Computer support for collaborative reconstruction of work practice

A computerbased tool is developed in close cooperation with three operators with the aim of supporting operators in re-establishing the connection to the physical production environment by improving understanding of the relation between the displayed process representations and the production system, developing a sense of orientation in the factory environment, and develop better knowledge of manual operations. The tool allows operators to co-construct an interactive hypermedia model of the physical production environment, including controls for manual operation. By describing current status for a number of reactor systems, problem situations based on real or invented cases can also be modelled by the operators for later simulation. Annotations describing e.g. known equipment problems can be linked to production machinery in the model, and a search facility for the annotations is provided. Finally, nodes in the hypermedia model can further be linked to intranet web pages for access to detailed documentation of machinery, or documented procedures for handling known recurring problems.

When the hypermedia model is constructed, problem situations can be randomly selected and simulated as a basis for training, discussion and reflection on improvements in work practice. The current production situation can also be extracted from the production management database system, and imported into the tool for a simulation of an emergency situation. A first model of the production environment and problem situations based on real events, will be developed in collaboration between operators in scheduled weekly meetings with the different shifts over a initial period of 3 months. Operators across the works shifts will then continually work with adding new documentation and problem situations, as common problems are discovered and experience develops, and also to keep the model up to date with production environment changes.