

Preliminary opinion on the change of use and layout of garages

The Praha Smíchov railway station is included in the underground protection system (UPS) as a protective section of the PD B3. Length of 394 m. Additional entrance chamber (AEC) to the technology area of Smíchovské station (SS), capacity of 800 people/h. Pressure resistance 0.1 MPa, undercarriage with resistance 0.3 MPa. Shelter capacity 4,500 people. Sensitive information about UPS is not in the public domain and DPP provides the information exclusively to entities with which it has signed a Non Disclosure Agreement (NDA). DPP and Unit 850000 reserve the right to refine or supplement other information found.

Any intervention in the UPS must be assessed and approved by:

- DPP - Unit 850000 Technological Equipment and UPS.
- UPS specialist designer.
- Prague City Hall, Security Department, Preventive Protection Unit (OB OPO MHMP).

In the course of potential construction, the UPS would be weakened as a whole. Therefore, it is necessary to reduce the exposure time of pressure-resistant and gas-tight structures of the protective structure to a minimum and discuss the beginning of construction again with the Unit 850000 and OB OPO MHMP. Furthermore, it is appropriate to take into account the condition of depositing the advance payment for the possibility of restoring the conditions of the protective structure to the original state in case of impossibility to complete the building on the protective structure.

The projected construction is located in close proximity to the border of Protection Zone II for Water Source for the gravity feeder of the basic technological centre Radlická (ZTC3). We believe that this construction will not endanger the water source, however, this issue is currently being assessed by an expert institute. It is therefore appropriate for the Prague City Hall officials to be aware of this fact.

The garages are located in the southern part behind the platform area in the part of the SS underground station - parking tracks, approximately at the level of the vestibule (UV). The garage building is not a protective construction, nevertheless, it is structurally connected with UPS (common ceiling structure). Basic requirement for the UPS buildings: pressure and gas-tight resistance of structures. For underground constructions and UPS in particular, it is essential to prevent an intrusion of stray currents. Furthermore, it is necessary to take into account the unequivocal requirement of the separation of ground networks; garages are powered from the underground energy network, whereas station structures are powered from the PRE/SŽ energy network.

At the garage structure (currently, a carpet shop) there is an entrance to the UPS building - operational handling station. This entrance serves as AEC for the entry of persons into PD B3 (Praha-Smíchov station) with the capacity of 800 persons/h. The entrance to AEC must be located in an area with the cave-in protection, i.e. outside the construction, so that the requirements based on CO-6-5, i.e. $H/2 + 3$ m (H is the height of the surrounding buildings from the edge of the roof to the ground) are adhered to.

AEC and ventilation facilities will also have an impact on the completed southern wing of the station. Requirements arising from the DP's internal directive on the principles of fire protection for the design and construction of the Prague underground system are determined for ventilation facilities.

AEC must be a separate structure (due to the cave-in protection). Theoretically, the access may be a part of the construction (underground), again provided that the pressure resistance of the whole construction is ensured. Relocation of AEC is technically feasible (although expensive) subject to the approval by the 850000 unit, UPS specialist designer and approval by OB OPO MHMP.

The garages do not have their own pressure closures, however, they are structurally connected with UPS — common ceiling structure. All available documents indicate that it is possible to expand the garages towards the planned new construction of the southern wing of the Praha-Smíchov railway station in terms of layout (see the attached images of the individual levels of the SS station). The separation of new garages structures and UPS of the SS station due to stray currents is to be solved by the UPS specialist designer. Is the garage on a separate grounding network? (we assume that it is a part of the underground grounding network). Can an extended garage be a part of the underground's grounding network? (we do not think so)

There are 2 ventilation shafts at the site of garages (physically, according to maps and historical drawings; missing in Topol 1) — the extension of garages will have an impact on these shafts, at the same time it will have an impact on the equipment located in the premises of garages (see Annex 1 — SS carpets layout).

The completed southern wing of the station will have an impact both on AEC and on the AEC ventilation facility and the garage ventilation facility. Requirements arising from the DPP's internal directive on principles of fire protection for the design and construction of the Prague underground system are determined for ventilation facilities.