimization Services	
	Lift Station Design	
	Lift Station Analysis & Optimization Services	
	Electric	
	Power (Steam, Combined Cycle, Hydro) Plant Design Services of Power Boilers, Turbines, Balance of Plant, Water Treatment, etc.	
	Power (Steam, Combined Cycle, Hydro) Plant Inspection Services of Power Boilers, Turbines, Balance of Plant, Water Treatment, etc.	
	Power (Steam, Combined Cycle, Hydro) Plant Analysis & Optimization Services on Power Boilers, Turbines, Balance of Plant, Water Treatment, etc	
	Design of hoisting systems (Elevators, overhead cranes, trolleys, etc.)	

	High Energy Piping Assessments	
	Pipe Stress Analysis and Condition Evaluation	
	Mechanical Process Design and Analysis	
	Mechanical System Code Review (ASME BPVC, ASME B31.1, NBIC, ASTM, NFPA, etc.)	
	Industrial Wastewater Treatment Facilities Design, Analysis and Optimization Services	
Gas		
	Propane Gas Peaking Plant Engineering Services	
	Natural Gas Pipeline Design	
	Odorization System Design/Analysis Services	
	Overpressure Protection Analysis Services	
	Gate Station Design Services	
	Natural Gas Pipeline Corrosion Protection and Failure Analysis	
	Miscellaneous	
	Fire protection systems evaluation, design and code certification	
	Corrosion Protection and Failure Analysis	x
	Materials Testing (non-geotechnical)	
	Engineering Services During Construction	
Building Mechanical Engineering Services		
	HVAC System Design	
	HVAC System Analysis & Optimization	
	Plumbing System Design	
	Fire Protection System Design	
Electrical Engineering Services		
	Arch Flash Calculations	
	Substation Design Services (all aspects up to 345kV)	
	Transmission System Design Services (115kV, 230kV, 345kV)	
	Distribution System Design Services (12.5kV, 34.5kV)	
	Underground Transmission Design	
	Overhead Transmission Design	
	Facility Power Supply and Distribution (Switchgear, Motor Control Centers, Transformers)	
	Load Flow Calculations and Studies	
	Short Circuit Calculations	
	Coordination Studies	
	Electrical System Design (Power Plants)	
	Electrical Wiring Schematic Development	
	Fault Current Protection Analysis (Power Plants)	
	Grounding and Bonding System Design (Power Plants and Substations)	
	Lighting Protection System Design (Power Plants and Substations)	
	Engineering Services During Construction	
I&C		
	Power Plant Control Systems Design/Evaluation/Modification (DCS, BMS, PLC Based)	
	Power Plant Control Systems Analysis & Optimization	
	Water Treatment Plant Control Systems Design	
	Water Treatment Plant Control Systems Analysis & Optimization	
	Wastewater Treatment Plant Control Systems Design	
	Wastewater Treatment Plant Control Systems Analysis & Optimization	

	PLC Logic and HMI Programming	
	Control Logic Schematic Development (SAMA, Ladder logic, etc.)	
	Control Philosophy Development	
	Field Device Review and Recommendation	
Studies and Planning		
	Studies and Alternatives Analysis (Natural Gas)	
	Technical Writing of Gas Processes and Procedures related to CFR Part 192	
	Studies and Alternatives Analysis (Electric - Power Plants, Power Boilers, Turbines, Balance of Plant, Water Treatment, Transmission, Distribution, Demand-Side Alternatives, Distributed Generation, etc.)	
	Studies and Alternatives Analysis (Water, Wastewater)	x
	Forensic Engineering (Water, Wastewater)	
	Forensic Engineering (Gas)	
	Forensic Engineering (Electric)	
	Land Use and Feasibility Studies	
	Water Resource Planning and Studies	
	Non-Potable Water System Planning & Studies	x
	Water and Wastewater Standards (Material and Equipment Specifications)	
	Electric Code Compliance Studies	
	Electric Protective Relay Settings Studies	
	Grounding, Bonding, and Ground Grid Studies	
	Power Quality Analysis Studies	
	Arc Fault Potential Studies	
	Electric Planning Studies	
	Demand Side Management Research and Evaluations	
	Electric Distribution Contingency and Voltage Studies	
	Electric Integrated Resource Planning and Integration Studies	
	Transmission Operational and Planning Studies for NERC Standards Compliance	
	Transmission Planning Studies	
	Transmission Route Analysis	
	<i>Facility Plans</i> - Facilities are defined as the combinations of mechanical and electrical equipment, process vessels, and interconnecting piping, wiring, and cable typically housed within a building or other enclosure with a defined site boundary (vertical assets). Facility plans are developed through evaluations and analysis of the facility to determine and plan for facility improvements and asset renewal/replacements. (Example: Nixon Power Plant)	
	<i>Program Plans</i> - Program plans are developed through evaluations and analysis of the linear assets to determine and plan for linear asset renewal/replacement activities and improvements necessary to achieve performance requirements in accordance with system planning criteria, level of service objectives and interdependencies with system facilities. (Example: Water Main Replacements Program)	
	<i>System Plans</i> - Systems are defined as the combinations of horizontal, vertical and soft assets that work together to achieve a common service purpose. System plans are developed through evaluations and analysis at the system level to determine and plan for system improvements. (Example the Wastewater System that includes plants and collection system)	

		<i>Resource Plans</i> - Resource plans include all the planning elements for the quantity, quality, type of (e.g. raw water, natural gas, coal, supply side, demand side), operating characteristics of, how, and where resources and/or service supplies (e.g. purchased power, finished water) will be brought into Utilities service territory to meet the forecasted demands, reliability, regulatory and strategic policy goals for the service over a long-term planning horizon appropriate to each service (e.g. water = 50 years). (Example: Electric Integrated Resource Plan)	
		<i>Integrated Service Plans</i> - Integrated service plans present a consolidated summary of the projects, programs, activities and other investments identified from the lower level planning documents (see above) necessary to achieve level of service and cost of service objectives for the service line including an overall 5-year prioritized and 20-year forecasted investment plan (schedule and budget).	