SUBJECT 9
NOISE, LANDSCAPE AND LOCAL ECONOMY

Noise

Operating phase

Potentially loud sources of noise form Flamanville site likely to impact on 'noise emergence regulated areas' (ZER) are the discharge chimneys, the air entry and exit openings, the ventilation openings, the cold water production equipment, the steam pipes, the machine rooms, the cooling towers, the pumphouses and the transformers. Each noise source is characterized by a sound power, which measurement unit is the acoustic decibel (in dB(A)).

The nuclear plants are subject to the decree of December 31 1999 modified which stipulates the general regulations meant to prevent and limit the external pollution and risks caused by operating Basic Nuclear Facilities (INB). The decree lays down the 'emergence' criteria[16] to be complied with in the regulated areas (ZER) when ambient noise is over 35 dB(A), which is the case in the site's surrounding area. The more stringent threshold is the maximum emergence value allowed at night of 4 dB(A) if ambient noise stands between 35 and 45 dB(A) (inclusive) and 3 dB(A) if it exceeds 45 dB(A).

Emergence around the Flamanville CNPE was modelled by EDF-R&D on the basis of the sound power level specified for each sound source and also on the basis of measurements taken in the site's surrounding area. The model's main results show that emergence in the regulated areas after the adding of an EPR unit is hardly different from the emergence of units 1 and 2 on their own.

The introduction of the new unit pushes emergence from 2 dB(A) to 2.2 dB(A) at the most unfavourable point, namely the localities of Marcanville and La Coquaise. The change to the maximum emergence value is therefore very slight; the value remains well below the 3 dB(A) limit which corresponds to man's perception of noise.

Building the EPR unit on the Flamanville site therefore hardly changes the site's acoustical situation and the regulations are still adhered to (the most demanding criterion: emergence of less than 4 dB(A) at night).

The measures taken to eliminate, reduce and if possible compensate the sound effects of Flamanville 3 are the implementation of soundproofing systems for the main sources (by putting a top, insulating walls, ...)

Building phase

Noise emissions during the building stage are caused by machines carrying out land-based work, the helicopter used for the offshore platform and traffic on the site. The impact of noise on the neighbouring area is limited by the cliff and the efforts in the organization of the construction site (work schedule during day as far as possible, location of noisy systems, ...).

[16] Emergence: the difference between the noise levels while the unit is functioning (ambient noise level) and while the unit is shut down (residual noise level).

Landscape

The introduction of the new unit on the Flamanville site has been the subject of architectural and landscape studies which have allowed a contemporary image for all of the new facilities to be created while respecting the original layout plan, the existing buildings and, particularly, the entire natural site. As the buildings are erected at the foot of the cliff, they do not take up any extra beach or shore space in relation to the existing units and they will mainly be visible from the sea only.

Local economy

The building site and then the operating of the third plant represent a socio-economic opportunity for the region with the presence of a diversified workforce, the consequent rise in the number of inhabitants, the increase in local business activity and new tax resources. The construction site, at its maximum level of activity foreseen from 2009, will employ 2400 persons, the operation needing an addition of 240 persons on the site. Existing infrastructure, particularly the thoroughfares, which ensured the construction and operating of the two existing nuclear units, will be used for the needs of the new unit.

☞ **TO FIND OUT MORE**, please see:

- ***Document 6*** ***Piece B - Chapters IV.2.7, IV.2.8, IV.3, V.3.8****: Bruit, paysage et socio-économie*
- ***Document 6*** ***Piece C - Chapter II.8****: Noise characteristics*
- ***Document 6*** ***Piece E - Chapters III.2.1.7, III.2.2.6****: Impact of noise*
- ***Document 6*** ***Piece E - Chapter III.4****: Impact on the landscape and the socio-economy*
- ***Document 6*** ***Piece E*** *– Chapters VI.2.1.5, VI.2.2.4, VI.3: Measures foreseen regarding terrestrial ecosystem and public health*