

# SPAIN

## Almaraz Nuclear Power Plant (NPP)

### Discharge and environmental monitoring programs and national environmental radioactivity monitoring network in the vicinity of the NPP

Art. 35 Technical Report – ES 18-03

#### FOLLOW-UP OF THE 2018 RECOMMENDATIONS

##### Report on any significant changes in the set-up of the monitoring arrangements

##### Temporary spent nuclear fuel storage facility (ATI)

The environmental radioactivity monitoring around the spent nuclear storage facility of C.N. Almaraz is carried out continuously by means of four thermoluminescent dosimeters placed in the four cardinal points, taking as a reference the center of the concrete slab that defines the storage facility, at distances between 100 and 330 meters of the slab. The substitution and reading of these dosimeters is carried out in a quarterly basis, at the same time as of the rest of the dosimeters of the environmental radioactivity monitoring network of Almaraz NPP, obtaining the integrated measurement of the quarter in each of the points.

This surveillance has been carried out since March 2016, more than one year before the first spent fuel storage cask was installed, in October 2018.

In accordance with the requirements of the CSN, since 2020, this kind of surveillance has been also included in the quality control monitoring programme of the NPP, taking at least one additional measurement out of the 16 carried out by the environmental radioactivity monitoring programme around the ATI, to be measured and read by a different laboratory. This programme has been established separated from the environmental radioactivity monitoring programme around Almaraz NPP (PVRA), as it is an “on-site” program and therefore responds to different objectives than the PVRA ones. Nevertheless, the environmental radioactivity monitoring programme around the ATI is subject to the same regulatory requirements as the PVRA in terms of having procedures, annual report, monthly reports, calendar and quality control monitoring programme.

##### Redundant dosimeter DT-42 bis

After the completion of the renovation works of the building in which the dosimeter of the Almaraz station (DT-42) was placed, a possible shielding in its new position was observed and

highlighted in the inspection of the CSN carried out in March 2019. To check the suitability of the location of that dosimeter, the licensee placed a redundant dosimeter in a nearby position, located on the front wall of the day care center of Almaraz municipality (DT-42 bis). The monitoring and assessment of DT-42 results during 2019 was documented in report MA-20/005 "Analysis of DT-42 Environmental Dosimeter Readings", concluding that a greater amount of data is needed, so the redundant dosimeter will be maintained until at least the first quarter of 2021.

The results obtained in both dosimeters will be compared to each other and to the historical values, and accordingly, the interest of maintaining the location or changing it will be assessed and determined.

### **Other changes**

In compliance with what is required in the External Dose Calculation Manual (MCDE), CN Almaraz has carried out in 2020 an update of the Land and Water Use Census. According to the results no locations have been detected that need to be included in the PVRA, taking into account the criteria set out in the MCDE, so the configuration and location of the stations will not be altered with respect to the existing program. As a single change, during the second half of 2020 the sampling of crops for human consumption has been difficult at the 62- Finca La Angula station. As there has been a repeatedly lack of samples in this point due to the gradual abandonment of the orchard from which they came, and no alternative locations have been identified, this station is likely to be declared as with permanent absence of such samples, as indicated in paragraph 5.1c of the MCDE. Therefore, during the 2021 campaign this station will probably be removed of the PVRA. However, since in the same cardinal direction (East) and at short distance from the location of station 62 there is already another station where the same type of samples are taken (05-Serrejón), it is considered that it is not necessary to replace station 62 in the PVRA.