

**Joseph P. Smetona, Jr.**

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[Joseph Smetona - LinkedIn.com page](#)

Over 33 years of experience as a technical support analyst and design / engineering / CAD professional in the Nuclear (PWR/BWR) and Fossil Power, Pharmaceutical and Chemical Industries.

**Education:**

1976-1981 (Day/Evening) - Drexel University, Philadelphia, PA  
EE major, Courses in Engineering, Calculus, Chemistry, Physics and Psychology.

**Awards:**

Fluor Excellence Award - Sun Company Zeta Project  
Fluor VIP Award - Vitamin C Expansion Project, Hoffmann LaRoche

**URS Inc., Washington Division, Princeton, NJ (Electrical Division)**

**Lead Designer, November 2007 to May 2010**

**PSEG Hudson Generating Station – Unit 2**

**Back-End Technology Project**

**(07/2009 to 5/2010)**

Responsible for various tasks within the electrical group including the creation of new CAD drawings and conversion of various vendor drawings to PSEG standards.  
Provided Cable Block and Schematic Diagrams using Intergraph Wireworks Software along with Microstation SE, J and V8. Areas of responsibility include the following:

**Electrical One Line Diagrams:**

138-13.8 KV BET Transformers  
13.8 KV Power Distribution System – Service Bus 2  
4KV Power Distribution System – Service Bus 1 & 2  
13800/460V Unit Sub 1A-1D, & 2A-2D  
480V MCC  
Distribution System – 125VDC  
UPS System  
Transformer 20STX-XNS-0001 & 0002  
Protective Relay Cabinets

**Electrical Page/Parity & Communication Dwgs,**

**Electrical Lighting Drawings and Panels,**

**Power Panels and Schedules**

**Plans and Sections, Cable Tray & Conduit, Panels:**

Air Compressor Building  
PJFF Train 21 & 22  
SDA Train 21 & 22  
Booster Fan Train 21 & 22  
Recycle Slurry Building  
Lime Silos / Reagent Prep  
Byproduct Silo  
Mech Exhaust & PDC-20  
M.U. Water Storage Tank  
Ammonia Storage Area  
SCR  
PDC-21  
PDC-22  
PDC-1  
138KV Switchyard Expansion Plan

**Detroit Edison FGD Project, Monroe  
Power Plant Unit 3 & 4, (Nov. 2007 to  
June 2009)**

Responsible for various tasks within the electrical group including the creation of new CAD drawings and conversion of various vendor drawings to DECO standards. Areas of responsibility include the following:

Gypsum Dewatering Building  
Reagent Preparation Building  
Wastewater Treatment Building  
Gypsum Storage Area / Truck Scales  
Absorber Building  
Limestone Storage Area  
Limestone Receiving Area  
Cathodic Protection  
Limestone Receiving Building Conveyors  
Booster Fans  
Absorber Building 13.8 KV – 5KV Substation  
SCR Installation – SCR Electrical Room  
UPS – Uninterruptible Power System  
Schematic Diagrams – Spare 4160V Breakers  
Wiring Diagrams – 480V Distribution Cabinets  
Wiring Diagrams – 4160V System Service Bus  
Wiring Diagrams 4160V Breaker Bus  
Gypsum Vacuum Pump

WWT Transformer  
Termination Cabinets  
Schematic Diagram Service Water Pump  
Sodium Hypochlorite Treatment System  
Coal Handling System  
Wiring Diagrams-480V Power Distribution Panels  
Gypsum Marshalling Cabinet – Wiring Diagram  
DCS Fiber Optic Cable Diagrams  
Oxidation Air Blower – Wiring Diagram  
Continuous Emissions Monitoring System (CEMS)

Schematic, Wiring & One Line Diagrams, 5KV & 15K Switchgear Drawings

Schematic, Wiring & One Line Diagrams, 480V MCC & 480V Switchgear

Various One Line, Three Line, Wiring, Schematic & DCS Drawings

**RCM Technologies Inc., Pennsauken, NJ, Gen. Microstation Technical Support, IT, CADD**  
**April 2005 to November 2007**

**4/2005 to 11/2007.** Responsible for technical support of Bentley software programs including MicroStation, repair and maintenance of computer hardware, network connections, and resolution of general computer and software problems. Provided design and CADD support (including Structural Drawings) for the following projects:

**4/2005 PECO** – Peach Bottom, Limerick station As-Built Effort.

**5/2005-8/2005 - Wisconsin Energies** – Holland Sub-Station

**8/2005- 11/2006 - Wisconsin Energies** – Bass Lake SS, Armory SS, Big-Q SS, Twin Falls SS, Hales Corner SS, Pleasant Prairie SS, Valley Power Plant SS, Pike Lake SS, Julius SS

**11/2006-4/2007 – New York Power Authority (NYPA) – 138kV Tie Line Project**

**4/2007-present – Consolidated Edison – Manhattan Vault Upgrades** – responsible for installing and upgrading new services to Manhattan commercial customers. Included enlarging existing vault structures, bus compartments and service boxes and associated cables for distribution and transmission lines. The work involved creating new drawings for conduit and cable installation using existing raster images and utility supplied survey, water, sewage, telephone, and gas plates.

**Bentley Systems, Inc., Exton, PA (Technical Analyst)**  
**Technical Analyst, Plant, Server Based and Foundation Products Group**  
**August 1999 to March 2004**

**Analyst – Server Based Products Group. (Aug. 2001 to Mar. 2004)**

Responsible for support of SELECTServer, MicroStation SE, J, J 7.1 and V8, including correction of various installation and operational errors. Also responsible for creating Siebel CRM service requests and assigning them to other members of the group for problem resolution.

***Closed over 4000 technical support requests. Achieved 91.7 % average (all questions) on over 600 Customer Surveys sent to customers by the Bentley Technical Support Vice President.***

**Analyst – Model Engineering Business Group (Aug. 1999 to Aug. 2001)**

Responsible for support of PlantSpace P&ID, MicroStation Schematics, Electrical Elementary Diagrams (Opti-SE), Logos L/Iso, PlantSpace Instrumentation, MicroStation SE, J and J 7.1 programs. Also taught 1 day PlantSpace P&ID – User Course and 4 day P&ID Customization Course. Responsible for creating Service Requests for other members of the group. Provided Select Services main phone line coverage during medical absence of an analyst.

Also wrote several articles for publication in the Bentley Client Server printed and online periodical and for the AskInga.com website dedicated to MicroStation topics.

**Fluor Daniel, Inc., Marlton, NJ (Engineering / Design)**  
**Instrument and Control Designer II**  
**March 1993 to June 1999**

**Kodak Project 5, 6 & 7, Eastman Kodak Company, Xiamen City, Fujian Province, China (2/97 - 6/99)**

Responsible for the physical PLC control cabinet arrangements for melt and delivery systems 1 through 11, chemical delivery, building services, dye/hardener, MPL wash, coater mixing and process lighting systems. Provided drawings and sketches of power distribution, network system architecture, interconnect and I/O terminal blocks for client issue and also to the panel fabrication vendor. Also created the above named CAD start models for the Project 7 (Manila), Project 5 and Project 6 efforts in the Marlton office. Previously provided process (P&ID) and instrument index support using the Rebis relational database / drawing generator software. Generated a Microsoft Access database as a basis for future Project 7 work.

Created control room arrangement drawings for the first site location. Produced Rebis loop diagram prototypes and P&ID drawings. Assigned as Discipline Application Specialist for CAD, Kodak standards and Windows NT during this period, providing assistance to design and engineering personnel. Provided an 18 page report to management on the advantages of using Microsoft Windows NT to achieve greater processing speed and reliability. This was for Fluor's eventual migration of approximately 10,000 computers (worldwide) from Windows 3.1 to the Windows NT operating system. It also was preempted by initially using Rebis on a 16-bit computer operating system.

**Vitamin C Expansion Project, Hoffmann-LaRoche Inc., Belvidere, NJ (1996 - 1997)**

Responsibilities included physical walk downs of the main control room operator and scheme timer panels, junction boxes, tanks, valves and motors. Supplied Arrangement, Equipment Layout, Schematic, Wiring and DCS information for final drawing production. Identified discrepancies between Roche plant drawings and actual plant conditions with respect to equipment, wiring, valves, instrumentation and piping. Provided a DCS cutover report to client to be used to describe the terminal block jumpers required to sequentially convert the 14 existing rearrangement reactors, chloroform wash and acid/alcohol systems from manual (relay and tenor drum) control to the Honeywell TDC-3000 system. By bypassing these interlocks, a single reactor could be converted to DCS without removing the remaining reactors from service and interrupting their production. This was complicated by the plant's use of shared piping and the various cleaning cycles used in the production of Vitamin C. Also responsible for the design of a Marshalling Panel containing over 10,000 terminations that was located adjacent to the main control room.

This project also added new rearrangement reactors to significantly increase the plant's overall production.

Received Fluor VIP award.

**Sunoco Rebranding Project, Sun Refining and Marketing Inc., Phila., PA, (10/93 - 12/95)**

Furnished multidiscipline design services on a project to refurbish 1500 service stations in 14 states over a 33 month period. Responsibilities included design and drafting of Survey, Existing Condition and Demolition Plan, Plot Plan, Tank Plan, PennDot, Isolux, Grading, Civil and Electrical Drawings. Solely responsible for the design and drafting of the Distributor portion of the Project during that time period. Also provided detailed design and a 21' CNC router pattern to construct a sign for the company's two advanced mini-market prototype projects (Bustleton Avenue, Phila., PA and Harrisburg, PA)

**Stone & Webster Engineering Corporation, Cherry Hill, NJ**  
**(Engineering / Design)**  
**Instrument and Control Designer**  
**October 1977 to March 1993**

**Salem Unit 2, Public Service Electric & Gas Co., (1992)**

Assigned to the Salem Unit 2 Turbine Repowering Project (at the site). Responsible for rearrangement of existing turbine monitoring gauges and associated valves and tubing. Also responsible for the addition of drain pressure gauge and associated hardware. Provided the redesign of turbine testing apparatus. Received VA (Vital Area) site access badge at this time allowing unescorted access to the Unit 1 and Unit 2 Control room and Reactor Building.

**Indian River Power Plant, Delmarva Power & Light Co. (1989 - 1990)**

Responsible for the design and drafting of various documents for the cycle makeup water pretreatment system modification. Provided elementary diagrams, degasifier and gravity sand filter enclosure panel arrangements, tubing and wiring diagrams and instrument installation detail drawings.

**Whirl Tower Containment Structure, Boeing Helicopters, (1989)**

Responsible for the design and drafting of the helicopter rotor testing facility on the IBM CADAM computer system. Provided site plan, door section and detail drawings, truss details, foundation details, crane support details and pile location plan drawings.

**Hydrogen Tank Farm Relocation Project, IBM Incorporated, (1989)**

Responsible for the design and drafting of the security, power, lighting, CCTV, microwave transmitter and receiver, fire detection, tank wiring, E-Flex and cable schedule drawings on the IBM CADAM computer system. Worked closely with electrical and security engineering to produce 14 drawings used to relocate one 20,000 gallon ultra high purity liquefied hydrogen and two 25,000 gallon liquefied hydrogen tanks and surrounding structures.

**Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corporation (1985 - 1986)**

Responsible for implementing the General Electric PGCC as-built effort. Duties included categorizing, Documenting and incorporating GE change authorizing documents (FDDR's) into General Electric production drawings. Also responsible for updating operator instruction manuals and turnover of various calculations the client.

**Oyster Creek Nuclear Generation Station, GPU Nuclear Corporation, (1985)**

Responsible for the design of the computer, alarm and SPDS operator console to be used in the main control room. Also responsible for developing the conceptual design using the 3D modeling capabilities of the CALMA computer. Also responsible for replacing existing control room recorders with 14 seismically mounted multipoint recorders of various manufacture. Detailed fabrication and arrangement drawings were also created. All design and drafting were done on the CALMA DDM3 computer system.

**Site Assignment at River Bend Station - Unit 1, Gulf States Utilities Co., (1985)**

Responsible for the human factors engineering review of the main control panels, initiating engineering and design coordination reports authorizing human factors changes to the reactor control, HVAC, electrical distribution, BOP, reactor feedwater and remote shutdown control panel equipment, legend plates, annunciators and mimics. Also initiated documentation to void existing design base drawings and replace them with General Electric production drawings.

## Professional Training:

Intergraph 3D Plant Design System (PDS) - Aug. 1998

NetG online training course for Windows NT 4.0 – Scored 100.

### **URS Courses:**

Intergraph Wireworks (Cable Block Diag.)  
Intergraph Schematic Diagrams

CALMA DDM3 & DAL programming  
(2D/3D - Digital and HP Apollo Systems)  
Intergraph CAD and IRAS (2D/3D/VAX)  
MicroStation 3, 4, 95, SE, J, V8, 2004 Edition  
(2D/3D/PC/UNIX)

### **Bentley Courses:**

PlantSpace P&ID-User  
PlantSpace P&ID-Customization  
Enterprise Navigator  
Schedule Simulator  
MicroStation Modeler  
PlantSpace Instrumentation  
MicroStation V8 Benchmarking

AutoCAD 11, 12 & 13 (2D/3D)  
IBM CADAM (IBM 3090 Mainframe)  
  
Microsoft Course 803: Administering  
Microsoft Windows NT 4.0  
Microsoft Course 44-122: Windows NT 4.0  
Orientation.

### **2D & 3D CAD Systems Courses:**

Rebis AutoPLANT Instrumentation System  
(AIS-2D, Relational Database w/ AutoCAD  
13)  
Rebis AutoPLANT P&ID (2D), Rebis  
AutoPLANT 3D Designer (3D Piping)  
Advanced Rebis Training

Various company sponsored courses in  
Instrumentation, Controls, Electrical,  
CAD Systems, Programming, Elementary  
Diagrams, Loop Diagrams and One-Line  
Diagrams

ComputerVision CADD3 3 & 4X (2D/3D)

Proficient in Microsoft DOS, Access, Excel,  
Windows 3.51, NT, Windows 2000, XP,  
HTML, Extended Basic and various utility  
programs.

### **Salem Nuclear Generating Station Vital Area (VA) badge**

Nuclear plant safety and site procedures courses required for obtaining the VA badge for Salem Unit 2 (Turbine Repowering Project). The VA (Vital Area) badge allowed unescorted access to the Control Room and Reactor Building.

## Publications:

**Bentley Client Server Articles: (Bentley Systems, Exton, PA, to view articles, please visit:  
<http://smetona.net>)**

**PlantSpace P&ID -  
Engineering Overview**  
(English)

**Analyzing Program Usage  
Data with the  
SELECTserver License  
Manager**

**Article on Computer  
Hardware and  
Maintenance.**

# **Technical Paper – Windows NT Migration**

**Fluor Daniel, May, 1997**

Provided an 18 page report for management outlining the replacement of the existing Windows 3.1 operating systems with Windows NT Server 4.0 and Windows NT Workstation 4.0. (This was for Fluor's eventual migration of approximately 10,000 computers (worldwide) from Windows 3.1 to the Windows NT operating system. It also was preempted by initially using the Rebis relational database software on a 16-bit computer operating system.)

## **Security Clearance:**

### **Salem Nuclear Generating Station VA (Vital Area) badge**

Nuclear plant safety and site procedures courses required for obtaining the VA badge for Salem Unit 2 (Turbine Re-powering Project). VA (Vital Area) badge allowed unescorted access to the Control Room and Reactor Building.

Creation of and access to Nuclear Safety Related, Quality Assurance Category I, II and III drawings and documents.

Various access badges for Nuclear, Fossil, Pharmaceutical, Chemical, High Voltage areas, Control Rooms and Switchgear.

## **Computer Skills:**

Able to assemble and configure new and existing computer workstations from individual components. Also able to clean and rebuild computer workstations and install new operating systems and drivers, partition hard drives, configure overall system for maximum performance, edit registry to substantially increase performance, disable Windows File Protection (WFP), edit binary system files, etc. Familiar with Microsoft Office programs and many platform and vertical CAD programs from Bentley and other companies. Familiar with state of the art hardware and quality assembly methods. Familiar with the installation and maintenance of numerous Linux distributions.

Technical support at Bentley Systems provided experience with correcting general software anomalies. (Exception Errors, Video Driver Problems, Corrupted Resource and Preference Files, Installation Errors, Inadequate user Permissions, etc)

Refer to: [Communities.Bentley.com](http://Communities.Bentley.com) article on Computer Hardware and Maintenance.

## Additional Project Experience

(Contact Joe Smetona for full descriptions)

### Fluor Daniel, Marlton, NJ

- Xenical II MP-7 Project, Hoffmann-LaRoche Inc., Nutley, NJ (1997)
- PP9 Project, Saudi Consolidated Electric Power, Riyadh, Saudi Arabia (1996)
- Marcus Hook Tank Gauging and Zeta Project, Sun Refining and Marketing Co., Marcus Hook, PA (1996)
- Toxoid and Pneumo-C Project, Influenza Vaccine Production, Wyeth Pharm., Pearl River, NY (1996)
- Bergen Generating Station - Unit 1, PSE&G, Bergen County, NJ (1993)
- BL England Station, Atlantic City Electric, Atlantic City, NJ (1993)
- PEPCO Conversion Project, Station "H", Potomac Electric and Power Co., Frederick, MD (1993)

### Stone & Webster, Cherry Hill, NJ

- Chalk Point Unit 1 and 2; Benning Unit 16; Dickerson Unit 1, 2 and 3, Potomac Elec.Pwr. (1992 - 1993)
- Burlington Station Units 101, 102, 103 and 104, Public Service Electric & Gas Co. (1991 - 1992)
- Anitec Cogeneration Plant, Allegheny Power and Light Co., (1991)
- Peach Bottom - Unit 2, Philadelphia Electric Co., (1990)
- Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corporation (1990)
- Salem Unit 1, Public Service Electric and Gas Co.,(1990)
- Conowingo Hydroelectric Station, Philadelphia Electric Co., (1989)
- Deepwater Station, Atlantic City Electric Co., (1988 - 1989)
- Browns Ferry Nuclear Project, Tennessee Valley Authority, (1988)
- Stone & Webster Marketing Department (1988)

- Peach Bottom Atomic Power Plant, Philadelphia Electric Co., (1988)
- Comanche Peak Steam Electric Station - Units 1, 2, TU Electric (1986 - 1987)
- Peach Bottom Atomic Power Plant, Phila. Electric Company (1987)
- Oyster Creek Nuclear Generating Station, GPU Nuclear Corp., (1985)
- Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corp., (1984 - 1985)
- River Bend Station - Unit 1, Gulf States Utilities Co., (1984)
- Crystal River - Unit 3, Florida Power and Light Co., (1983 - 1984)
- Potomac River Plant, Potomac Electric Power Company (1983 - 1984)
- Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corp., (1983 - 1984)
- River Bend Station - Unit 1, Gulf States Utilities Company, (1983)
- Gannon Station - Units 1 and 2, Tampa Electric Company, (1983)
- Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corp., (1981 - 1983)
- Deepwater Station, Atlantic City Electric Co., (1981)
- Three Mile Island - Unit 1, GPU Nuclear Corporation, (1981)
- Big Bend Station - Unit 4, Tampa Electric Company, (1978-1980)
- Enrico Fermi Atomic Power Plant - Unit 2, Detroit Edison Company, (1978)
- River Bend Station - Unit 2, Gulf States Utilities Co., (1977 - 1978)
- Nine Mile Point Nuclear Station - Unit 2, Niagara Mohawk Power Corp., (1977 - 1978)