



 **GSE TrueNorth™**
Programs + Performance

Power players for plant performance.

Our services cover a wide spectrum within the power generation sector ranging from engineering program services specific to the nuclear power industry to plant thermal performance support across nuclear, fossil, and renewable generation technologies. Additional areas of expertise include our highly-experienced information technology staff supporting our line of specialized software products.

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ENGINEERING PROGRAMS

TrueNorth is an industry leader in the development, implementation, and maintenance of engineering programs. Our experience is extensive regarding ASME OM Code and other regulatory driven programs such as 10 CFR50 Appendix J. Additionally, TrueNorth staff are actively involved on numerous industry committees and initiatives with active participation and leadership on numerous OM Code committees.

ASME OM Code Programs

- ▶ Preservice & Inservice Testing
- ▶ Relief Valve Programs (APP I)
- ▶ Check Valves (APP II – CVCM)
- ▶ Motor Operated Valves (APP III / OMN-1)
- ▶ Air Operated Valves (APP IV / OMN-12)
- ▶ Snubber Programs (ISTD)

Other Regulatory Driven Programs

- ▶ Containment Integrity – 10 CFR50 Appendix J
- ▶ Risk Informed Applications (10CFR50.69)
- ▶ Equipment Qualification
- ▶ Boric Acid Control
- ▶ New Reactor Design / Programmatic Interfaces

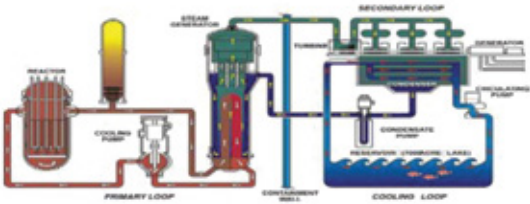
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BALANCE OF PLANT

TrueNorth Balance of Plant (BOP) Programs division includes a team of industry experts focused on supporting the efficient and effective implementation of BOP programs. With extensive utility experience, we have developed and implemented customized engineering solutions to support all aspects of plant programs.

Balance of Plant Programs

- Flow Accelerated Corrosion (FAC) Programs
- Erosion / Mechanical Degradation Programs
- Underground Piping and Tank Programs
- Raw Water & Service Water Programs
- Heat Exchanger Programs



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SPECIALTY ENGINEERING

TrueNorth Specialty Engineering Programs staff have the skills, program expertise and plant background necessary to manage, implement and maintain regulatory and code compliance across a broad spectrum of plant programs. Active involvement in industry committees and forums as well as regulatory activities keeps TrueNorth at the forefront of plant issues, initiatives and technology.

ASME Section XI Programs

- Preservice & Inservice Inspection
- Risk Informed Programs (N-578-1, N-716-1)
- Containment Inspection Programs (CISI)
- System Pressure Test
- Augmented Programs
- Component Support Programs

Other Specialty Program Areas

- Cyber Security
- Fire Protection (NFPA 805)
- Gas Void Accumulation (GL08-01)
- License Renewal (Programmatic)
- Alloy 600 Programs
- Reactor Vessel Inspection (BWVIP, MRP)
- New Reactor Design / Programmatic Interfaces

THERMAL PERFORMANCE

TrueNorth Thermal Performance division is focused on maximizing commercial advantage through increased efficiencies, reliability, and optimization of power/fuel ratios. We combine various tools with leading edge industry experience to analyze a power plants total ability to produce electricity reliably and efficiently.

Program Assessment/Development

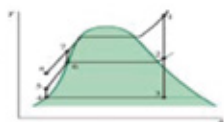
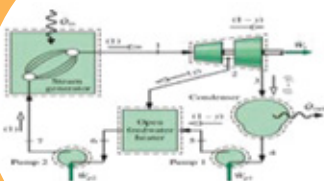
- Thermal Performance Modeling
- Power Calculation Evaluation
- Secondary Valve Leakage (CIM)
- MWe Improvement Recommendations

Heat Balance Analysis

- Turbine Cycle / Megawatt Loss Evaluations
- Life Cycle Studies (Major Components)
- Major Component Warranty Validations
- Data Reconciliation Applications

Thermal Performance Monitoring

- Develop/Enhance On-line Monitoring Capability
- Plant Testing Services



Software Solutions

GSE TrueNorth is widely known for software products that exceed industry needs in the areas of plant programs and plant thermal performance, including a wide variety of industry programmatic requirements.

ENGINEERING PROGRAMS SOFTWARE SUITE

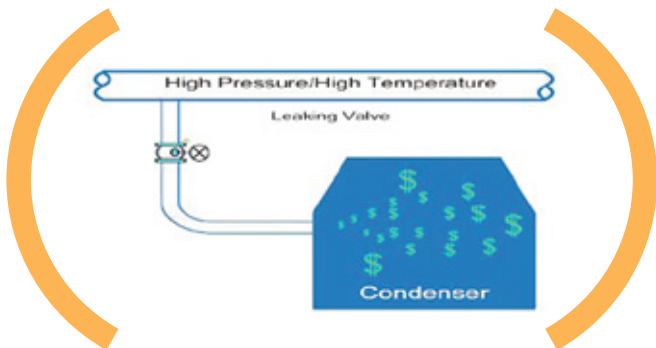
The EP-Plus ENGAGE web-based engineering programs software suite is a powerful common platform for all engineering programs. Key platform areas include a digital program notebook, system information, detailed component level information, test and examination results, trending and degradation monitoring, robust scheduling engine, outage scope identification, optional integration with plant data sources (master equipment list, work control, corrective action, etc.), and standardized user configurable reports. Program specific elements, such as grouping, sampling, penetration configuration, sample expansion, service life monitoring, etc. are seamlessly integrated with the common platform.

EP-Plus ENGAGE is the perfect blend of a standardized platform with program specific elements to ensure cost effective "do more with less" program implementation. Learn more at: www.epplusengage.com suite features are easily expanded to other client specified programs.

THERMAL PERFORMANCE SOFTWARE SUITE

TSM Enterprise is a thermal performance engineering tool kit consisting of several powerful and unique calculation modules for use in tracking and optimization of plant thermal performance.

- Cycle Isolation Module (CIM) / Secondary Leakage Analysis
- Thermal Systems Monitor (TSM)
- Steam / Psychrometric Tables (TPSteam)



GSE TrueNorth

GSE TrueNorth is an engineering services company specializing in support for the electric power industry. Founded in 1999, TrueNorth has provided engineering-based consulting services and supporting software products to most US utilities and numerous others abroad.

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