

**DONNELL - -**

**EXHIBIT 1**

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**Experience Summary**

Mr. Donnell has over 24 years of experience in the engineering, design, construction, and startup of utility and industrial projects. He has successfully accomplished tasks at all levels of responsibility ranging from Controls Engineer, Design Engineer, Plant Engineer, Lead Electrical Engineer, Lead Control engineer, Project Engineer, to Project Manager on a wide variety of commercial nuclear and industrial manufacturing projects.

He is currently coordinating the corporate Stone and Webster Spent Independent Spent Fuel Storage Installation (ISFSI) Program and supporting all marketing initiatives in this focus area of the power sector.

At present, he is managing the ongoing engineering support for an operating nuclear power plant and a centralized private fuel storage facility for commercial spent nuclear fuel. This ISFSI project has completed preliminary engineering and design activities and a licensing preparation effort for submission of a federal license application to the NRC. This project has begun the detailed engineering and design effort and will continue licensing support during the review process with the NRC. The Private Fuel Storage Facility project is unique in that a consortium of eight utilities have begun a project which in effect will be part of a national solution for storage of commercial spent nuclear fuel.

His commercial nuclear experience includes over 18 years of service in Pressurized Water Reactor power plants. This experience involves all facets of engineering, design, construction, and operation of nuclear power plant systems. Controlling overall plant costs have put additional pressures on modification engineering which require innovative and responsive project management. Programmatic interfaces to the client project team were developed to utilize the best and most appropriate resources from both organizations. In addition, portions of specific types of projects are being conducted under the clients QA program in the Denver office to augment traditional project execution in a cost-effective manner. Individual task assignments included construction responsibilities at new plants, development of more than 30 conceptual engineering studies at operating plants, execution of the engineering and design for more than 80 modification tasks at operating plants, and the preparation of Design Basis Documents.

Industrial experience includes plant-engineering assignments for the improvement and maintenance of manufacturing facilities and the design, construction, and startup of a new production facility. Duties included the complete electrical infrastructure system for the new plant and working closely with equipment vendors to insure control loop compatibility with other plant systems. Other assignments as a Design and Plant Engineer were focused on plant improvements in the electrical and control design portion of the projects.

**Education**

B.S., Electrical Engineering - University of Toledo

**Training**

- Calculation Preparation Workshop
- Engineering and Design Process Overview
- Generic Control System Division Training
- EAP 9.2 Supplier Technical Documents
- QA Program - Engineering /Design Overview
- ASME Short Course Program - ASME Boiler & Pressure Vessel Code
- Total Quality Management (TQM), Stone & Webster Engineering Corporation
- Interaction Management Program
- Generic Electrical Division Training
- EAP 5.6/5.8/5.14 Supplier Drawings
- The Affects of Radiation

### **Licenses and Registrations**

Professional Engineer - Colorado, Minnesota, Ohio

### **Experience History**

#### **STONE & WEBSTER ENGINEERING CORPORATION, DENVER, COLORADO**

##### **Maine Yankee ISFSI, Maine Yankee Atomic Power Company**

As Technical Consultant, responsible for providing insight and overall guidance in design and licensing issues related to the ISFSI project. He attends NRC meetings and interfaces with utilities and cask vendors as part of his corporate position to provide the general industry perspective on significant issues. As Assistant Project Manager, he is responsible for the ISFSI engineering and licensing activities in the Denver office.

##### **Private Fuel Storage Facility, Private Fuel Storage LLC**

As Project Manger, is responsible for the engineering, design, and budget and schedule control for a project to produce all necessary federal licensing documents for submission to the NRC for this first of a kind private fuel storage facility supporting multiple nuclear utilities. The effort also includes site selection and characterization, preliminary and detailed facility engineering and design, and related facility and transportation infrastructures. The licensing documents are in compliance with the requirements of 10 CFR Part 72.

##### **NSSS Annunciator Replacement, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager, Mr. Donnell is responsible for the engineering, design, and budget and schedule control of a project to upgrade the NSSS system annunciator with a state-of-the-art annunciator system. This project requires close coordination with operations personnel for the two-unit control room. The work scope on this project includes initial project scoping and design input, preparation of the modification design criteria, preparation of equipment specifications, evaluation and selection of equipment, preparation of construction drawings, preparation of draft-safety evaluations, design and implementation of temporary annunciator systems, and field support.

##### **Decommissioning and Independent Spent Fuel Storage Facility, Trojan Nuclear Generating Plant, Portland General Electric**

As Project Manager, was responsible for providing support for the decommissioning of the Trojan Nuclear Plant including the onsite independent spent fuel storage installation. Services supplied include reviewing the decommissioning plan prior to submission to the NRC with follow-up activities concerning radiation surveys and to assess the alternatives for the dismantlement of the structures, systems and components required for decommissioning. Other activities included preparing a bid evaluation methodology document for the selection of the storage technology with site support during the evaluation process and review of license termination procedures.

**Goodhue County Offsite ISFSI, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manger, was responsible for the engineering, design, budget and schedule control for a project to produce the necessary federal licensing documents for submission to the NRC for this first of a kind offsite fuel storage facility. The effort includes site selection and characterization, preliminary engineering and design for the facility and related infrastructure, and the transportation corridor. The licensing documents are in compliance with the requirements of 10 CFR Part 72.

**Fast Bus Transfer Study and Modification, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manger, was responsible for the engineering, design, and budget and schedule control for a project to prepare a study and subsequent modification addressing the technical aspects, costs, and schedule associated with modifying the plant fast bus transfer system to further mitigate risk to safety-related equipment from switching transients. The study included torsional analysis of the large motors in the plant. The final report summarized issues, mitigation methods, risks, benefits, advantages/disadvantages, and costs associated with this type of upgrade. This study was later implemented as a plant modification.

**Independent Spent Fuel Storage Installation (ISFSI), Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager and earlier as Project Engineer, was responsible for all project management and all technical interdisciplinary coordination required to support the engineering, design, and budget and schedule control of a project to build an independent spent-fuel storage installation (ISFSI) at this operating nuclear plant. Work scope included radiological calculations, Environmental Report preparation, Safety Analysis Report preparation, site arrangement, storage pad design, security system design, radiation monitoring system design, and interface to the plant. Design tasks included preparation of the facility design criteria documents, equipment specifications, evaluation and selection of equipment, preparation of construction drawings, and field support. This project required control of safeguards information.

**Turbine Generator Fire Suppression System, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager, was responsible for engineering, design, budget and schedule control for a project to upgrade the turbine generator fire detection and suppression systems for this two unit nuclear generating plant. Work scope involved the replacing and upgrading the existing detection and suppression system including the fire protection control panel, suppression piping/ nozzles, and interlocks to the turbine generator control system. Project tasks included the preparation of the modification design criteria, preparation of construction drawings, and field support.

**Security - Intrusion Detection and Video Assessment System Upgrade, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manger, was responsible the engineering, design, and budget and schedule control for a project to replace the existing plant perimeter intrusion detection system and to upgrade the video assessment

system. Project tasks included preparation of the modification design criteria, preparation of construction drawings, and field support. This project required control of safeguards information.

**Cathodic Protection Upgrade, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager, was responsible for engineering, design, budget and schedule control for a project to replace the existing plant distributed cathodic protection which had reached end of life with a new deep well system. Field testing was completed prior to the beginning of the upgrade project and after installation of the new system to verify adequate performance. Project work scope included the preparation of the modification design criteria, procurement of the installation contractor for the deep well system, selection of equipment, preparation of construction drawings, and field support. A follow-on project was implemented in 1995 to install supplemental anodes in the vicinity of the intake screenhouse to provide coverage in an area shadowed from the new deep well system by underground piping.

**River Water Temperature Monitoring, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager, was responsible for engineering, design, budget and schedule control for a project to add a temperature monitoring system to the Mississippi River to comply with new state water temperature discharge requirements. The system used a radio telemetry system to transmit temperature data from a point before the plant intake unaffected by plant operation and a point downstream from the plant discharge to the river. Temperature data was also taken from Sturgeon lake at a point near the plant intake. Temperature data is collected at a central location at the plant for logging. Project tasks included the preparation of the modification design criteria, support for the evaluation and selection of equipment, preparation of construction drawings, and field support.

**Reactor Coolant System Draindown Modification, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager, was responsible the engineering, design, and budget and schedule control for a project to add piping to the reactor coolant system to prevent draindown of the system below midpoint. A related project added ultrasonic level transmitters to monitor the RCS system level. Project tasks included preparation of design criteria, preparation of equipment specifications, pipe stress analysis evaluation, preparation of construction drawings, and field support.

**Main Control Board Human Factors Modifications, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manager and earlier as Project Engineer, was responsible for all project management and technical and interdisciplinary coordination required for the engineering, design, and budget and schedule control of this rework of portions of the Main Control Board at this operating nuclear power plant. This portion of a 10-year, multi-million dollar effort was authorized to accommodate human factor considerations, and required close coordination with operations personnel as well as the control room design review committee on the final sections of the control board (A, E, F, and G). The reconfiguration required implementation of approximately 50 related projects outside the control room. Space requirements, shared-unit control room issues, and outage constraints made this an extremely challenging project. The project used an innovative modular design that will facilitate future changes. Project tasks

included initial project scoping and design input, preparation of the modification design criteria, preparation of equipment specifications, evaluation and selection of equipment, preparation of construction drawings, preparation of draft safety evaluations, and field support.

**Administration Building Alternate Power Feed Modification, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manger, was responsible the engineering, design, and budget and schedule control for a project to add a second utility power source and automatic transfer switch for the site administration building. Project tasks included preparation of the modification design criteria, development of the one-line diagrams, electrical system analysis, preparation of equipment specification evaluations and selection of equipment, electrical protective coordination, preparation of construction drawings, and field support.

**Reactor Protection System Upgrade, Electric Power Research Institute (EPRI), Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manger, was responsible for the preparation of a study addressing the scope of work and costs associated with replacing the existing Prairie Island Nuclear Generating Plant analog reactor protection system with a digital-based system. Other systems evaluated for upgrade included the reactor trip breaker logic, safeguards actuation, annunciator interface, operator interface, and reactor control loops. This task required interface with EPRI, the site engineering staff, and the NSSS vendor for the plant (Westinghouse). The report summarized issues, risks, benefits, advantages/disadvantages, and budgetary costs associated with this type of upgrade.

**Single Failure Proof Auxiliary Building Crane Modification, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Manger, was responsible the engineering, design, and budget and schedule control for a project to replace the existing auxiliary building crane trolley, and upgrade of the crane bridge and runway. Motivation for the project was to accommodate single failure proof requirements associated with handling spent-fuel casks for the dry cask fuel storage facility. Project tasks included preparation of the modification design criteria, preparation of equipment specifications, preparation of construction drawings, and field support.

**Annunciator Replacement, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Engineer and earlier as Lead Electrical/Controls Engineer, was responsible for all technical aspects and interdisciplinary coordination associated with the engineering, design, and budget and schedule control of this project. The scope of work included a upgrade of both the NSSS and the BOP system annunciators with state-of-the-art annunciator systems. This project included reorganization of 2000 annunciator windows in the two-unit control room to accommodate the control board human factors considerations. This effort required close coordination with operations personnel and the control room design review committee. Responsibilities on this project included initial project scoping and design input, preparation of the modification design criteria, preparation of equipment specifications, evaluation and selection of equipment, preparation of construction drawings, preparation of draft-safety evaluations, design and implementation of temporary annunciator systems, and field support.

**Hot/Cold Leg RTD Replacement, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Engineer, was responsible for all technical aspects and interdisciplinary coordination associated with the engineering, design, and budget and schedule control for this project to replace the existing plant hot and cold leg RTDs on Unit 1. Project tasks included preparation of the modification design criteria, preparation of equipment specifications, preparation of construction drawings, and field support.

**Control Room Toxic Gas Monitoring System Modification, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Engineer, was responsible for all technical aspects and interdisciplinary coordination associated with the engineering, design, and budget and schedule control for this project to upgrade of the existing control room toxic gas monitoring system to improve reliability and maintainability. Project tasks included preparation of the modification design criteria, preparation of equipment specifications, preparation of construction drawings, and field support. A second phase of the effort included a comprehensive review of the system and evaluation of new technologies for this application.

**Computer Upgrade Project, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Utility Project Engineer, was responsible within the Nuclear Generation Services department for the implementation of a computer upgrade project at the operating plant. He was responsible for the generation and use of an engineering package for the installation of computer hardware and a fiber optic network used as the backbone of the field remote multiplexing units. The generation and review of the construction work packages, contractor and vendor interface, cost and schedule control for field changes, and review and approval of additional authorizations for engineering were performed over the course of this project.

He was also responsible within the utility for the installation required to replace the plant process computer and add emergency response capability. The project used remote multiplexors (including IE qualified) in various areas of the plant communicating over a redundant fiber optic link to the plant computer. Acting as the utility project engineer required extensive coordination on both technical and procedural matters. Responsibilities included the generation of an engineering package for the installation of a new computer system and related hardware; review and approval of all construction drawings and specifications, generation and review of the construction work packages used by the various contractors; generation of all formal documentation required for a modification to an operating plant; and accountability to the utility task force for installation related matters. Cost and schedule was actively monitored and controlled for both engineering and construction related activities over and extended duration.

**In-Core Thermocouple Modification, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Project Engineer and earlier as Lead Electrical/Control Engineer, was responsible for all technical aspects and interdisciplinary coordination associated with the engineering, design, and budget and schedule control of this project. The scope of work included the replacement wiring and interface to new in-core thermocouples. Project tasks included preparation of the modification design criteria, preparation of equipment specifications, preparation of construction drawings, and field support.

**Circulating Water System Intake/Discharge Structure Addition, Prairie Island Nuclear Generating Plant, Northern States Power Company**

As Lead Electrical/Controls Engineer and earlier as Controls Engineer, was responsible for the electrical, control, and instrumentation for the addition of a new screenhouse and discharge structure for this two-unit nuclear plant. This \$25-million project included a new screenhouse structure, associated equipment, discharge structure, plant interface, and interface to the station switchyard for power. Responsibilities on this project included initial scope development, preparation of the modification design criteria, development of the one-line diagrams, preparation of equipment specifications, evaluation and selection of equipment, preparation of construction drawings, and field support.

**GREAT WESTERN SUGAR COMPANY, DENVER, COLORADO**

As Plant Project Engineer, was responsible for all plant improvement projects for four manufacturing facilities. Activities involved developing project scope and cost estimates, detailed engineering, drawing preparation and coordination, construction assistance, startup assistance and process troubleshooting.

As Electrical and Control Engineer for a high fructose corn syrup project, was responsible for a complete facility load center distribution system using step-down transformers and a steam turbine generator as power sources. All electrical and interface controls were specified for all major equipment with procurement support and factory acceptance testing. Control responsibilities included coordinating vendor supplied systems for compatibility with in-house system integration requirements, pre-start-up field testing and calibration of the package systems, and design of control loops to interface with existing equipment. Measurements involved PH, steam flow, level and temperature control. Startup assistance was provided to the equipment vendors and well as process troubleshooting to increase performance or eliminate operational problems.

As Electrical Design Engineer, responsible for the electrical and control loop designs for plant improvement projects in thirteen manufacturing facilities. Assisted in process troubleshooting during operation of new and existing systems. Prepared schematic drawings for motor control interlock systems, control panel layouts and pneumatic instrumentation control schemes.

As Design Engineer, responsible for preparing engineering installation drawings for plant improvements including process mechanical equipment, building layout, and structural building design.