

**ENC 2002 Conference Invited Paper**

## **Forsmark NPP I&C Modernization Strategy**

**Presented by:**

**Johan Hallen**

**Director, European Operations**

**Nuclear Automation**

**Westinghouse Electric Company**

**(Västerås, Sweden)**

**Co-Authors:**

**Ingemar Rydahl**

**Nuclear Automation**

**Westinghouse Electric Company**

**(Västerås, Sweden)**

***And***

**Lennart Kloow**

**Forsmarks Kraftgrupp AB**

**(Östhammar, Sweden)**

**at the**

**International Nuclear Congress and World Expo ENC 2002**

**October 8, 2002**

**Lille, France**

By the year 2000, the Forsmark NPP was halfway through the planned plant life. As early as 1995, Forsmark realized that the old analog I&C equipment would need to be replaced before 2005. At the Forsmark NPP they had strength of a vision of an integrated modernization and a strategy to reach the vision. Without vision and strategy, the plant could end up with a fragmented plant I&C-architecture that is not cost-effective or operable.

In his remarks, Johan Hallen will address several questions that led to their current modernization program, such as:

- ? What would happen if the modernization would be postponed?
- ? Which main requirements were to be achieved by means of the modernization strategy?
- ? The goal of a completed plant modernization program is a totally integrated system solution. What are the considerations?
- ? How to gain acceptance from the operational staff in designing Control Room and Soft Control Displays?
- ? What are the important roles for the staff and organization to reach the end goal?
- ? What has been the experience to date and what lessons have been learned?