



## Equipment Reliability Program in NPP Krško

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Operation that is safe, reliable, effective and acceptable to public is the common message in a mission statement of commercial nuclear power plants (NPPs). To fulfill these goals, nuclear industry, among other areas, has to focus on:

- 1 Human Performance (HU) and
- 2 Equipment Reliability (EQ).

The performance objective of HU is as follows: "The behaviors of all personnel result in safe and reliable station operation". While unwanted human behaviors in operations mostly result directly in the event, the behavior flaws either in the area of maintenance or engineering usually cause decreased equipment reliability. Unsatisfied Human performance leads even the best designed power plants into significant operating events, which can be found as well-known examples in nuclear industry.

Equipment reliability is today recognized as the key to success. While the human performance at most NPPs has been improving since the start of WANO / INPO / IAEA evaluations, the open energy market has forced the nuclear plants to reduce production costs and operate more reliably and effectively. The balance between these two (opposite) goals has made equipment reliability even more important for safe, reliable and efficient production. Insisting on on-line operation by ignoring some principles of safety could nowadays in a well-developed safety culture and human performance environment exceed the cost of electricity losses.

In last decade the leading USA nuclear companies put a lot of effort to improve equipment reliability primarily based on INPO Equipment Reliability Program AP-913 at their NPP stations.

The Equipment Reliability Program is the key program not only for safe and reliable operation, but also for the Life Cycle Management and Aging Management on the way to the nuclear power plant life extension.

The purpose of Equipment Reliability process is to identify, organize, integrate and coordinate equipment reliability activities (preventive and predictive maintenance, maintenance rule, system health, equipment performance monitoring, long-range planning, etc.) into a single efficient and effective process.

**Keywords:** Equipment reliability, System Health, Aging Management, Long-term Planning, Life Cycle Management, maintenance effectiveness