

4.6. Potential Impact on Landscape

4.6.1. Information about Landscape

Cernavoda Town is near the Danube branch Dunarea Veche (on its right side), on the north side of the Danube-Black Sea Canal (its left side, looking from the Danube). The buildings are placed on a hill slope.

The left side of the Danube is low, covered by vegetation, without hills.

There is a highway bridge over the Danube, near an old railway bridge, at a small distance upstream Cernavoda.

There is also a new bridge over the Danube-Black Sea Canal, at a small distance from the Danube.

The left side and the right side of the Canal are high in the area from the Danube to the Cernavoda lock.

The highway from Fetesti to Constanta crosses the Danube, goes along the right side of the Canal and crosses it at the lock. Then, the highway continues to Constanta.

The Cernavoda NPP site is in a separate area, on the left side of the Canal, at a distance that is not very small. There are buildings for 5 reactors on this site. Downstream the Cernavoda lock, the Canal continues along a valley, with hills at a moderate distance on its left side and plain on the right side. Farther, there are larger plain areas and hills, and then there is a high plateau on both sides, downstream Basarabi.

The landscape at Cernavoda looks like a hilly zone crossed by large water courses. The hills are not very high, there are constructions and vegetation on their slopes. The bridges and the lock installations are included in the landscape because of the large areas and higher hills. It is a nice region, with moderate diversity.

4.6.2. Relief Features and Geomorphology on the Cernavoda NPP Site

The Cernavoda NPP site is a flat area, at the end of a rather long access road with parking zone on its left side, and behind a wide water basin. There are hills near the site, on the left and on the right. The hills are covered with trees and small vegetation. There is also vegetation along the access road and along the parking.

The county road near the site is rather parallel with the front line of the Cernavoda NPP area. The other side of the road is at a small distance from a large canal with water (the derivation canal). There is also a bridge with high sides allowing the road to cross the intake canal.

The heights of the hills near the site look comparable with the heights of the buildings inside the NPP area. There are also buildings on the right side of the access road.

The site area is embedded into the surrounding relief, without apparent geometrically regular limits. The only right lines are those along the access road.

The Cernavoda NPP site is near the derivation canal that is used for taking over water from the race 1 of the Danube-Black Sea Canal. The derivation canal is wide (over 50 m) and curved.

The intake canal, less wide, goes from the derivation canal to a larger basin in front of the NPP. There are trees along its right bank, separating it from the parking area.

Farther from the NPP site, beyond the derivation canal (and behind a higher land area), there is the Cernavoda lock between race 1 and race 2 of the Danube-Black Sea Canal. It cannot be seen from the area in front of the NPP site.

The Danube branch Dunarea Veche is rather far from the NPP site.

4.6.3. Estimated Impact on Landscape

The Units 3 and 4 reactor buildings is part of the set of 5 buildings, which are properly placed within the local landscape, so that to maintain the equilibrium of the panoramic view. The heights of the buildings are the same and they are comparable with the heights of the hills that limit the Cernavoda NPP site. The other buildings of Units 3 and 4 are also similar to those of the other units.

These already existing buildings (including those of Units 4 and 5) contribute to the designed landscape.

Due to the buildings size and design, and because pipe networks and other metal installations are not so visible, the Cernavoda NPP site has a more pleasant industrial look in comparison to other industrial sites.

The completion of Units 3 and 4 will improve the landscape by finalizing and finishing exterior surfaces of the buildings and hiding some reinforcement metal bars. It will not change land use and will improve landscape equilibrium by a further step to get a set of uniform elements as designed.

The Units 3 and 4 land surface is a built area. Finally, it will include constructions, roads and green areas, similarly to Unit 1 and Unit 2. The area shares in the design of Unit 2 (almost completed) are about 95 % for constructions and roads, and 5 % green areas (Ref. 4.6-1).

The Units 3 and 4 completion will introduce new arranged and maintained green areas within the Cernavoda NPP site.

The activities during the completion period will be carried out inside the Cernavoda NPP site, and much work will be done within the buildings, without negative effects on landscape.

The constructions and open canals that will be used for heated water discharge, from Units 3 and 4 to the Danube or to the race 2 of the Danube-Black Sea Canal, are those used by Unit 1 and Unit 2 and they are constructed in most part, and it will not be any change of the landscape for this purpose.

The activities during the Units 3 and 4 operation will not change the landscape in other areas.

4.6.4. Measures for Preventing Negative Effects on Landscape

First of all, the present negative effects on landscape, caused by unfinished buildings with visible reinforcement bars, will be diminished by the measures included in the project for finalizing the exterior surfaces and finishing them.

Other measures for preventing negative effects on landscape will comprise activities of maintenance of the buildings and installations surfaces.

The landscape within the NPP site will also be improved by maintenance of the green areas.

References

4.6-1. ICIM, *Studiu de impact pentru CNE Cernavodă - Unitatea 2*, 2002.

4.6-2. SITON, *Documentație U3/U4 - 08233 - 6023 - STI*, august 2006.