

HUMAN PERFORMANCE DATA COLLECTION ACTIVITIES AS A TOOL FOR SAFETY ENHANCING AND CULTURE MONITORING

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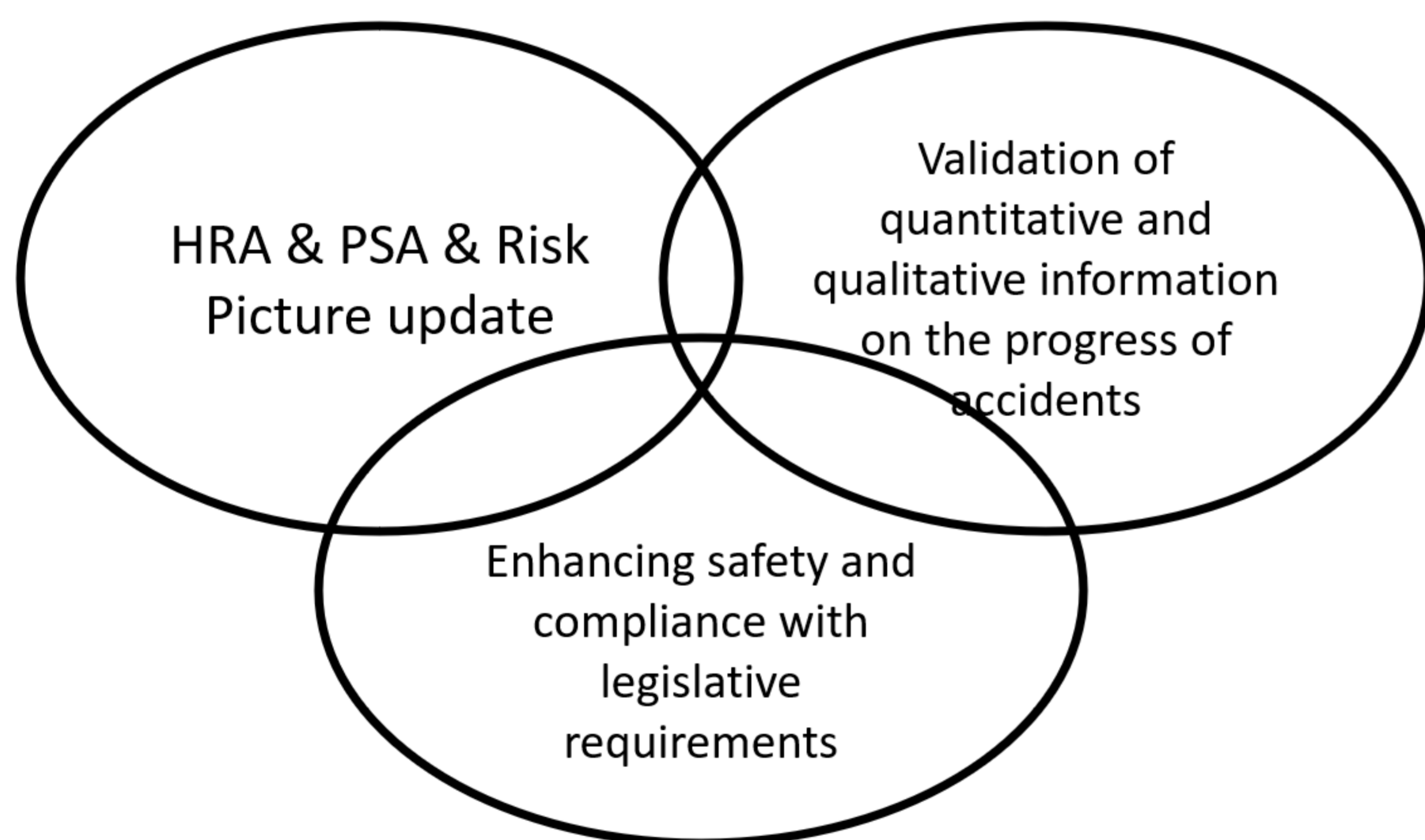
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INTRODUCTION

Data collection activities are a tool for more realistic information on human performance. Many aspects of human performance are based on a combination of assumptions and long practical experience in the practice of operating an NPP. However, they are not confronted with modern knowledge or confirmed from today's perspective by standard procedures of scientific measurement and evidence. In the Czech conditions and activities of the UJV, we have focused in recent years on collecting data on control room simulators - quantitative as well as qualitative. We continue to expand our scope to include other exercises outside the control room. These are primarily used to: improve the realism of accident scenarios; confirm the assumptions of various analyses; and suggest changes to the interface or ergonomics.

Experience of ÚJV

Based on many years of collection at CR, HEPs have reduced some previously conservative predictions, which, in addition to changing the risk picture during outages, has helped to reschedule outages while maintaining the same level of safety. The changes in the ergonomics of the operating instructions and documentation have been managed, making them simpler and less likely to be in error or overlooked. The results lead to the assignment of scenarios that more closely match the risk profile of the real plant.



Obstacles on the way

The nuclear sector is heavily regulated.

Internal processes, management documentation, organizational structure, and the distribution of roles and responsibilities in this area be strongly formally linked together. Managers in such a situation have no need to have their competencies interfered with by other professions unless they are explicitly required to improve.

The path to a comprehensive human performance data collection program

Long-term collaboration; gaining the trust of plant personnel to accept the possibility of human factors experts intervening in their processes; data collection and scientifically transparent evaluation and analysis; continuous improvement.

Collecting safety culture characteristics

Establishing the level of safety culture as a secondary objective of the human performance data collection program is possible because of the overlap of both disciplines. We can collect selected indicators on safety culture characteristics and attributes according to known and accepted frameworks.

CONCLUSION

Advocating for continuous human factors program as a complex (and expensive) program may become increasingly difficult. But the industry is changing rapidly, we have SMRs coming, and we need to develop new holistic approach to human factors very quickly. Presented continues specific data collection activities, various experiments, exercises, and observed trainings and its applications for improving the safety of NPPs can be very useful in this context. As a secondary objective of such data collection could be information on safety culture indicators. This benefit of collection could then provide an additional independent perspective helping develop a healthy safety culture.