The programme of lifetime management at Nuclear Power Plant (NPP) NPP Dukovany is oriented towards an effective usage of facilities while keeping their safety parameters, mainly concerning nuclear safety.

The goal is to achieve maximum usage of the design lifetime under the condition of fulfilling abovementioned requirements. Evaluation procedures have been prepared for selected components. These are subsequently discussed and approved by the State Office of Nuclear Safety (SONS). The databases of original data are built up regarding the evaluated components. The input data are completed as well according the approved procedures. Generally valid approach based on the evaluation of all possible degradation mechanisms is modified regarding the original status of particular component. The procedures are oriented towards a quantification of residual lifetime. They employ knowledge of initiation and kinetics of degradation mechanisms and subsequently also define parameters, which should be quantified.

For irreplaceable components or components for which replacement is difficult or economically unefficient, the program is focused to the control of operating conditions and inspections of facilities. However, they are again based on the knowledge of degradation kinetics. If at least some parts of the facility could be replaced, better material selection regarding the operating conditions is an option.

Systems included into the ageing management program will be specified in the paper. Also, the measures will be identified which serve as a check of implementation of all possible stressors and degradation mechanisms into the first screening.

The examples of lifetime evaluation of some systems and components will be given in the paper: reactor pressure vessel, reactor internals and steam generator. Specific approaches will be shown for different original status of components and different operating conditions.