

POWERPLEX® III

BWR Core Monitoring Software

Proven Results You Can Trust

With more than 30 years of successful operation and experience in 19 BWRs, AREVA's POWERPLEX III Core Monitoring Software System provides superior reliability and accuracy in core monitoring and enhances the operating efficiency of boiling water reactors (BWRs). POWERPLEX III is currently operating at 13 BWRs: 9 in the U.S. and 4 in Taiwan. POWERPLEX III has proven to be an accurate tool for successful core monitoring and operation in a multitude of applications, and can be coupled with either our REMACCX maneuvering guidelines or our newest XEDOR maneuvering guidance systems to monitor AREVA or other vendors' fuel.

Precision Accuracy

POWERPLEX III is built around our advanced 3-D nodal simulator code, MICROBURN-B2. This simulator code was specifically developed for the complex environment of the BWR reactor. State-of-the-art microscopic isotopic depletion techniques and two-phase hydraulic models provide accurate calculated results across a broad range of operating conditions. That means operators can confidently predict both short-term power maneuvers and long-term cycle operating projections.

Reliability You Can Count On

POWERPLEX III helps keep a plant operating when unforeseen events arise. The software includes capabilities to accurately model the core with a significant number of Local Power Range Monitors (LPRM) or one or more Traveling Incore Probe (TIP) machines out of service – with little or no impact on power uncertainty. Additional features allow predefined multiple operating limits to support a rapid response should the plant shift to single-loop operations, if scram speed measurements do not meet expectations, or if other such atypical operating conditions arise.

Independent Operation Works with Fuel from Other Vendors

Prior to the introduction of the POWERPLEX III system, plant operators considering a change in fuel vendors also had to plan for a change in the core monitoring system. This change poses

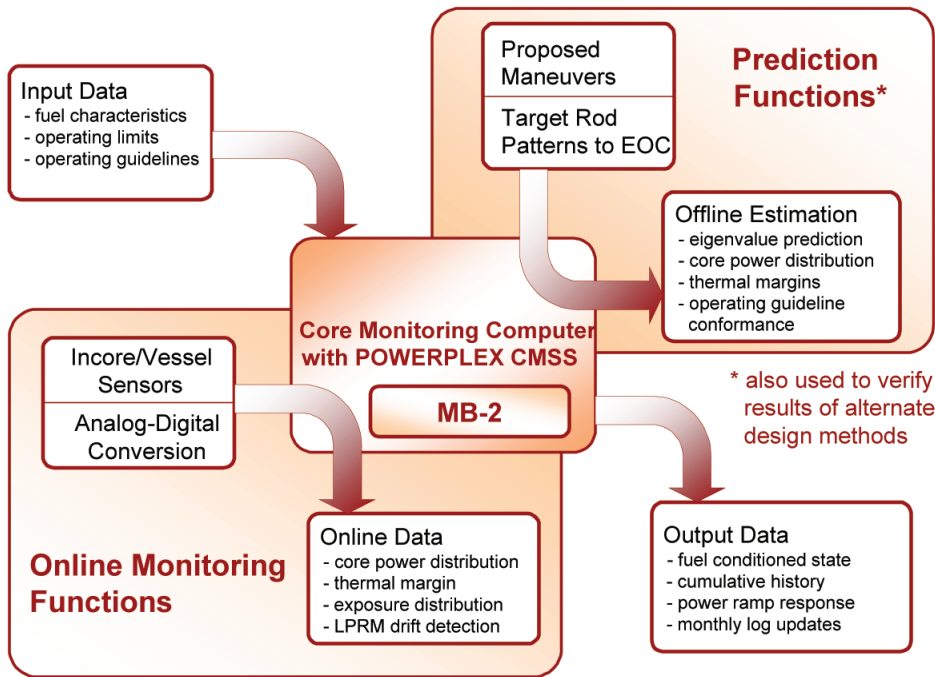
broad implications for plant operations, operator training and modifications to the plant computer systems, making fuel vendor transitions more complex than necessary. From the very first installation, POWERPLEX III breaks through this barrier. POWERPLEX III explicitly models each fuel assembly (in a mixed-vendor core) in accordance with its unique characteristics and associated operating limits. Additionally, software features allow interaction with “black box” proprietary critical power correlations and fuel conditioning criteria to accurately calculate conditions for non-AREVA fuel.

More Than Two Decades of Field-Proven Experience

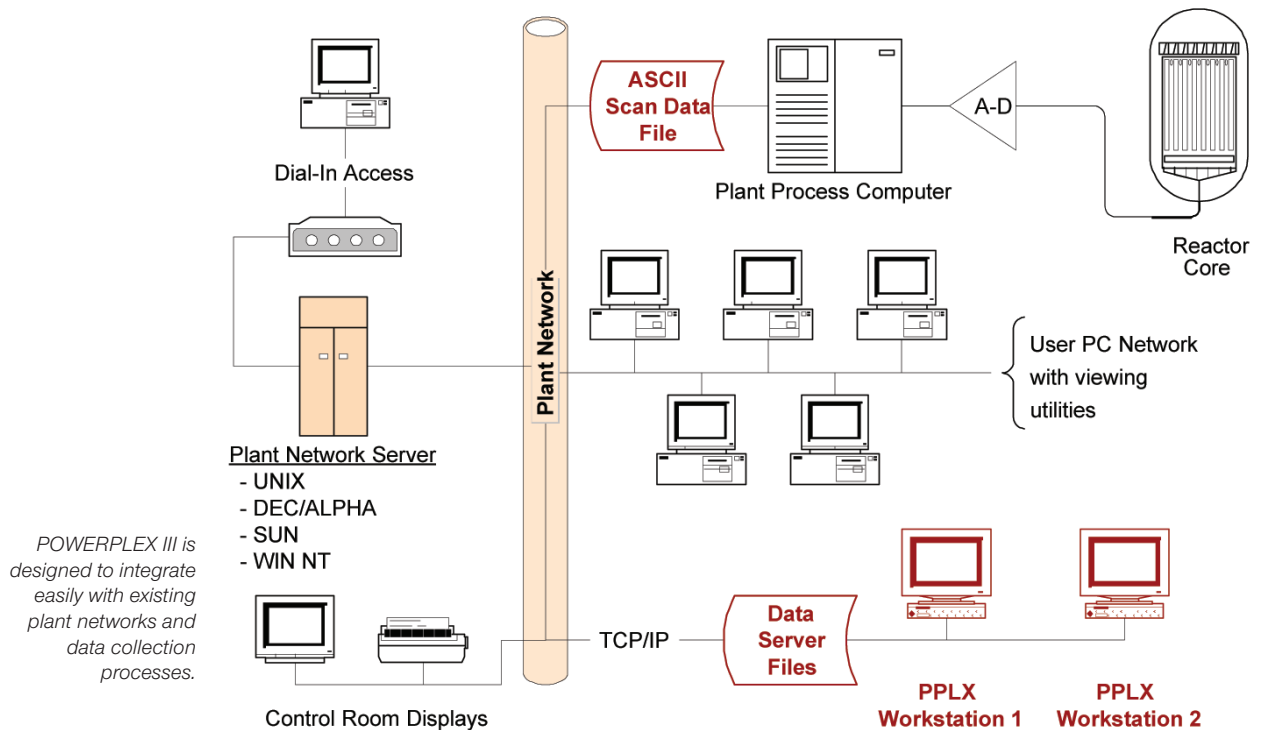
After 30 years of successful operations, POWERPLEX III is capable of modeling a wide variety of 8x8, 9x9, 10x10, and 11x11 fuel configurations supplied by all three BWR fuel vendors. Operators with alternative fuel can also use the highly-effective software with confidence. POWERPLEX III has even been installed in plants without our fuel to upgrade plant monitoring capabilities independent of fuel supply.

Features and Benefits

- We continue applying our extensive global resources to deliver new technology, such as POWERPLEX III
- The accuracy of the software allows direct comparison of design and monitoring system results throughout the cycle to ensure compliance with the licensing basis
- POWERPLEX III keeps a plant operating when unforeseen events arise
- POWERPLEX III can explicitly model each fuel assembly in a mixed-vendor core
- POWERPLEX III is coupled with our successful REMACCX maneuvering guidelines, and with our newest XEDOR guidelines (as POWERPLEX-XD), to assure successful fuel rod performance in all operating scenarios
- The installation process and training program enable operator staff to master the use of the new system quickly



A full set of features and unparalleled accuracy provide operators with a powerful tool for planning upcoming startups and sequence exchanges, and in maintaining optimum plant performance throughout the fuel cycle.



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