

Standpoint of Nuclear Regulatory Authority of the Slovak Republic (UJD SR) to the Conception of Building Completion of NPP Mochovce, Units 3 and 4.

Submitted UJD SR standpoint has been prepared after having reviewed a document „Conception of Completion of NPP Mochovce, Units 3 and 4“ EGP Prague, 2002, which is the enclosure No. 3 to the letter of company Slovenské elektrarne, j.s.c., branch Nuclear Power Plant Mochovce, units 3 and 4 No. MO34/2004/004060 „Notification on opening of administrative procedure concerning change of time-limit of building construction of: Building 3 NPP Mochovce WWER 440 MW“, by which the Company Slovenské elektrarne, j.s.c., branch Nuclear Power Plant Mochovce, units 3 and 4 presented some working materials to the application for change of time-limit of building completion. The standpoint touches only issues related to the nuclear safety of given nuclear installation.

Initial basic objectives for completion of NPP Mochovce units 3 and 4, which are formulated in the chapter 2, take into account also provisions, which have to ensure nuclear safety of these units on the level acceptable by UJD SR. These provisions are at first based on experience gained from realization of units 1 and 2 of NPP Mochovce particularly because, regarding the extent up to now realized construction, it is not realistic for completion of NPP Mochovce units 3 and 4 to consider safety requirements, which are imposed to new units. Further increase of the nuclear safety of NPP Mochovce units 3 and 4 in comparison with a level achieved in case of NPP Mochovce units 1 and 2 can be expected thanks to use of state-of-art technology with higher reliability or by design corrections, targeted to the strengthening of unit in case of occurrence of severe accidents. Real possibilities of such corrections of design, according to which the completion of Mochovce units 3 and 4 will be realized are shortly treated in the chapter 3 and in enclosures No. 1 and 2 to the report concerning „Conception of Completion of NPP Mochovce, Units 3 and 4“ EGP Prague, 2002.

After having reviewed above mentioned material UJD SR has arrived to following requirements:

- 1) To design safety valves of pressurizer (SVP) as well as relief valves of pressurizer (RVP) on base of reliability analysis regarding also experience gained during their maintenance. Dimension of RVP capacity should contribute to the decrease of risk of occurrence of event with jammed SVP in open position
- 2) Provisions for strengthening of units in case of severe accidents in part of vacuum bubble tower (improvement of Hydrogen incineration system...) should be analyzed more in detail and complex namely regarding possibilities introduced in the Enclosure 2 to the report “Conception of Completion of NPP Mochovce, Units 3 and 4”, EGP Prague, 2002, in the variant “B” on page No. 87 (CONT 07), where there is a remark upon possible cooling of reactor pressure vessel from the outside.
- 3) A requirement for contingent inclusion of diversity principle while designing new means of the automated technology processes control systems in the reactor protection systems will be reviewed by UJD SR in relation to the technology used in design of NPP Mochovce building completion.
- 4) A seismic strengthening of civil engineering structures and technology has to respect the state-of-art seismic rating of NPP Mochovce site.

- 5) A possibility to decrease a risk caused by rupture of high energy piping paths due to change of piping paths should be verified by project study.
- 6) A more detailed concept of safety improvements for NPP Mochovce 3 and 4 should be prepared, which would enable to review comprehensively the level of units nuclear safety after implementation of safety provisions. According to data in tables of Enclosure 2 to the report on "Conception of Completion of NPP Mochovce, Units 3 and 4" EGP Prague, 2002, for so called "Variant EGP – versatile" it is considered to take over without change only approximately 30% of provisions realized at NPP Mochovce units 1 and 2 from the whole number of evaluated safety provisions of NPP Mochovce units 3 and 4; as to the remaining provisions the suggested solution will not differ. From the point of view of Atomic Act being in force, the matter are changes at nuclear facility during the construction which are liable to UJD SR. Even if the changes of original design can be reviewed step by step, through the supplements to the initial design, the extent of changes is relatively very large and in addition many of them affect each other (therefore requirement No. 6)

In Trnava, on July 7, 2004

Prepared by: Dipl. Ing. Stefan Rohar

Signature