Studsvik

STUDSVIK ADAPTS CUSTOMER SUPPORT TO PANDEMIC CONDITIONS

Like everyone else, Studsvik Scandpower (SSP) is learning to adapt to the effect Covid-19 is having on our work and our communities. The SSP team already had deep experience in working remotely and collaborating from offices in different countries and time zones. SSP has nine official offices in five countries – USA, Sweden, Germany, Switzerland, China and Japan. The locations were selected to ensure SSP's experts are in proximity to their customers. The inability to have one-on-one interactions to support our customers has proven frustrating and a challenge. In June, we held our first Webinar. Joel Rhodes III, Tamer Bahadir and Mike Ferrer discussed "CMS5 Updates and Enhancements." To be honest, we had no idea whether customers would participate, and we were extremely pleased that more than 60 customers joined the Webinar.

A video of the Webinar is available

CLICK HERE TO VIEW

The annual SSP Users Group Meeting (UGM) is our flagship event attracting customers from around the world. Unfortunately, the live 2020 event, scheduled for San Diego, CA, had to be cancelled. Instead, we held the UGM virtually and were pleased that more than 100 customers actively participated. In virtual Focus Groups held as part of the UGM, customers told us that although the online approach facilitated broader participation, they missed the interaction with SSPs technical experts and one another. Customers had a number of excellent suggestions on how we can facilitate interaction, and also recommended we consider a hybrid approach of in-person and streaming when we are able to meet again in-person for a UGM. We will factor all of those suggestions into our planning for the UGM in 2021. Further, we are using the lessons learned from the Webinar and UGM to plan additional virtual engagements. Customers also had a number of excellent suggestions for topics for future Webinars, and we expect to hold the next one before the end of 2020. Ideas and suggestions on how we can best support our customers are welcome, and I encourage you to send them to me, **steven.freel@studsvik.com**, or your SSP representative.

Steven Freel
President & CEO

VIRTUAL USERS GROUP MEETING PROVES SUCCESSFUL

More than 100 customers joined in online for Studsvik's Scandpower's annual Users Group Meeting in October 2020. Kord Smith, the original developer of SIMULATE, a co-founder of Studsvik Scandpower, and former professor at MIT, provided the keynote presentation. Smith discussed the important role that collaborating with customers has played in the development of Studsvik Scandpower's software and that it has led to important improvements, like the inclusion of shutdown margin drawing from CASMO. He reflected that calculations that once required punch card input and overnight runs on mainframes are now done in minutes or seconds. Advanced computing is an enabler, however, not the primary driver for accuracy, Smith said. He expects some new reactor designs will be easier to analyze than today's light water reactors.

Presentations during the UGM included a demonstration of SSP's new CMSBuilder software to facilitate core design, its MARLA software for managing spent fuel shuffles and pool and cask loading, and the management of a reactor trip and restart using GARDEL.

Copies and recordings of the presentations from the UGM are available, with login, below.

VIEW PRESENTATIONS

GARDEL CUSTOMERS FORM COMMUNITY OF PRACTICE

With a growing number of nuclear plants operating with SSP's GARDEL core monitoring system, sharing information and experiences can greatly benefit both users and developers. GARDEL customers and SSP are establishing a GARDEL Community of Practice (CoP) to enable a venue for sharing ideas and insights on implementation processes, effective procedures for reactivity predictions, reactor engineering and operational insights, cybersecurity/IT adjustments, development and maintenance updates, and other GARDEL-related topics. The CoP organization and meeting agendas are governed directly by the GARDEL users and facilitated by SSP. CoP discussions will help to guide SSP's efforts to develop GARDEL as an adaptable and consistent core monitoring platform used across the nuclear industry. SSP may also use the CoP venue to discuss GARDEL-related issues, trouble reports, pending updates, and new features.

Duke Energy has volunteered to lead-off the GARDEL CoP, with Duncan Robinson, Manager of Nuclear Design, Westinghouse PWR, taking the role of inaugural Chairperson. The first GARDEL CoP virtual meeting is scheduled for Thursday, 12 November 2020, running from 0830-1000 EST (UTC -5), with the expectation for regular meetings approximately twice per year (or otherwise as the community determines a suitable frequency).

SSP looks forward to an active and engaged GARDEL community. For information on joining the GARDEL CoP, please feel free to contact Phil Sharpe (phil.sharpe@studsvik.com).

TRANSIENT ANALYSIS WEBINAR 8 DEC. 2020

Studsvik invites you to join its experts for a Webinar on transient analysis with S3K. The Webinar is scheduled for Tuesday, December 8, 2020 from 09:30 a.m. to 11:00 a.m., EST. Subject matter expert, Gerardo Grandi, will lead the discussion which will cover PWR applications, BWR stability analysis, S3K links to system codes, and the development path to S5K. Erin Wehlage, Director of Business Development, will facilitate the question and answer session. The Webinar is open to all users of Studsvik software. A registration link will be sent out soon. Please save the date and join us.

WATTS BAR TRAINING SIMULATOR TO RUN ON S3R

Studsvik Scandpower's real time training simulator software S3R will now be used at the Watts Bar Nuclear Plant in Tennessee. With the decision to move to S3R at Watts Bar, the software is in use in the training simulators for all but eight of the nuclear power plants in the U.S. S3R enables cycle specific training on the simulator directly from a CMS cycle depletion. That depletion may be developed by the utility or by Studsvik as a service. The S3R Team has more than 60 combined years in delivery and support for the S3R product.

BRANDON CLARK JOINS STUDSVIK SCANDPOWER

Former Lead Reactor Engineer at Duke Energy's Harris Nuclear Plant, Brandon Clark, has joined Studsvik Scandpower as a Senior Nuclear Engineer. He will specialize in supporting the implementation and maintenance of the GARDEL core monitoring system with SSP's customers. Clark spent 13 years at Duke serving at the Harris and Catawba nuclear plants, and in the corporate office. He holds a master's degree in Nuclear Engineering from North Carolina State University, and an MBA from the University of North Carolina, Charlotte.

FERRER RECEIVES ANS AWARD

The American Nuclear Society presented Studsvik Scandpower Senior Nuclear Engineer Rodolfo "Mike" Ferrer with the prestigious Mathematics & Computation Division Best Summary and Presentation Award. Ferrer received the award for his paper, "Stability Analysis of CMFD Acceleration and Linear Prolongation for Weighted Linear Difference Schemes" presented at the 2020 ANS Annual Meeting. The paper is available in the **CASMO section of the Studsvik Support site**.

FROM THE EXPERTS

For those modeling non-symmetric assemblies, the auto-QTR feature in CMS5 (CASMO-5/SIMULATE5) is but one of the many advantages and features of CMS5 over CMS (CASMO-4/SIMULATE-3) that benefits the user with both ease-of-use, and increased accuracy.

To read more on this topic, please review the technical paper by Studsvik Scandpower experts Tamer Bahadir and Gerardo Grandi by visiting the **SIMULATE section of the Studsvik Support Site**.

UPCOMING SSP TECHNICAL PAPERS:

Copies of the following papers will be available on the **Studsvik Scandpower Support Site** after they are presented or published.

• M&C 2021 (April 11-15, 2021, Raleigh, NC) – *"Parallel Computing in CASMO5"*, Joshua Hykes and Rodolfo Ferrer

• *"KONVOI Core Analysis with CASMO5 AND SIMULATE5"* – Emiliya Georgieva, Gerd Anton, Marcus Seidl

• *"Improved Rational Approximation for Spatially-Dependent Resonance Self-Shielding in CASMO5"*, Rodolfo Ferrer and Joshua Hykes

CODE VERSION UPDATES

Studsvik Scandpower continues to release updates for its nuclear fuel lifecycle management software. Highlights of the new features and capabilities available in the new versions are available in the Changes and Release Notes documents in the "Software Updates" section of the Studsvik Support Site (login required). This software is qualified under the Studsvik, Inc., NQA1 1994, 10-CFR-50 Appendix B, 10-CFR-21 Quality Assurance Program. If you would like to receive an update to your software under your current software maintenance agreement, please contact your Studsvik representative.

• **CASMO5 v3.02.00**
  2D lattice physics transport code for PWR and BWR

• **CMSLINK5 v1.15.01**
  Linking code between C5 and S5/S3/S3K

• **CASMO5 v3.02.00_VVER**
  2D lattice physics transport code for VVER

• **MARLA v3.04.00**

• **CMSBuilder v1.01.03**

Current code versions for other Studsvik software include:
CASMO-4 v2.05.17, SIMULATE-3 v6.21.00, SIMULATE-3K v2.09.00, SNF v1.07.04, HELIOS-2 v2.03.00 and CMSView5 v1.0.6

A new version of SIMULATE-3 (v6.22.00) will be available by the end of October 2020.