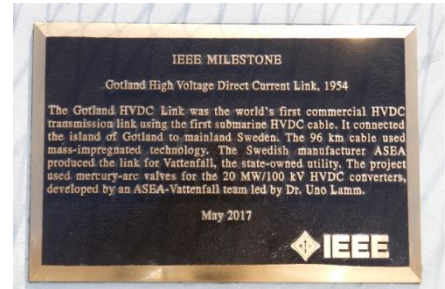


## Gotland HVDC link, 1954 The very first IEEE Milestone in Sweden, May 15<sup>th</sup>, 2017

### The Milestone

"The Gotland HVDC Link was the world's **first commercial HVDC** transmission link using the **first submarine HVDC cable**. It connected the island Gotland to mainland Sweden. The 96 km-long cable used mass-impregnated technology. The Swedish manufacturer ASEA (now ABB) produced the link for Vattenfall, the state-owned utility. The project used mercury-arc valves for the 20 MW/100 kV HVDC converters, developed by an ASEA-Vattenfall team led by Dr. Uno Lamm."



The IEEE Milestones program honors significant technical achievements in all areas associated with electrical engineering. Previous Milestones have recognized technological innovations and excellence such as Maxwell's equations, the invention of the light bulb, the CD player and the birth of the internet.

### The Nomination

The nomination team for the first IEEE milestone in Sweden:

- Olof Samuelsson, IEEE Sweden PES/PEL Chapter, LTH; project manager of the milestone process (left)
- Lina Bertling Tjernberg, Chair IEEE Sweden PES/PEL Chapter, KTH (middle)
- Bo Nilsson, ABB HVDC
- Per Norberg, Vattenfall Eldistribution / Chalmers

Sponsor

- Mats Edvinsson, Chair IEEE Sweden Section (right)



### The IEEE Milestone ceremony

The IEEE Milestone ceremony at the HVDC station at Ygne, Gotland, Sweden, on May 15<sup>th</sup>, 2017:



Mats Edvinsson, Chair IEEE Sweden Section, officially dedicated the very first IEEE Milestone in Sweden. Lina Bertling Tjernberg, IEEE Sweden PES/PEL Chapter Chair described the IEEE Milestone process.

Mats Edvinsson and Lina Bertling Tjernberg uncover the first IEEE Milestone in Sweden; The Gotland HVDC link, 1954



Annika Viklund, Senior Vice President, Vattenfall Business Area Distribution and Niklas Persson, head of the ABB unit HVDC – are proud receivers of the prestigious IEEE milestone: Vattenfall and ABB (then ASEA) made the excellent and groundbreaking technical achievements in 1954.



Olof Samuelsson, IEEE Sweden PES/PEL Chapter. Lina Bertling Tjernberg, IEEE Sweden PES/PEL Chapter Chair, Magnus Callavik, head of R&D for the ABB business unit Grid Integration, Annika Viklund, Senior Vice President, Vattenfall Business Area Distribution and Niklas Persson, head of the ABB unit HVDC, and Mats Edvinsson, Chair IEEE Sweden Section

IEEE registers in the visitors log book at the HVDC station at Ygne – the original log book from 1954!

Lina Bertling Tjernberg, IEEE Sweden PES/PEL Chapter Chair, Mats Edvinsson, Chair IEEE Sweden Section, and Olof Samuelsson, IEEE Sweden PES/PEL Chapter



The powerful women in the Swedish electric power industry; Annika Viklund, Senior Vice President, Vattenfall Business Area Distribution and Lina Bertling Tjernberg, IEEE Sweden PES/PEL Chapter Chair,

Three gentlemen with long experience and significant impact on the HVDC field: Göran Andersson, IEEE Fellow and Professor Emeritus of the Power Systems Group at ETH Zurich, Bo Normark, Power Circle (previously ABB) and Hans Björklund, ABB HVDC and the 2014 Polhem Prize winner





The IEEE Milestone ceremony at the HVDC station at Ygne, Gotland, Sweden



## The luncheon

The luncheon was held at Wisby Strand, Visby, Gotland, with a fantastic view of the Baltic Sea.

County Governor Cecilia Schelin Seidegård, County Administrative Board of Gotland, elaborated on the importance of the HVDC link for Gotland, and received a mini-version of the IEEE milestone.



## The seminar

The seminar was held at Wisby Strand, Visby, Gotland, with presentations and discussions related to the Gotland HVDC link, the technological achievement and future outlooks.



Mats Edvinsson, Chair IEEE Sweden Section – gave an overview of IEEE global, the Sweden Section and the Sweden PES/PEL chapter

Olof Samuelsson, IEEE Sweden PES/PEL Chapter – presented the background and the process leading to the first IEEE milestone in Sweden.



Jan Karlsson, Managing Director, Gotland Energy AB – described the prerequisites and drivers leading to the Gotland HVDC link, experiences from 50 years of operation, and the exciting future for Gotland, including Smart Grid Gotland.



Niklas Persson, head of the ABB unit HVDC and Magnus Callavik, head of R&D for the ABB business unit Grid Integration – presented the technology development and the cooperation between ABB (then ASEA) and Vattenfall which contributed to the Gotland HVDC link, and illustrated the future development of DC technology and applications.

The concept of HVDC has developed tremendously since 1954. New technologies, approaches and solutions facilitate better efficiency and new applications.

Future IEEE milestones are envisaged!



Göran Andersson, IEEE Fellow and Professor Emeritus of the Power Systems Group at ETH Zurich – presented the history of HVDC, the development of interconnections between power systems, and future outlooks.

Annika Viklund, Senior Vice President, Vattenfall Business Area Distribution – summarized the historic day. Cooperation between different parties with long term perspectives is a good way to solve complex problems, particularly if the technical frontiers are challenged.



## Thank you !

It is an honor and privilege to dedicate the very first IEEE Milestone in Sweden:  
"The Gotland HVDC Link was the world's **first commercial HVDC** transmission link using the **first submarine HVDC cable**"

IEEE salutes Vattenfall and ABB for making history, for preserving history, and for celebrating that history today. May this milestone continue to sow the seeds of inspiration in everyone who reads it!

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