

# Studsvik

## A Global Leader in the Nuclear Power Lifecycle

A trusted advisor offering services and solutions for the nuclear power lifecycle, from new construction to final disposal.

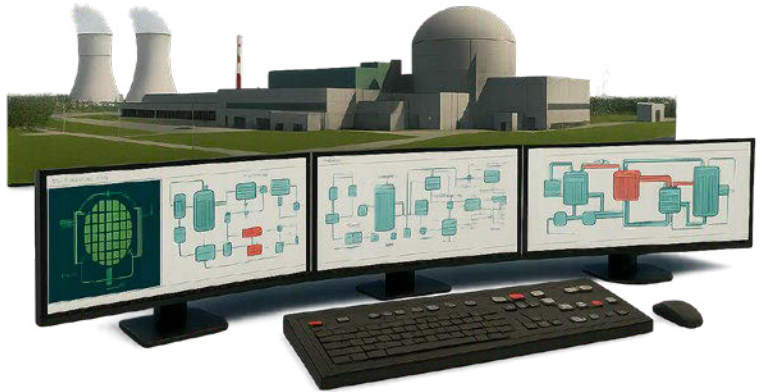


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## Transforming Nuclear Fuel Management with Intelligent Automation

In an era where clean, reliable energy is more critical than ever, nuclear operators are under increasing pressure to optimize performance, reduce operational risk, and streamline complex workflows. Studsvik Scandpower, the leading independent provider of state-of-the-art nuclear fuel management software and world-class engineering services, is helping utilities meet these challenges head-on.

At the center of this innovation is MARLA, an advanced solution designed to simplify and optimize shuffle design, pool management, cask loading, and nuclear material tracking.



### One Tool for All Your Fuel Management Needs

MARLA is an easy-to-use, highly automated platform that enables operations teams to plan and execute critical fuel movement activities with speed and confidence. By replacing unsupported legacy tools and manual processes, MARLA delivers a fully integrated approach to fuel management.

With MARLA, teams can:

- Plan fuel shuffles quickly
- Manage spent fuel pools with the click of a button
- Design dry cask loading campaigns with ease
- Dramatically reduce planning time and outage costs
- Reduce reliance on engineering resources for administrative tasks

- Minimize human performance errors through configuration control

The result is a streamlined workflow that improves both efficiency and operational reliability.

### Point. Click. Done.

Built on a modern, flexible architecture, MARLA delivers a highly intuitive user experience. Its point-and-click graphics and drag-and-drop functionality enable operators to quickly define, modify, and execute fuel movement plans.

This approach not only accelerates planning but also simplifies training for new personnel—allowing teams to get up to speed faster while maintaining precision and control.

### Advanced Capabilities for Complex Operations

MARLA integrates powerful analytical tools to address the full range of nuclear fuel management challenges including:

#### Shuffle Planning Optimization

- Advanced algorithms minimize bridge motion while maximizing safety margins
- Rapid calculations reduce planning time from overnight to hours
- Automated shutdown margin calculations at every step
- Flexible support for both in-core shuffles and full core off-loads

#### Maintenance Work Planning

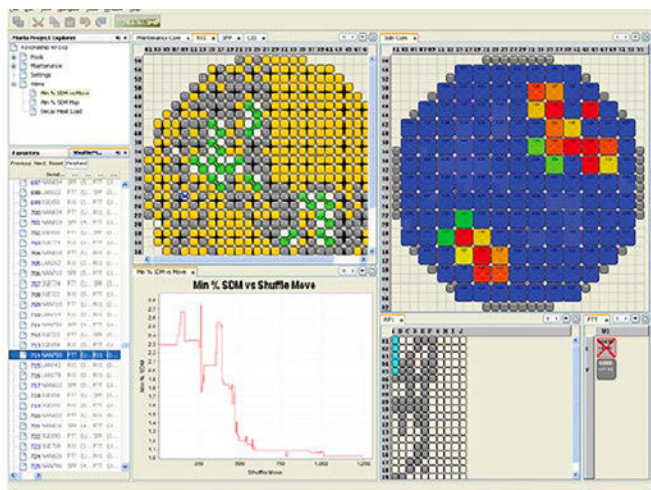
- Automated core staging for outage and maintenance activities
- Interactive planning tools for inspection, replacement, and in-vessel work
- Streamlined coordination of complex operational tasks

#### Spent Fuel Pool Management

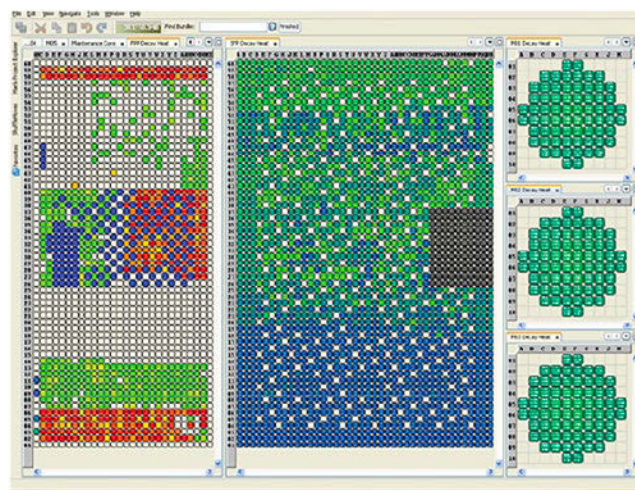
- Automatic compliance with rack restrictions and storage requirements
- Flexible pool configuration and zone management
- Built-in adherence to regulatory guidelines, including NRC B.5.b
- Automated move tracking and operator-ready move sheets

#### Dry Cask Campaign Planning

- Intelligent selection of assemblies for storage
- Integrated cask library and long-term loading strategies
- Assurance of compliance with heat load limits and future storage needs



*Core shuffling and SDM Calculations  
in MARLA*



*Spent fuel pool and cask loading  
overview interfaces in MARLA*

## Real-Time Monitoring and Smarter Decision-Making

MARLA goes beyond planning to deliver real-time visibility into fuel operations. Its surveillance mode tracks and time-stamps every movement, providing accurate, up-to-date configuration control of nuclear material across the site.

The platform also supports time-to-boil analysis, calculating decay heat for every fuel assembly on demand. This enables operators to evaluate different scenarios and make informed decisions during core alterations with greater confidence.

### Proven Results from the Field

“MARLA’s time estimate was over 34 hours of savings compared to other industry software. MARLA reached the maintenance window quicker with a savings of 21 hours.” – U.S. Nuclear Power Plant

This real-world result underscores MARLA’s ability to significantly reduce planning time and accelerate outage schedules—delivering measurable operational and financial benefits.

## Driving Efficiency, Safety, and Cost Savings

By unifying planning, analytics, and execution into a single platform, MARLA empowers nuclear operators to:

- Reduce outage durations and associated costs
- Improve safety margins and regulatory compliance
- Increase operational transparency and control
- Optimize resource utilization across engineering and operations teams

## A Trusted Partner for the Future of Clean Energy

Studsvik Scandpower combines advanced software innovation with deep nuclear engineering expertise to help utilities navigate the increasing complexity of fuel management. With responsive customer support, robust technical resources, and an engaged user community, Studsvik ensures long-term success for its partners.

As the energy industry continues to evolve, solutions like MARLA demonstrate how digital transformation can unlock safer, more efficient, and more sustainable nuclear operations—supporting clean energy now and into the future.

Learn more at [www.studsvik.com](http://www.studsvik.com)

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