

強化輻射災害應變與管制技術之研究(1/4)

建立南部備援實驗室之環境試樣分析備援技術

Project of strengthening the response of radiation disaster and regulatory action (1/4)

Establishment the skill of environmental sample analysis in the southern backup laboratory

主管單位：原子能委員會輻射偵測中心

葉一隆¹

陳庭堅²

徐文信¹

黃韋翔²

Yeh, Yi-Lung¹ Chen, Ting-Chien² Shyu, Wen-Shinn² Huang, Wei-Shiang²

¹國立屏東科技大學土木工程系

²國立屏東科技大學環境工程系

摘要

為提升南部地區放射性分析檢測能量，建立輻射災害備援實驗室有其重要性。前期計畫已分四年在南部地區逐步建置輻射災害放射性分析備援實驗室並取得財團法人全國認證基金會(TAF)及衛生福利部食品藥物管理署(TFDA)認證，今(109)年度目標為擴展檢測能量至環境中水樣、空氣、土壤、植物樣品與生物樣本之檢測分析技術領域，並取得相關領域檢測技術認證。另本計畫執行成果包括完成核能三廠環境試樣計測比較實驗，藉此比對備援實驗室樣本前處理及檢測的能力；通過 TAF 環境試樣放射性分析技術認證；通過「IAEA 國際原子能總署」環境試樣放射性分析能力試驗，驗證實驗室技術人員檢測穩定性與熟練度等項目；完成核能三廠周遭鄉鎮里核安講習，辦理現場輻射偵檢器檢測展示，扮演民眾溝通、促進公民參與環境監測作業；開設輻射安全及災害防救環境教育訓練課程，讓學生瞭解輻射的基本原理，並引入輻射與日常生活的關聯性及應用，進而對輻射建立正確的觀念。

最後，備援實驗室將持續精進環境領域放射性分析檢驗技術，以備核子事故或相關意外事件發生時，可有效應變大量放射性檢測需求。

關鍵詞:核能三廠、比較實驗、TAF 認證、環境試樣、放射性分析

Abstract

In order to enhance the capacity of radioactive analysis in Taiwan, the establishment of a backup laboratory has its importance. The purpose of the previous project from 2016 to 2019 is to establish a radiological analysis backup laboratory in Southern Taiwan from 2016 to 2019 and passed the Taiwan Accreditation Foundation (TAF) and Taiwan Food and Drug Administration (TFDA) Accreditation. The main goals in 2020 is to establish capacity of radiative analysis of environmental sample and pass the Taiwan Accreditation Foundation

(TAF) Administration. In addition, the backup laboratory passed the IAEA proficiency tests to ensure its analytical ability and quality. On the other side, the backup laboratory collaborated with the Radiation Monitoring Center (RMC) for the task of monitoring the Maanshan Nuclear Power Plant to polish the analytical. Also, the laboratory organized the training courses relevant to radiation safety, disaster prevention and environmental education to establish a correct concept of radiation for the students in NPUST and propagated the correct information to the local resident via face-to-face activities.

In summary, The laboratory persists to strengthen the analytical ability of radiative analysis to meet challenge for large demand of radioactivity analysis during a nuclear accident or radiation-related accidents .

Keyword : Maanshan Nuclear Power Plant, Taiwan Accreditation Foundation (TAF) certification. Environmental samples. Radioactivity analysis.