

Hans Wanner, WENRA Chairman – Synopsis of Opening Remarks

An important condition of long term operation (LTO, i.e. operation beyond 40 years) is the continued willingness of the licensee to invest into the safety of their nuclear installation. An effective means of identifying potential for improvement is to perform a Periodic Safety Review (PSR). This is an opportunity to review not only the conformity of the plant, but also identify possible safety improvements. Safety improvements can be related to the plant design and also to organizational issues. On the basis of the results of the PSR, regulators generally review the continued acceptability of the continuation of operation of the plant.

When the existing reactors were commissioned, their original safety level met the safety requirements which were in force then. New reactors are designed to meet higher levels of safety than the existing ones. Despite the fact that existing reactors undergo PSRs as a result of which safety enhancements are implemented, it is likely that there will remain a difference between the safety level of oldest and newest reactors. In some cases, it will be reasonably practicable to enhance safety to reach a higher safety level, but sometimes further enhancement toward the benchmark is not reasonably practicable.

Probabilistic safety assessments are helpful in identifying areas of plant design or operation where improvement will provide most benefit. In determining what can be done to further prevent and mitigate radioactive releases, the licensees should consider all levels of defence in depth that are within its responsibility.

It is expected that licensees should look at what others have done to prevent and mitigate radioactive releases to see if it is appropriate for them. If those measures are not appropriate they should look at what else they could do to achieve a broadly similar outcome. There is no standard set of specific engineering or operational improvements that will be appropriate for all reactors and operational regimes. Whether or not an improvement measure is appropriate depends on the individual circumstances of a facility and its future lifetime.

Proportionality is another element in deciding if a safety enhancement is reasonably practicable. A strong feature of being proportionate is that the greater the shortfall, the more needs to be done to identify and implement measures to remove or reduce it. Being proportionate also means that certain safety improvements that may be reasonable at one reactor may not be necessary at another, or conversely may be insufficient so better or more measures might be called for. It should also take account of the individual circumstances of a facility and its future lifetime.

Time is an important factor in determining reasonably practicable improvements for existing reactors. For a reactor which has a remaining lifetime of only a few years, a more modest improvement that gives a lesser benefit but can be in place within months will be the better option than a full solution that takes years to become operational.

In some instances, licensees may claim that a particular measure is too costly and therefore not reasonably practicable. In some WENRA countries, the regulator may be prepared to listen to such arguments, in others the regulator will not take account of costs, though in the event of dispute the courts may take cost into account. Claims that a licensee cannot afford a reasonably practicable improvement are not accepted.