

**出國報告（出國類別：實習）**

**實習核能電廠用過核燃料中期貯存  
環保管理措施**

**服務機關：台灣電力公司**

**姓名職稱：郭謙賢(一般工程監)**

**派赴國家：美國**

**出國期間：95年5月2日至11日**

**報告日期：95年6月23日**

## 目錄

	頁次
壹、緣起及目的	1
貳、過程	2
參、心得	2
一、實習期間相關見聞及感想	2
二、台電公司對於核能電廠用過核燃料中期貯存之環保管理措施	7
三、實習心得	9
肆、建議事項	10

## 壹、緣起及目的

### 一、緣起

核能電廠用過核燃料剛從核子反應爐退出時，具有放射性及餘熱，但將隨時間而衰減。本公司對核能一、二廠用過核燃料之處理處置係參考目前國際上對用過核燃料之營運趨勢，分為三階段。第一階段：用過核燃料自反應爐取出後，先在電廠用過核燃料池內進行必要之冷卻貯存。核一、二廠的用過核燃料池為國際上廣為採用之高密度貯存架，其貯存容量可容納核一、二廠運轉 30 年左右所產生的用過核燃料。第二階段：將用過核燃料自用過核燃料池適時移至其他地表貯存設施，做進一步冷卻，或予以再處理。由於用過核燃料池容量有限，為能及時提供核能電廠用過燃料池貯滿後額外之貯存容量，本公司正積極規劃於核一、二廠內另建造用過核燃料乾式貯存設施，再將經過多年充分冷卻的用過核燃料移入該設施，進行乾式貯存。第三階段：將用過核燃料或再處理產生之高放射性廢料運至深層地質處理廠內予以掩埋，做最終處置。將來核一、二廠用過核燃料在中期貯存期間可隨時取出，保留了再處理的彈性，俟未來再處理經濟可行時，再將用過核燃料運往國外再處理，以回收所含有用物質，同時本公司亦積極規劃用過核燃料最終處置方案。

### 二、目的

本公司為解決上述核能電廠用過核燃料第二階段之處理問題，已在核能一、二廠規劃中期貯存設施，且依據法令規定辦理環境影響評估工作；本公司「核能一、二廠用過核燃料中期貯存計畫環境影響說明書」業奉環境保護署審查通過，而落實用過核燃料中期貯存計畫環保工作之執行，深受環保主管機關及社會大眾之關切及矚目，鑑於本項環境影響評估在國內係首次辦理，實有必要派員赴國外研習先進國家對於該項設施之相關環境管理經驗，俾周全本計畫之環境保護對策。本次期望經由實習美國用過核燃料中期貯存設施之環保管理措施，瞭解其用過核燃料

中期貯存設施之環境影響減低對策，以及用過核燃料中期貯存設施環境監測計畫之執行作業，以供本公司擬定相關因應對策之參考。俾建構用過核燃料中期貯存設施之環境保護措施，進而降低計畫施工及營運時之阻力。

## 貳、過程

- 一、95年5月2日至3日：路程，台北 舊金山 巴爾地摩 劍橋。
- 二、95年5月3日至5日：在馬里蘭州立大學環境研究中心實習核能電廠用過核燃料中期貯存環保管理措施。
- 三、95年5月6日至9日：在馬里蘭州卡佛特郡參訪卡佛特克利夫斯核能電廠用過核燃料中期貯存場及用過核燃料中期貯存環保管理措施。
- 四、95年5月10日至11日：返程，卡佛特郡 巴爾地摩 洛杉磯 台北。

## 參、心得

### 一、實習期間相關見聞及感想

- (一) 本次實習期間承蒙在馬里蘭州立大學環境研究中心 (University of Maryland Center for Environmental Science) 任職的趙慎餘教授協助，安排在該研究中心實習核能電廠用過核燃料中期貯存環保管理措施，並前往卡佛特克利夫斯(Calvert Cliffs)核能電廠參訪用過核燃料中期貯存設施。
- (二) 卡佛特克利夫斯核能電廠位於美國東部的馬里蘭州卡佛特郡的Chesapeake 海灣(圖一)，該核能電廠裝置有兩部分別為 845,840 MW 的壓水式反應爐(PWR)，分別於 1975 和 1977 年開始運轉，是星座能源集團(Constellation Energy Group)旗下的核能電廠。2000 年 3 月美國核能管制委員會(Nuclear Regulatory Commission)批准了該廠繼續營運 20 年的執照，加上原先核准的 40 年運轉執照，該核



圖一 卡佛特克利夫斯(Calvert Cliffs)核能電廠鳥瞰圖

能電廠可合法營運至 2036 年，這是美國有史以來第一張准許繼續營運的執照。(按，相關電廠申請延長營運的環評報告資料請參閱：Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Supplement 1: Regarding the Calvert Cliffs Nuclear Power Plant, Final Report)

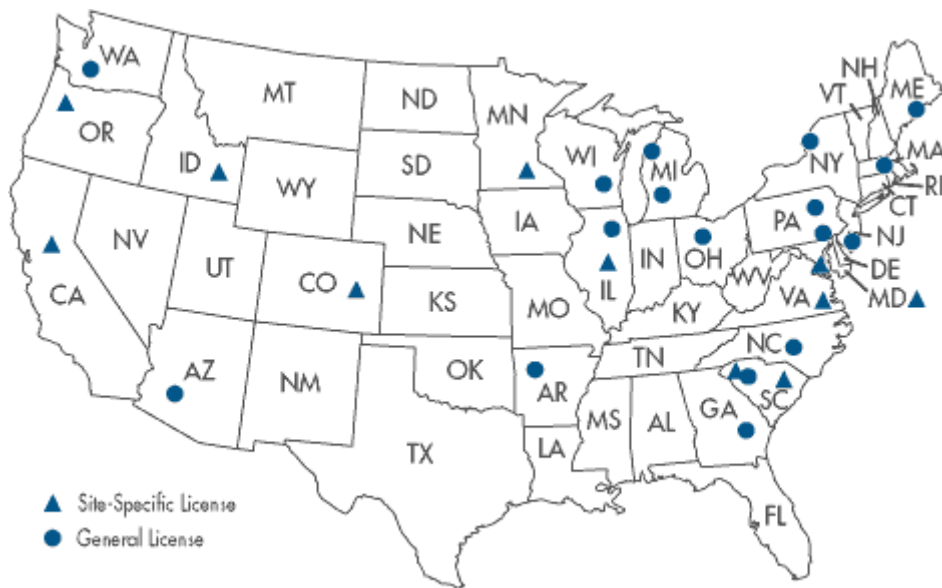
- (三) 參訪卡佛特克利夫斯核能電廠時由該廠副總 Mr. Peter E. Katz 安排接待。Mr. Katz 告知於 2005 年 6 月 22 日美國總統布希曾經造訪該核能電廠，並且發表演說，藉以推動「潔淨、安全的核能未來」。(附錄一，摘錄布希演說之新聞摘要)
- (四) 卡佛特克利夫斯核能電廠環保工作人員並提出多份由美國環境保護署(Environmental Protection Agency, EPA)核定之文件，說明卡佛特克利夫斯核能電廠依環境保護法規提出申請於該廠建置用過核燃料中期貯存場的環評報告(Environmental Assessment Related to Construction and Operation of the Calvert Cliffs

Independent Spent Fuel Storage Installation), 該環評報告於 1991 年經美國 EPA 評審通過, 1993 年開始貯存用過核燃料(圖二)。



圖二 卡佛特克利夫斯核能電廠用過核燃料中期貯存場貯存作業照片

(五) 美國共有 20 多個用過核燃料中期貯存場，卡佛特克利夫斯核能電廠的用過核燃料中期貯存場即是其中之一(圖三)。卡佛特克利夫斯核能電廠的乾式用過核燃料中期貯存設施是 Vectra Technologies 公司設計，Transnuclear 公司製造，型號 NUHOMS-24P，美國核能管制委員會於 1992 年核發執照。基於擴大貯存容量及延長貯存場可使用年限之考量，卡佛特克利夫斯核能電廠將原設計 NUHOMS-24P 型改良為 NUHOMS-32P 型以增加用過核燃料之貯存量，卡佛特克利夫斯核能電廠於 2005 年提出過核燃料中期貯存設施計畫的修改，經美國 EPA 評審認定無重大環境影響。(附錄二、三，卡佛特克利夫斯核能電廠用過核燃料中期貯存設施計畫修改之評審認定無重大環境影響)



圖三 美國用過核燃料中期貯存場位置圖

(六) 卡佛特克利夫斯核能電廠申請於該廠建置用過核燃料中期貯存場的環境影響評估報告中有關監測方面，注重於游離輻射監測，對於非游離輻射則並無辦理長期環境監測。

(七) 2001 年美國歷經 911 恐怖攻擊事件之後，所有與安全管制有關的事項全部加強管理，核能電廠更是管制非常嚴格（附錄四、進入核能電廠的安全管制），進入核能電廠之後即禁止拍照。核能電廠已經不再接受一般民眾參觀，甚至於有許多核能電廠的展示館也因安全管制的理由而關閉，卡佛特克夫斯核能電廠的展示館也已經關閉（圖四）。同時，電廠環保工作人員所提出供參考之相關資料及環評文件，也不准影印攜出。如果有需要引用，必須自行經由網際網路下載，如果相關資料及環評文件有安全管制考量，則在網際網路亦無法下載，但部份資料可接受民眾之電話索取。（按，卡佛特克利夫斯核能電廠申請建置用過核燃料中期貯存場的環評報告 -- Environmental Assessment Related to Construction and Operation of the Calvert Cliffs Independent Spent Fuel Storage Installation 屬於受安全管制之文件，網際網路亦無法下載，但可以電話洽美國核能管制委員會索取。）



圖四，卡佛特克夫斯核能電廠展示館關閉之告示牌



(八) 卡佛特克利夫斯核能電廠共佔地 800 公頃(2000acres)，其中只有 152 公頃(380acres) 做為電廠用地，其餘大部份面積的土地仍保留原始樹林狀態，電廠東邊為 Chesapeake 海灣，西邊為 Solomons Island Road (Route 2 & 4)。南北兩端則各有小路從 Solomons Island Road 通往海邊。電廠四周除了進入電廠大門道路之外，其餘各通路全部封閉，並豎立標示(圖五)，嚴格禁止閒雜人等闖入，告示牌附近除了道路僅有原始樹林，看不到圍牆令人感覺不到內有核能電廠。



圖五 卡佛特克利夫斯核能電廠通路封閉之告示牌

## 二、台電公司對於核能電廠用過核燃料中期貯存之環保管理措施

- (一) 本公司「核能一、二廠用過核燃料中期貯存計畫環境影響說明書」已分別奉環境保護署審查認定可有條件接受開發(附錄五、六，

環境保護署審查通過之公告)。本公司除了遵行環境保護署對於前項環境影響說明書的審查結論，並對於環境影響說明書所列的各項環保措施確實執行。對於各項環境影響因子現況改變及預測開發可能導致之不利影響，考慮各種可行及有效之措施，以將不利影響減至最低。例如施工期間之套裝式污水處理設備處理生活污水、工地灑水抑塵、裸露地面種植強健樹種、加強復育措施、設置圍阻設施(如覆蓋布及擋風牆)減低風揚作用及阻止粒狀物逸散、選用低噪音振動機械、加強工地維護及管理、辦理環境監測等；運轉期間主要為選用適當屏蔽、辦理環境輻射監測等。

- (二) 雖然核能一廠用過核燃料中期貯存計畫環境影響說明書於 84 年 10 月 11 日經環境保護署審查通過，並於 85 年 8 月 10 日取得目的事業主管機關核發之開發許可。但是由於本計畫迄今尚未執行，依據「環境影響評估法」第十六條之一規定，逾三年實施開發行為時，應提出「環境現況差異分析及對策檢討報告」，送主管機關審查。另外，由於核能一廠用過核燃料中期貯存計畫內容有局部變更(因應「建築技術規則」之修訂，貯存設施貯存容量變小)，依據環境影響評估法施行細則第三十七條規定，需提出「變更內容對照表」送主管機關及目的事業主管機關審核。所以本公司將兩項報告(環境現況差異分析及對策檢討報告與變更內容對照表)合併撰寫，並訂名為「核能一廠用過核燃料中期貯存計畫環境現況差異分析及對策檢討報告暨變更內容對照表」，於 94 年 9 月陳報目的事業主管機關及主管機關審核。對於本公司 94 年 9 月陳報的「核能一廠用過核燃料中期貯存計畫環境現況差異分析及對策檢討報告暨變更內容對照表」，環境保護署於 94 年 10 月 13 日與 95 年 1 月 25 日分別召開 2 次專案小組審查會，小組審查過程之所有議題本公司皆予說明及澄清，同時配合出具報告修正本再經過各小組委員確認內容無誤後提送環評大會核備。

### 三、實習心得

- (一) 由於全球氣候變遷，在能源領域之中石化燃料已經不再獨領風騷。最近幾年來，美國已核准多個核能電廠申請的延長使用年限。相對的，用過核燃料中期貯存設施的需要性，也跟著提高了。目前美國境內已經建置並營運的用過核燃料中期貯存設施已經有 20 多個，這些用過核燃料中期貯存場，容許用過核燃料在貯存期間可隨時取出，經再處理回收部分可用資源，保留了再處理的彈性，或直接送往最終處置場予以最終處置。本公司在核能一、二廠的用過核燃料中期貯存計畫，也正是考量此因素而提出規劃。
- (二) 在馬里蘭州立大學環境研究中心實習期間，趙慎餘教授提出一份 2001 年美國核能管制委員會審查通過的猶他州用過核燃料中期貯存環境影響評估報告 -- Final Environmental Impact Statement for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County，簡稱 PFS --- Private Fuel Storage (附錄七，摘錄 PFS 環境影響評估報告 9.4.2 章節 Mitigation Measures)(附錄八，摘錄卡佛特克利夫斯核能電廠用過核燃料中期貯存計畫環境說明書之監測計畫及第 9 章 Summary and Conclusions)，經研閱並比較 PFS、卡佛特克利夫斯核能電廠、本公司核能一廠、核能二廠等四份用過核燃料中期貯存計畫之環評書件，綜合檢討各案之環保管理措施，比較結果各案均大同小異，大致上都是敘述施工期間之設置套裝式污水處理設備處理生活污水、注意工地水土保持、工地灑水抑塵、選用低噪音振動機械、避開大規模之同時施工、避開對於特定生物之干擾、遵行相關法令規定、提報確實執行環境影響減低對策、辦理環境監測及提報監測結果等；運轉期間主要為辦理環境輻射監測等。(附錄九，核能一廠

用過核燃料中期貯存計畫環境現況差異分析及對策檢討報告暨變更內容對照表之環境保護對策章節)

- (三) 卡佛特克利夫斯核能電廠用過核燃料中期貯存場環保管理措施，對於非游離幅射方面並無辦理長期環境監測，可做為本公司對外說明之參考。
- (四) 本次實習期間經與相關單位及人員討論，發現本公司在對於用過核燃料中期貯存場環保管理措施，不僅為台灣的主管機關審查認可，即使在美國經比較其相關之環保管理措施亦不惶多讓，本公司的努力為美國學者專家所贊許，並均表示希望學習與取得本公司「核能一、二廠用過核燃料中期貯存計畫環境影響說明書」的相關資料或簡介。
- (五) 本次實習後瞭解，即便如美國這樣資訊開放的國家，為了安全考量，已經將原本公開放置在網際網路的卡佛特克利夫斯核能電廠申請建置用過核燃料中期貯存場的環境影響評估報告撤離網際網路，停止其開放自由下載。對於有需要參考該環境影響評估報告的民眾及團體，在網際網路特別註記，可經由其他管道向有關機關索取。

#### 肆、建議事項

我國環境保護署對於已審查通過的環境影響評估書件，均依相關法規將環境影響評估報告全文刊載於環境保護署網站。本公司可以在適當時機向環境保護署提出建議，參考美國的做法，將已經公開放置在網際網路的「核能一廠用過核燃料中期貯存計畫環境影響說明書」電子檔案撤下，停止其開放自由下載以增加核能電廠的安全管制。

## 附錄一、美國總統布希造訪核能電廠演說之新聞摘要



美國總統布希訪問卡佛特克利夫斯核能電廠



美國總統布希演講

2005.6.22 美國總統布希訪問卡佛特克利夫斯核能電廠，藉以推動「潔淨、安全的核能未來」。

布希造訪馬里蘭州的卡佛特克利夫斯核能電廠，並且發表演說。他提醒美國民眾：「沒有這些核能電廠，美國每年就會多排放出將近七億公噸的二氧化碳。在馬里蘭州各處，老百姓期盼卡佛特克利夫斯核能電廠能夠讓他們的家庭大放光明，並且保持他們土壤、空氣、以及飲水潔淨。換句話說，你們一方面發電、又同時能夠有利於環境。這是一項聰明才智的結合。而美國人必須瞭解到，當我們擴增核電廠時，這些都是確實可行的。」布希將核電描述為「美國最安全的能源之一」，同時還說：「大家必須要瞭解，科學、技術以及工廠設計的進步，已經使得核能電廠比以往來得安全許多。操作人員以及管理人員接受過精良訓練，同時盡心盡力，花費很長的時間在核能安全上。大家越來越有共識，知道核電廠數量增加有助於造就更潔淨、更安全的國家。逐漸地，大家開始看清楚這項事實。我來到這座電廠的原因之一，是要來幫助老百姓瞭解到事實與假象當中的差別。不過就算隨著時間邁進，大家有越來越高的共識，美國從 1970 年代開始，就沒有新建過任何一座核能電廠。在二十一世紀的今天，我們的國家將需要更多的電力、更安全、更潔淨、更可靠的電力。因此現在是到了美國重新開始興建核能電廠的時候了。」（摘自「核能通訊網路」NucNet 22 June 2005）



## U.S. Environmental Protection Agency

### Federal Register Environmental Documents

[Recent Additions](#) | [Contact Us](#) | Search:

**GO**

[EPA Home](#) > [Federal Register](#) > [FR Years](#) > [FR Months](#) > [FR Days](#) > [FR Daily](#) > Calvert Cliffs Nuclear Power Plant; Issuance of Environmental Assessment and Finding of No Significant Impact Regarding an Amendment

# Calvert Cliffs Nuclear Power Plant; Issuance of Environmental Assessment and Finding of No Significant Impact Regarding an Amendment

[Federal Register: May 24, 2005 (Volume 70, Number 99)]

[Notices]

[Page 29784-29785]

From the Federal Register Online via GPO Access [wais.access.gpo.gov]

[DOCID:fr24my05-94]

NUCLEAR REGULATORY COMMISSION

[Docket No. 72-8]

Calvert Cliffs Nuclear Power Plant; Issuance of Environmental Assessment and Finding of No Significant Impact Regarding an Amendment

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental assessment.

FOR FURTHER INFORMATION CONTACT: Joseph M. Sebrosky, Senior Project Manager, Spent Fuel Project Office, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Telephone: (301) 415-1132; fax number:(301) 425-8555; e-mail: [jms3@nrc.gov](mailto:jms3@nrc.gov).

SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission (NRC or the Commission) is considering issuance of an amendment to Special Materials License No. 2505 that would add the NUHOMS-32P as an optional design to the existing NUHOMS-24P design for dry storage of spent nuclear fuel. Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP) is currently storing spent nuclear fuel at the Calvert Cliffs independent spent fuel storage installation (ISFSI) located in Calvert County, Maryland.

Environmental Assessment (EA)

Identification of Proposed Action: By letter dated December 12, 2003, as supplemented, CCNPP submitted a request to the NRC to amend the license (SNM-2505) to add the NUHOMS-32P as an optional design to the existing NUHOMS-24P design for dry storage of spent fuel. The NUHOMS-32P design stores eight more spent fuel assemblies than the NUHOMS-24P design.

The proposed action before the NRC is whether to approve the amendment.

Need for the Proposed Action: The proposed action would allow CCNPP to optimize its dry spent fuel storage capacity by upgrading portions of its ISFSI to use the NUHOMS-32P dry shielded canister. The proposed action would allow CCNPP to reduce the minimum number of canister loadings each year from four (using the NUHOMS-24P design) to three (with the NUHOMS-32P design).

Environmental Impacts of the Proposed Action: The staff has determined that the proposed action would not endanger life or property. No effluents are released from the ISFSI during operation and the proposed changes have no impact to dry shielded canister loading activities. Therefore, there is no significant change in the type or significant increase in the amounts of any effluents that may be released offsite. There is also no significant increase with regard to individual or cumulative occupational radiation exposures because of the proposed action. The proposed amendment includes a technical specification change that would specify that the current neutron source term technical specification limit of  $< =2.23E8$  would apply to the NUHOMS-24P design and that the NUHOMS-32P design would have a neutron source assembly technical specification limit of  $< =3.3E8$  neutrons/second/assembly. The contact dose rate for the NUHOMS-32P design in a loss of neutron shielding accident with the revised neutron source term is 1517 mrem/hr. The contact dose rate for the NUHOMS-24P design in a loss of neutron shielding accident is 1126 mrem/hr. The regulatory limit for a design basis accident is 5 rem at 100 meters in accordance with 10 CFR 72.106. When compared to the regulatory limit, the dose rate increase from a loss of neutron shielding for the NUHOMS-32P design would be a minimal change from the dose rate for a loss of neutron shielding accident for a NUHOMS-24P design. All of the other proposed changes have no impact on radiation exposure. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

The amendment only affects the requirements associated with the loading of the casks and does not affect non-radiological plant effluents or any other aspects of the environment. Therefore, there are no significant non-radiological impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

Alternative to the Proposed Action: As an alternative to the proposed action, the staff considered denial of the amendment request (i.e., the "no-action" alternative). Approval or denial of the amendment request would result in minimal change in the environmental impacts. Therefore, the environmental impacts of the proposed action and the alternative action are similar.

Agencies and Persons Consulted: On April 28, 2005, Richard McLean of the State of Maryland was contacted regarding the proposed action and had no concerns. The NRC staff has determined that consultation under Section 7 of the Endangered Species Act is not required for this specific amendment and will not affect listed species or critical habitat. The NRC staff has also determined that the proposed action is not a type of activity having the potential to cause effects on historic properties. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act.

Conclusions: The staff has reviewed the amendment request submitted by CCNPP and has determined that adding the NUHOMS-32P as an optional design to the existing NUHOMS-24P design for dry storage of spent nuclear fuel would have no significant impact on the environment.

#### Finding of No Significant Impact

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR part 51. Based upon the foregoing EA, the NRC finds that the proposed action of approving the amendment to the license will not significantly impact the quality of the human environment. Accordingly, the NRC has determined that an environmental impact statement for the proposed license amendment is not warranted.

The request for amendment was docketed under 10 CFR part 72, Docket 72-8. For further details with respect to this action, see the proposed license amendment dated December 12, 2003, as supplemented, by a letter

dated May 12, 2004. The NRC maintains an Agencywide Documents Access Management System (ADAMS), which provides text and image files of NRC's public documents. These documents may be accessed through the NRC's Public Electronic Reading Room on the Internet at: <http://www.nrc.gov/reading-rm/adams.html>. EXIT Disclaimer Copies of the referenced documents will also be available for review at the NRC Public Document Room (PDR), located at 11555 Rockville Pike, Rockville, MD, 20852. PDR reference staff can be contacted at 1-800-397-4209, 301-415-4737 or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov). The PDR reproduction contractor will copy documents for a fee.

Dated in Rockville, Maryland, this 11th of May, 2005.

[[Page 29785]]

For The Nuclear Regulatory Commission  
Joseph M. Sebrosky,  
Senior Project Manager, Spent Fuel Project Office, Office of Nuclear  
Material Safety and Safeguards.  
[FR Doc. E5-2586 Filed 5-23-05; 8:45 am]  
BILLING CODE 7590-01-P

---

[EPA Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

This page was generated on Monday, June 12, 2006

View the graphical version of this page at: <http://www.epa.gov/fedrgstr/EPA-IMPACT/2005/May/Day-24/i2586.htm>





U.S. Environmental Protection Agency

Federal Register Environmental Documents

Recent Additions | Contact Us | Search: GO

EPA Home > Federal Register > FR Years > FR Months > FR Days > FR Daily > Calvert Cliffs Independent Spent Fuel Storage Installation Issuance of Environmental Assessment and Finding of No Significant Impact Regarding a License Amendment

Calvert Cliffs Independent Spent Fuel Storage Installation Issuance of Environmental Assessment and Finding of No Significant Impact Regarding a License Amendment

[Federal Register: September 12, 2005 (Volume 70, Number 175)]
[Notices]
[Page 53812-53813]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr12se05-74]

NUCLEAR REGULATORY COMMISSION
[Docket No. 72-8]

Calvert Cliffs Independent Spent Fuel Storage Installation
Issuance of Environmental Assessment and Finding of No Significant
Impact Regarding a License Amendment

AGENCY: Nuclear Regulatory Commission (NRC).
ACTION: Issuance of an Environmental Assessment and Finding of No
Significant Impact.

FOR FURTHER INFORMATION CONTACT: Joseph M. Sebrosky, Senior Project
Manager, Spent Fuel Project Office, Office of Nuclear Material Safety
and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC
20555. Telephone: (301) 415-1132; Fax number: (301) 415-8555; E-mail:
jms3@nrc.gov.

SUPPLEMENTARY INFORMATION: The U.S. Nuclear Regulatory Commission (NRC
or the Commission) is considering issuance of an amendment to Special
Nuclear Materials License No. 2505 that would incorporate changes to
the updated safety analysis report to alter the design basis limit for
the dry shielded canister (DSC) internal pressure from 50 psig to 100
psig. Calvert Cliffs Nuclear Power Plant, Inc. (CCNPP) is currently
storing spent nuclear fuel at the Calvert Cliffs independent spent fuel
storage installation (ISFSI) located in Calvert County, Maryland.

Environmental Assessment (EA)

Identification of Proposed Action: By letter dated May 16, 2005,
CCNPP submitted a request to the NRC to amend license SNM-2505 in order
to incorporate changes to the updated safety analysis report to alter
the design basis limit for the DSC internal pressure from 50 psig to
100 psig. The design basis limit change is being made to support CCNPP
adding the NUHOMS-32P as an optional design to the existing NUHOMS-24P
design for dry storage of spent fuel. The NUHOMS-32P design stores
eight more spent fuel assemblies than the NUHOMS-24P design.

The proposed action before the NRC is whether to approve the amendment.

Need for the Proposed Action: The proposed action would allow CCNPP

to optimize its dry spent fuel storage capacity by upgrading portions of its ISFSI to use the NUHOMS-32P DSC. The proposed action would allow CCNPP to reduce the minimum number of canister loadings each year from four (using the NUHOMS-24P design) to three (with the NUHOMS-32P design).

Environmental Impacts of the Proposed Action: By letter dated December 12, 2003, CCNPP submitted a request to amend license SNM-2505 to add the NUHOMS-32P as an optional design to the existing NUHOMS-24P design for dry storage of spent fuel. An EA and Finding of No Significant Impact (FONSI) were published in the Federal Register on May 24, 2005 (70 FR 29784) for CCNPP's December 12, 2003, license amendment request which concluded that adding the NUHOMS-32P as an optional design to the existing NUHOMS-24P design for dry storage of spent nuclear fuel would have no significant impact on the environment.

The proposed action contained in CCNPP's May 16, 2005, request is to incorporate changes to the updated safety analysis report to alter the design basis limit for the DSC internal pressure from 50 psig to 100 psig. The DSC provides confinement, an inert environment, structural support, and criticality control for 32 pressurized water reactor fuel assemblies. The DSC shell is a welded stainless steel pressure

[[Page 53813]]

vessel that includes thick shield plugs at either end. To support the pressure increase structural design changes were made to the DSC to ensure that the confinement boundary for the spent nuclear fuel is maintained under the proposed design pressure limit of 100 psig for all specified normal operation, off-normal operation, and accident conditions. The staff has determined that the proposed action would not endanger life or property. No effluents are released from the ISFSI during operation and the proposed changes have no impact to DSC loading activities. Therefore, there is no significant change in the type or significant increase in the amounts of any effluents that may be released offsite. There is also no significant increase with regard to individual or cumulative occupational radiation exposures because of the proposed action. There are no significant radiological environmental impacts associated with the proposed action because the NUHOMS-32P DSC includes design changes to ensure the confinement boundary for the spent nuclear fuel is maintained under the proposed design pressure limit of 100 psig.

The amendment only affects the requirements associated with the loading of the casks and does not affect non-radiological plant effluents or any other aspects of the environment. Therefore, there are no significant non-radiological impacts associated with the proposed action.

Accordingly, the Commission concludes that there are no significant environmental impacts associated with the proposed action.

Alternative to the Proposed Action: As an alternative to the proposed action, the staff considered denial of the amendment request (i.e., the "no-action" alternative). Approval or denial of the amendment request would result in minimal change in the environmental impacts. Therefore, the environmental impacts of the proposed action and the alternative action are similar.

Agencies and Persons Consulted: On August 11, 2005, Richard McLean of the State of Maryland was contacted regarding the proposed action and had no concerns. The NRC staff has determined that consultation under Section 7 of the Endangered Species Act is not required for this specific amendment and will not affect listed species or critical habitat. The NRC staff has also determined that the proposed action is not a type of activity having the potential to cause effects on historic properties. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act.

Conclusions: The staff has reviewed the amendment request submitted by CCNPP and changing the DSC design basis pressure limit would have no significant impact on the environment.

## Finding of No Significant Impact

The environmental impacts of the proposed action have been reviewed in accordance with the requirements set forth in 10 CFR part 51. Based upon the foregoing EA, the NRC finds that the proposed action of approving the amendment to the license will not significantly impact the quality of the human environment. Accordingly, the NRC has determined that an environmental impact statement for the proposed license amendment is not warranted.

The request for amendment was docketed under 10 CFR part 72, Docket 72-8. For further details with respect to this action, see the proposed license amendment dated May 16, 2005. The NRC maintains an Agencywide Documents Access Management System (ADAMS), which provides text and image files of NRC's public documents. These documents may be accessed through the NRC's Public Electronic Reading Room on the Internet at: <http://www.nrc.gov/reading-rm/adams.html>. EXIT Disclaimer Copies of the referenced documents will also be available for review at the NRC Public Document Room (PDR), located at 11555 Rockville Pike, Rockville, MD, 20852. PDR reference staff can be contacted at 1-800-397-4209, 301-415-4737 or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov). The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, Maryland, this 31st of August, 2005.

For the Nuclear Regulatory Commission.  
Joseph M. Sebrosky,  
Senior Project Manager, Spent Fuel Project Office, Office of Nuclear  
Material Safety and Safeguards.  
[FR Doc. 05-17971 Filed 9-9-05; 8:45 am]  
BILLING CODE 7590-01-P

---

[EPA Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

This page was generated on Monday, June 12, 2006

View the graphical version of this page at: <http://www.epa.gov/fedrgstr/EPA-IMPACT/2005/September/Day-12/i17971.htm>

## 附錄四、進入核能電廠安全管制

Security at a nuclear plant is governed by the Code of Federal Regulations, Title 10, Section 73.55 (10CFR73.55). Since the early days (1960's) of nuclear power, more and more restrictions have been imposed.



On a visit to a nuclear plant today, you might see:

- Guardhouse where you must present a picture ID (typically issued by some government agency, e.g. driver license)
- Explosive detectors
- Metal detectors
- Electronic field intrusion motion sensors and alarms
- Wand and Hands-on frisk if one fails the explosive or metal detector test
- Computer controlled doors or gates that require keycards to enter
- Computer controlled doors or gates that have palm readers for entry/exit
- Multiple fences with barbed and/or razor wire

- Armed guards with automatic weapons in towers, guardhouses, and constantly patrolling the plant
- Concrete barriers
- Cameras
- Vehicle traps where vehicles are inspected before entry into the protected area.
- Armed force intrusion drills

In addition to these controls, fitness for duty requirements for all site personnel involve periodic random drug and alcohol testing. No drug usage is allowed, except by prescription, which must be pre-reported to your supervisor. No alcohol may be used less than 5 to 8 hours (depends on site) before work. Regardless, there are federal alcohol level limits that must be met.

(摘自 : The Virtual Nuclear Tourist)

 台灣電力公司核能一廠用過核燃料中期貯存計畫環境影響說明書

中華民國八十四年六月廿八日

行政院環境保護署公告 (84)環署綜字第 三三七—三 號

主 旨：公告「台灣電力公司核能一廠用過核燃料中期貯存計畫環境影響說明書審查結論」。

依 據：

一、「環境影響評估法」第七條。

二、行政院原子能委員會八十四年三月十三日(84)有輻字第 四九 一號函移交案。

公告事項：台灣電力公司核能一廠用過核燃料中期貯存計畫環境影響說明書審查結論：

一、本案台灣電力公司（以下簡稱台電公司）於原有廠區內興建，因開發面積不大，致其所衍生之環境效應不大，同意「環境影響說明書」已足夠說明本計畫，故本案可不進入第二段環境影響評估。

二、本計畫在輻射安全方面已充分考量，惟台電公司應考量未來最終處置作業及安全優先之原則下，於四種貯存設施方案中，擇一最佳可行方案報請原子能安全主管機關核定後方可實施。

三、本計畫於細部設計時，應再執行基礎結構穩定、擋土邊坡穩定及水流刷砂之評估，並確實作好水土保持工作。

四、本計畫涉及勞工安全衛生之部分，請依勞工安全衛生法令之規定辦理勞工安全衛生事宜。

五、本計畫之緊急應變計畫，應再詳敘事故之緊急辦理及工作人員安全作業程序，並宜有適當之訓練與演練。

六、施工期間之各類環境措施應確實執行，並請台電公司將此納入工程契約，並督導承包工程單位切實遵行。

七、為能更完備掌握環境輻射監測資料，請於輻射監測計畫中，增設置高壓游離腔。

八、請於運轉監測計畫中，考量混凝土溫度及結構材料之監測。

九、本計畫如予執行，台電公司需依審查結果確實執行，使對環境影響減至最低。且「核能一廠用過核燃料中期貯存計畫環境影響說明書」所敘內容及審查意見等，應視同台電公司之公開承諾，台電公司除應確實依據執行外，另各主管機關應依「環境影響評估法」執行追蹤監督事宜。

十、本計畫經許可後（開發前），請依環境影響評估法（第七條第三項）至當地舉行公開之說明會。

友善列印

 核能二廠用過核燃料中期貯存計畫環境影響說明書

中華民國八十五年二月一日

行政院環境保護署公告 (85)環署綜字第 一五八五 號

主 旨：公告「核能二廠用過核燃料中期貯存計畫環境影響說明書」審查結論。

依 據：「環境影響評估法」第七條。

公告事項：

「核能二廠用過核燃料中期貯存計畫環境影響說明書」審查結論。

本案經審查認定可有條件接受開發，開發單位應依左列事項辦理：

- 一、本計畫在輻射安全方面已充份考量，惟開發單位應考量未來最終處置作業及安全優先之原則下，於四種貯存設施方案中擇一最佳可行方案報請原子能安全主管機關核定後方可實施。
- 二、本計畫之緊急應變計畫，應再詳述事故之緊急辦理程序及工作人員安全作業程序，並應有適當之訓練及演練。
- 三、應審慎規劃核廢料之運送途徑及安全保護系統，且應演練熟習。
- 四、本計畫於細部設計時，應再執行基礎結構穩定分析、邊坡穩定分析、調節池、沈砂池之設計、棄土之處理方式等評估，並確實做好水土保持工作。
- 五、本計畫區內應規劃植栽與美化、綠化及劃設適當緩衝地帶，以減輕或避免視覺景觀之影響。
- 六、應提出詳細之環境監測計畫，並於影響區內種植對放射性物質敏感之植物，進行長期監測。
- 七、應加強與當地民眾溝通協調，以避免民眾抗爭。
- 八、本計畫涉及勞工安全衛生之部分，應依勞工安全衛生法令之規定辦理。
- 九、本計畫如經許可，開發單位應於施工前，依環境影響評估法第七條第三項規定，至當地舉行公開說明會。



十、應於施工前依環境影響說明書內容及本署審查結論，訂定施工環境保護執行計畫，並記載執行環境保護工作所需經費；如委託施工，應納入委託之工程契約書。該計畫或契約書，開發單位於施工前應送本署備查。

十一、開發單位取得目的事業主管機關核發之開發許可後，逾三年始實施開發行為時，應提出環境現況差異分析及對策檢討報告，送本署審查，本署未完成審查前，不得實施開發行為。

十二、本案中期貯存計畫確實時程應納入定稿。未來倘有變更，應依環境影響評估法相關規定辦理。

十三、應將已產生之相關環境影響予以加成評估，納入定稿，並說明附近敏感受體所含各主要核種之輻射活度及影響程度。

署長 張 隆 盛

友善列印

---

---

# Final Environmental Impact Statement

## for the Construction and Operation of an Independent Spent Fuel Storage Installation on the Reservation of the Skull Valley Band of Goshute Indians and the Related Transportation Facility in Tooele County, Utah

Docket No. 72-22  
Private Fuel Storage, L.L.C.

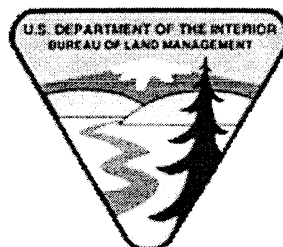
---

---

**U.S. Nuclear Regulatory Commission**  
Office of Nuclear Material Safety and Safeguards

**U.S. Bureau of Indian Affairs**  
**U.S. Bureau of Land Management**  
**U.S. Surface Transportation Board**

December 2001



---

## ABSTRACT

Private Fuel Storage, L.L.C. (PFS), proposes to construct and operate an independent spent fuel storage installation on the Reservation of the Skull Valley Band of Goshute Indians. The Reservation is located geographically within Tooele County, Utah. Spent nuclear fuel (SNF) would be transported by rail from existing U.S. commercial reactor sites to Skull Valley. To transport the SNF from the existing rail line to the proposed facility, PFS proposed to construct and operate a rail siding and a 51-km (32-mile) rail line from the existing rail line near Low, Utah, to the Reservation.

This final environmental impact statement evaluates the potential environmental impacts of the PFS proposal. The document discusses the purpose and need for the PFS proposed facility, describes the proposed action and its reasonable alternatives, describes the environment potentially affected by the proposal, presents and compares the potential environmental impacts resulting from the proposed action and its alternatives, and identifies mitigation measures that could eliminate or lessen the potential environmental impacts.

The PFS proposal requires approval from four federal agencies: the U. S. Nuclear Regulatory Commission, the U.S. Department of Interior's Bureau of Indian Affairs and Bureau of Land Management, and the U.S. Surface Transportation Board. The actions required of these agencies are administrative. The environmental issues that each of these agencies must evaluate pursuant to the National Environmental Policy Act of 1969 (NEPA) are interrelated; therefore; the agencies have cooperated in the preparation of this final environmental impact statement, and this document serves to satisfy each agency's statutory responsibilities under NEPA.

During construction of the proposed PFSF, congestion on Skull Valley Road could cause delays for others who use the road. While the land use effects of the proposed PFSF would be small, the rail line could have moderate effects for those who use the affected area for livestock grazing. Construction of the rail line would affect eight historic properties that are eligible for inclusion on the National Register. Construction and operation of the PFSF would change the scenic quality of the valley by introducing an industrial presence into a largely undeveloped landscape.

While the no-action alternative would have no impact on the economic structure of Skull Valley or Tooele County, the proposed action would have small to moderate beneficial effects. The facility and the rail line would employ about 255 people during the peak of construction. Band members would benefit from lease payments for use of the land on which the PFSF would be built. Local businesses, primarily in Tooele County, would benefit from selling the supplies purchased by the PFSF and its employees. In addition, Tooele County would benefit from payments from PFS and from taxes paid by PFS employees who live there.

## **9.4.2 Mitigation Measures**

The impact analyses contained in Chapters 4 and 5 of this FEIS have identified various mitigation measures PFS has either committed to or could take to reduce the environmental impacts associated with the proposed action. This section identifies the mitigation measures discussed in Chapters 4 and 5 that the staffs of the NRC, BIA, BLM, and STB propose be required and included, as appropriate, as part of each agency's record of decision.

### **Environmental Condition 1. Best Management Practices**

In addition to the Best Management Practices for construction identified in Table 2.7 of this FEIS, PFS shall employ the following Best Management Practices for construction and operation of the proposed PFSF and related local transportation facilities.

- A. Minimize land area disturbances by disturbing the smallest practicable area of land near the ephemeral streams along the proposed rail line corridor.
- B. Establish staging areas for construction equipment in areas that are not environmentally sensitive to control erosion and spills.
- C. Control temporary noise from construction equipment through the use of work-hour controls, and the operation and maintenance of muffler systems on machinery.
- D. Ensure that construction and operational activities will not lead to contamination of groundwater, through a spill response procedure that provides for an appropriate response to a spill of oil or fuel at the PFSF or related transportation facilities.

### **Environmental Condition 2. Ecological Resources**

- A. PFS has consulted with the FWS regarding threatened or endangered species that may be present in the project area. Prior to initiating construction, PFS shall complete biological surveys in the locations identified below for the presence of sensitive species that may be found at those locations. Such surveys will be based on the most current lists of sensitive and/or threatened or

endangered species maintained by appropriate government agencies. When the project construction schedule is determined, PFS shall consult with BIA, the Skull Valley Band, and BLM regarding the appropriate timing of the surveys. PFS shall include the following species (and any additional ones, if identified as sensitive) in the biological surveys

- Proposed PFSF site and the area within 0.8 km (0.5 mile) of the site
    - Loggerhead shrike
    - Burrowing owl
    - Skull Valley Pocket Gopher
    - Kit fox
    - Pohl's milkvetch
  - Proposed rail line and the area within 30 m (100 ft) of rail line construction
    - Skull Valley pocket gopher
    - Kit fox
  - Proposed rail line and the area within 0.8 km (0.5 mile) of the rail line corridor
    - Raptors (eagles, hawks, falcons, owls, loggerhead shrike)
- B. If any of the surveys required in Condition 2.A identify the presence of a sensitive species, PFS shall immediately notify the appropriate Federal agency with management responsibility (BIA or BLM).
- C. If PFS identifies any Federally-listed threatened or endangered species within the proposed PFSF site area during construction, PFS shall immediately cease construction activities and notify BIA. If PFS identifies any Federally listed threatened or endangered species, or any State of Utah or BLM sensitive species during construction of the transportation facilities related to the proposed PFSF, PFS shall immediately cease construction activities and notify BLM.
- D. If any Federally listed threatened or endangered species are taken by construction or operation of the proposed PFSF or its related transportation facilities, PFS shall immediately notify the U.S. FWS, BIA, the Skull Valley Band, or BLM, as appropriate.
- E. If any State or BLM listed threatened or endangered species are taken by construction or operation of the transportation facilities related to the proposed PFSF, PFS shall immediately notify BLM and the Utah State Department of Natural Resources.
- F. PFS shall complete any necessary biological assessment activities to support NRC, BIA or BLM's consultation requirements under the Endangered Species Act of 1973, and any BLM consultation agreements with the State of Utah.
- G. Prior to initiating operations, PFS shall consult with NRC, BIA and the Skull Valley Band to develop an adequate wildlife monitoring program to be implemented during operation of the proposed PFSF.
- H. Prior to initiating construction, PFS shall consult with BIA and BLM to develop an adequate plan for restoring and revegetating areas affected by construction of the proposed PFSF and related rail transportation facilities. (Includes greenstrip seed mix specifications)

- I. Prior to initiating construction, PFS shall consult with BIA and BLM to develop an adequate plan for monitoring and controlling exotic and noxious weeds during construction and operation of the proposed PFSF and the proposed rail line. The plan must also include an approved list of herbicides.
- J. Prior to initiating construction, PFS shall consult with BIA and BLM to develop an adequate plan for fire prevention, suppression, and rehabilitation during construction and operation of the proposed PFSF and related rail facilities.
- K. Prior to construction of the rail line, PFS shall consult with BLM to determine the appropriate design, number, and locations for rail crossings to allow fire suppression equipment to cross the rail line.
- L. PFS shall consult with BLM to develop an adequate plan to minimize impacts to livestock grazing activities during construction and operation of the rail facilities.
- M. PFS shall ensure power poles and lines on the proposed PFSF are constructed to either conform to the guidance in “Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996,” or more recent guidance as determined by BIA.

**Environmental Condition 3. Cultural Resources**

- A. Before beginning construction of a rail line from Skunk Ridge to the Reservation, PFS shall implement all the mitigation measures required in the Memorandum of Agreement (MOA) developed through the Section 106 consultation process (stipulations of the Agreement include Items B through G, below).
- B. If PFS identifies any previously unrecorded artifacts or other cultural resources during construction activities on land under the jurisdiction of BLM, PFS shall immediately cease construction in the immediate vicinity of the discovery, inform BLM of the identified resources, and arrange for evaluation of the resources by a qualified individual to be retained by PFS.
- C. If PFS identifies any previously unrecorded artifacts or other cultural resources during construction activities on the Reservation, PFS shall immediately cease construction in the immediate vicinity of the discovery, inform BIA and the Skull Valley Band of the identified resources, and arrange for evaluation of the resources by a qualified individual to be retained by PFS with the consent of the tribe.
- D. A qualified individual shall evaluate any resources identified during construction pursuant to Conditions 3.B and 3.C and shall recommend whether such resources are eligible for listing on the *National Register*.
- E. If resources eligible for listing on the *National Register* are identified pursuant to Condition 3.D, PFS shall describe, in detail, their characteristics and take the appropriate mitigation measures determined through NHPA required consultation.

- F. Upon providing a description of cultural resources required pursuant to Condition 3.E to BLM or upon a BLM determination that cultural resources identified during construction on lands under the jurisdiction of BLM are not eligible for listing under the NHPA, PFS may resume construction on such lands.
- G. Upon providing to BIA a description of cultural resources required pursuant to Condition 3.E above or upon a BIA determination that cultural resources identified during construction on the Reservation are not eligible for on the *National Register*, PFS may resume construction on the Reservation.

#### **Environmental Condition 4. Air Quality**

To control fugitive dust during construction, PFS shall implement a dust control program to minimize the off-site movement of fugitive dust. The program shall include measures to minimize dust emissions from construction and earthmoving activities (for both the proposed PFSF site and the new transportation facilities), the concrete batching facility, material transfer points and stockpiles, and temporary or permanent flood protection berms.

#### **Environmental Condition 5. Water Resources**

- A. PFS shall design all culverts and crossings of intermittent streams along the rail line to minimize the potential for ponding, erosion, and sedimentation by matching the existing topography.
- B. Prior to initiating construction, PFS shall develop a monitoring program to allow a determination as to whether the wells nearest the proposed PFSF are adversely impacted from groundwater withdrawal associated with the construction and operation of the proposed PFSF.
- C. PFS shall be responsible for clean-up of any spills or accidents at the proposed PFSF, as well as at the rail siding and along the right-of-way for the rail line. In the event of any such spills or accidents, all clean-up activities shall conform with the clean-up standards set forth in 10 CFR Part 20, 40 CFR 112.7, and applicable State of Utah or EPA requirements.
- D. PFS shall develop a maintenance plan to ensure all culverts are clear of debris to avoid potential flooding and stream flow alteration.

#### **Environmental Condition 6. Traffic**

If PFS determines that continual use of the unimproved roads adjacent to the proposed rail line is necessary to transport either workers or materials, PFS shall consult with BLM to develop an adequate plan to minimize any degradation of the roads. BLM shall be contacted prior to any use of the unimproved roads that could lead to their degradation.

#### **Environmental Condition 7. Construction Training**

Prior to initiating construction, PFS shall identify and train on-site personnel responsible for ensuring that construction activities do not disturb sensitive ecological and cultural resources. PFS shall further ensure that all on-site construction workers are trained on potential sensitive ecological and cultural

resources that could occur at the construction sites. This training shall be conducted in coordination with appropriate ecological and cultural resource personnel.

#### **Environmental Condition 8. Monitoring and Reporting**

- A. PFS shall provide quarterly reports on compliance with the required construction-related mitigation conditions to the NRC, BLM, BIA, the Skull Valley Band, and STB.
- B. PFS shall certify compliance with all construction mitigation conditions to NRC, BLM, BIA, the Skull Valley Band, and STB (1) at the completion of the rail facility construction and before initiating rail operations and (2) at the completion of the site and access road construction and before initiating operations of the PFSF.

#### **9.4.3 Recommendation of the Preferred Alternative**

The environmental review staffs of the NRC, BIA, BLM, and STB have concluded that (1) measures required by Federal and State permitting authorities other than the Cooperating Agencies, and (2) mitigation measures that are proposed in this FEIS to be required would eliminate or ameliorate any potential adverse environmental impacts associated with the proposed action specified by PFS in its NRC license application, BLM right-of-way application(s), and STB rail line application. In addition, upon completion of the project and before termination of the NRC license and the BIA lease, the closure and decommissioning of the facility would make the project area available for other uses by the Skull Valley Band.

The NRC staff and the Cooperating Agencies have concluded that the overall benefits of the proposed PFSF outweigh the disadvantages and costs, based upon consideration of

- the need for an alternative to at-reactor SNF storage that provides a consolidated, and for some reactor licensees, economical storage capacity for SNF from U.S. power generating reactors;
- the minimal radiological impacts and risks from transporting, transferring, and storing the proposed quantities of SNF canisters and casks;
- the economic benefits that would accrue to the Skull Valley Band during the life of the project; and
- the absence of significant conflicts with existing resource management plans or land use plans within Skull Valley.

Furthermore, the construction and use of a new rail line from Skunk Ridge to the proposed PFSF would have advantages over the use of a new ITF near Timpie in combination with Skull Valley Road to transport SNF to the PFSF. The impacts to local traffic on Skull Valley Road due to the presence of slow moving heavy-haul vehicles would be difficult to mitigate, but would be avoided by use of the new rail line from Skunk Ridge. Also, additional doses would be incurred by workers transferring SNF shipping casks from railcars to heavy-haul vehicles at the ITF, which would be avoided if the Skunk Ridge rail option were used instead of the ITF option.

The preferred alternative of the NRC staff is the proposed action, which includes NRC's issuing a license to PFS to receive, transfer, and possess SNF at a location in the northwest corner (i.e., at Site A) of the Reservation, BLM's approving the right-of-way and land use plan amendment for the use of public lands administered by the BLM for a new rail line, and STB's licensing the construction and



operation of a new rail line to be routed along the western side of Skull Valley and connected with the existing Union Pacific Railroad at a new siding near Skunk Ridge, Utah.

If the NRC approves the license and BIA approves the lease, BLM's preferred alternative is the proposed action. However, prior to BLM issuing a ROD, there must be resolution of a planning restriction imposed by Section 2815 of the National Defense Authorization Act for Fiscal Year 2000. After this, BLM would issue its ROD, complete its plan amendment process for the Pony Express Resource Management Plan, and then issue a right-of-way for the Skunk Ridge rail siding and rail line. Absent such actions by the NRC and BIA, BLM would not grant either of PFS's right-of-way requests.

Based on the information and analysis performed, the STB environmental review staff's conclusion is that the proposed project, with implementation of the mitigation measures proposed in this FEIS, would not result in significant adverse impacts to the environment; therefore, its preferred alternative would be to recommend approval of the construction and operation of the proposed rail line.

The BIA did not express a preference for any particular alternative in the DEIS, pending its consideration of environmental impacts and mitigation measures identified in the FEIS and public comments on the DEIS. Based on its consideration of the impacts and mitigation measures identified in this FEIS, and its trust responsibility to the Skull Valley Band, the BIA preferred alternative is the proposed action. The proposed action, based on the analysis in this FEIS, would have no significant adverse impacts but would have significant economic benefits for the Skull Valley Band. In addition, Site A (the site named in the proposed lease) is the preferred site, based on this FEIS, rather than Site B. Even though impacts at both Sites A and B would be insignificant, Site A is slightly further away from residential areas on the Reservation and habitat for the rare Pohl's milkvetch.

附錄八

U S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

ENVIRONMENTAL ASSESSMENT  
RELATED TO CONSTRUCTION AND OPERATION  
OF THE  
CALVERT CLIFFS  
INDEPENDENT SPENT FUEL STORAGE INSTALLATION

DOCKET HO 72-8 (50-317~ -318)  
BALTIMORE GAS AND ELECTRIC COMPANY

March 1991

## TABLE OF CONTENTS

- 1.0 INTRODUCTION
  - 1.1 Description of the Proposed Action
  - 1.2 Background Information
  - 1.3 Previous Environmental Assessments and Supporting Documents
- 2.0 NEED FOR THE PROPOSED ACTION
- 3.0 ALTERNATIVES
- 4.0 ENVIRONMENTAL INTERFACES
  - 4.1 Site Location<sup>1</sup> Land Use and Terrestrial Resources
  - 4.2 Water Use and Aquatic Resources
  - 4.3 Socioeconomics and historical, Archeological, and Cultural Resources
  - 4.4 Demography
  - 4.5 Meteorology
  - 4.6 Geology and Seismology
- 5.0 DESCRIPTION OF CALVERT CLIFFS NUCLEAR PLANT ISFSI
  - 5.1 General Description
  - 5.2 ISFSI Design
  - 5.3 ISFSI Operation
  - 5.4 Monitoring Program
- 6.0 ENVIRONMENTAL IMPACTS OF PROPOSED ACTION
  - 6.1 Construction Impacts
    - 6.1.1 Land Use and Terrestrial Resources
    - 6.1.2 Water Use and Aquatic Resources
    - 6.1.3 Other Impacts of Construction
    - 6.1.4 Socioeconomics
    - 6.1.5 Radiological Impacts from Construction
  - 6.2 Operational Impacts
    - 6.2.1 Radiological Impacts from Routine Operations
      - 6.2.1.1 Offsite Dose
      - 6.2.1.2 Collective Occupational Dose
    - 6.2.2 Radiological Impacts of Accidents
    - 6.2.3 Non-radiological Impacts
      - 6.2.3.1 Land Use and Terrestrial Resources
      - 6.2.3.2 Water Use and Aquatic Resources
      - 6.2.3.3 Other Impacts of Operation

7.0 SAFEGUARDS FOR SPENT FUEL  
8.0 DECOMMISSIONING  
9.0 SUMMARY AND CONCLUSIONS  
    9.1 Summary of Environmental Impacts  
    9.2 Basis for Finding of No Significant Impact  
10.0 REFERENCES  
11.0 LIST OF AGENCIES AND PREPARERS

## 5.4 MONITORING PROGRAM

An effluent monitoring program is not applicable to the JSFSI, because its operation will not result in any water or other liquid discharges; it will not generate any chemical, sanitary, or solid wastes; and It will not release any radioactive materials in solid, gaseous or liquid form during normal operations. Similarly, with the lack of liquid or gaseous effluents from the ISFSI, special environmental monitoring for these exposure pathways is not necessary. Therefore a separate environmental measurement program for ISFSI is not warranted; however, to help assure proper operation of the ISFSI system, Baltimore Gas and Electric Company will incorporate ISFSI monitoring into the Calvert Cliffs site monitoring program. The site operational surveillance program will also be expanded to include surveillance of the ISFSI.

The Calvert Cliffs Nuclear Power Plant maintains an air, water, and food pathway monitoring program which establishes the basis for evaluation of environmental impacts of facility operation, and is used in the assessment of public and occupational dose from Calvert Cliffs operations. This environmental surveillance program has been conducted continuously at the Calvert Cliffs Nuclear Power Plant since 1969. The program is designed to confirm that Baltimore Gas and Electric Company operations are within regulatory requirements and consistent with the documented As Low As Is Reasonably Achievable (ALARA) program. The main thrust of the health physics and ALARA programs is to minimize exposure to radiation such that the total exposure to personnel in all phases of design, construction, operation and maintenance are kept ALARA. The ISFSI operations are included in the existing ALARA program for the Calvert Cliffs Nuclear Power Plant.

Levels of external radiation exposure from the ISFSI will be estimated by environmental dosimeters strategically placed to confirm that radiation exposures to direct and scattered radiation are as predicted. Changes in ISFSI Inventory will be factored into the radiation dosimetry assessment. No measurable increase in radiation levels above normal background is anticipated beyond the Calvert Cliffs controlled area. An operational surveillance program will be instituted to monitor the safe

operation of the ISFSI. Once each 24 hours, site personnel will visually inspect all air inlets of each loaded hSM for obstructions and screen damage. As necessary, removal of obstruction or screen repair will be initiated immediately. The ISFSI will also be included in routine site patrols by Calvert Cliffs security personnel.

Monitoring program results are published annually. The ongoing monitoring program is described and results for the most recent 1-year program are contained in Reference 8.

## 9.0 SUMMARY AND CONCLUSIONS

### 9.1 SUMMARY OF ENVIRONMENTAL IMPACTS I

As discussed in Section 6.1, no significant construction impacts are anticipated. The activities will affect only a very small fraction of the land area of the Calvert Cliffs Nuclear Power Plant. With good construction practices, the potentials for fugitive dust, erosion and noise impacts, typical of the planned construction activities, can be controlled to insignificant levels. The only resources committed irretrievably are the steel, concrete, and other construction materials used in the ISFSI storage modules, pads, and canisters.

The primary exposure pathway associated with the ISFSI operation is direct radiation of site workers and nearby residents. As discussed in Section 6.2.1, the radiological impacts from liquid and gaseous effluents during normal operation of the ISFSI fall within the scope of impacts from licensed reactor operations, which were assessed in the Calvert Cliffs FES and are controlled by the existing Technical Specification for the reactors.

The dose to the nearest resident from ISFSI operation is less than 1 mrem/yr, and when added to that of the operations of the two-unit Calvert Cliffs Nuclear Power Plant, is much less than 25 mrem/yr as required by 10 CFR 72.104. The collective dose to residents within 1 to 2 miles of the ISFSI is estimated to be less than .1 person-rem/yr. Occupational dose to site workers during HSM construction (24 person-rem/yr), and during ISFSI operation (24 person-rem/yr), is a small fraction of the total occupational dose commitment at the Calvert Cliffs Nuclear Power Plant (i.e., 350 person-rem/yr is the annual average occupational dose over 3 years ending in 1989). Individual doses are controlled to be within the limits established by 10 CFR Part 20.

The upper bound offsite radiological impacts due to accidents at the Calvert Cliffs ISFSI are about 31 mrem to the 'whole-body and 148 mrem to the thyroid of an individual located at the controlled area boundary, and about 23 mrem whole body and 111 mrem thyroid doses to the nearest resident. These doses are only a small fraction of the criteria specified in

10 CFR 72.106(b) and by the EPA Protective Action Guides. The Emergency Planning Zone (EPZ) for the JSFSI will coincide with that of the Calvert Cliffs Nuclear Power Plant (i.e., a 10-mile Plume Exposure Pathway and 50-mile Ingestion Pathway).

As discussed in Section 6.2.3, no significant non-radiological impacts are expected during operation of the ISFSI. The only environmental interface of the ISFSI is with the air surrounding the storage modules; the only discharge of waste to the environment is heat to the air via the passive heat dissipation system. Climatological effects which are anticipated in the immediate vicinity of the ISFSI are judged to be insignificant to public health and safety.

## 9.2 BASIS FOR FINDING OF NO SIGNIFICANT IMPACT

We have reviewed the proposed action relative to the requirements set forth in 10 CFR Part 51, and based on this assessment have determined that issuance of a materials license under 10 CFR Part 72 authorizing storage of spent fuel at the Calvert Cliffs ISFSI will not significantly affect the quality of the human environment. Therefore, an environmental impact statement is not warranted, and pursuant to 10 CFR Part 51.31, a Finding of No Significant Impact is appropriate.



## 附錄九

### 「核能一、二廠用過核燃料中期貯存計畫環境影響說明書」

#### 壹、境保護對策

##### 施工期間

##### 一、海域生態

施工期間產生之生活污水，經收集後泵至套裝廢水處理系統，經處理至符合環保署 92.11.26 公告之放流水標準後排放；車輛輪胎之沖洗廢水，將經沈砂池處理後排放以降低對海域生物影響。

##### 二、陸域生態

施工期間場址部分次生林將被剷除，整地完成後，將採取復育措施，並配合景觀規劃，於裸露地面種植強健樹種，該樹種儘量選用場址現有樹種或當地原生之各類樹種。

##### 三、空氣品質

- (一) 設置圍阻設施(如覆蓋布及擋風牆)，減低風揚作用及阻止粒狀物逸散。
- (二) 駛出工地之卡車輪胎與車輛表面予以清洗，避免將工地之塵土帶出。掉落路面之塵土則經常清掃，且經常灑水，以防止灰塵飛揚。
- (三) 車輛作定期保養及維修工作，避免排氣異常。
- (四) 工程施工管理將依據環保署 92.05.28 公告之「營建工程空氣污染防制設施管理辦法」規定辦理。

##### 四、水質

- (一) 施工期間產生之生活污水，經收集後泵至套裝廢水處理系統，經處理至符合 92.11.26 公告之放流水標準後排放。
- (二) 本計畫於施工前將依環保署 92.08.26 公告之「營建工地及土石方堆(棄)置場為減少逕流廢水中濾出物及泥沙沖蝕量之必要措施」規定，提送「營建工程逕流廢水污染物削減計畫」，並採行減少逕流廢水污染之必要措施。
- (三) 邊坡開挖完成後將立即植生或噴漿保護等水土保持作業，以減少土壤沖蝕。
- (四) 整地作業完成後，開挖坡面以混凝土擋土牆護坡，並設置水平洩水孔及逕流排水溝，施工期間之降雨逕流皆會妥善收集並以臨時滯洪沉砂池沉砂後方排入乾華溪。

- (五) 加強施工機具及車輛之維修，以免產生漏油，污染地面或水體，進而影響水質。

## 五、地形

- (一) 妥善規劃中期貯存設施場址之施工以儘量減少坡地開挖範圍。
- (二) 坡地開發將設置檔土結構以維持邊坡穩固，同時，開挖後之坡面立即做表面處理，短期則以塑膠鋪面；長期則需以植被覆蓋或噴漿保護，避免土壤沖刷。
- (三) 減輕土壤液化對策可採用之方式敘述如后：
  1. 多設置地下排水管降低地下水位，增加土壤顆粒間之有效應力，紓解地下水壓。
  2. 採用振動或衝擊之夯實方式，其中之擠壓砂樁工法及振動揚實法有許多有效案例。
  3. 將粉末狀或漿液狀之改良材料與原地盤之土壤攪拌，藉由化學固結的作用改良地盤。

## 六、噪音

- (一) 選用低噪音型式的施工機械或操作方式，例如：使用電力驅動型式設備取代柴油引擎驅動、使用油壓式設備取代氣壓式設備；以預鑿施工法取代傳統錘擊式打樁。
- (二) 加強機具之保養，並採用正確方法操作，以降低音量。
- (三) 車輛及施工設備依規定裝設有效之消音器，並避免高噪音機具同時操作。
- (四) 若機械噪音具有方向性，將調整機具，使音較大的一端背向噪音敏感地區，以降低噪音。
- (五) 將噪音較大的施工作業安排於白天環境噪音較大的時段進行，避免在清晨、深夜寧靜時刻進行高噪音的施工作業；並儘量保持噪音在小變動的情況，避免衝擊噪音發生。
- (六) 在噪音敏感地區(西南民家)與場址之間設置臨時性圍籬減低噪音影響。
- (七) 調整運輸時間，避免干擾道路沿線之安寧。
- (八) 限制車輛行駛速度，尤其是空車行駛產生之噪音較載重時為大。
- (九) 改善路面狀況，減少車輛振動產生之噪音。
- (十) 將噪音管制標準及勞工安全衛生法令(一般安全衛生標準)中對施工人員之承受噪音限值納入施工規範中，要求承包單位確實遵守。

## 七、振動

- (一) 選擇振動較少的施工機具。

- (二) 將產生局部振動之設備儘量遠離敏感建物(西南民家)。
- (三) 調整施工時間，避免於夜間施工。
- (四) 防止物料運輸卡車之超載超速，並維持行駛道路之路面平整。
- (五) 將振動管制標準納入施工規範，要求承包單位確實遵守。

#### 八、景觀美質

- (一) 加強工地維護及管理
- (二) 開挖坡面短期以塑膠鋪面，長期以植栽綠化。
- (三) 妥善規劃施工材料倉儲及堆置場所以避免凌亂感。

#### 九、固體廢棄物

- (一) 廢木料及廢鐵件等回收標售。
- (二) 施工棄土應儘量回收供工程回填，惟本計畫之整體土石方量檢討結果尚須約 0.2 萬立方公尺，故無剩餘土石方處理問題。土石方不足部分擬由核能一廠廠內既有土石堆置區供應。

#### 十、生態

- (一) 將噪音較大的施工作業安排於白天環境噪音較大的時段進行，避免在清晨、深夜寧靜時刻進行高噪音的施工作業；並儘量保持噪音在小變動的情況，避免衝擊噪音發生。
- (二) 加強裸露土地之復育，栽種植性強健之地被植物等。
- (三) 避免夜間採用強光照射或廣播等。
- (四) 於貯存設施周圍栽種高大喬木，如當地常見之相思樹等，以植栽增加生態之隱密性。
- (五) 施工及營運期將進行人員之生態保育教育宣導。
- (六) 施工及營運期間將嚴禁人員捕捉任何野生動物等。

### 營運期間

#### 一、景觀美質

配合自然環境設計貯存設施外觀，如四種貯存方式之檔土結構予以植生綠化，消除與周遭環境之衝突感；凝土地窖式之廠房採用與背景環境相調和之色彩，以減輕大型傑購物之突兀感。此外，因貯存設施之建造而改變之景觀地貌，將採用以下方式以減輕對景觀之影響，強化環境美質。

- (一) 加強裸露土地之復育，栽種植性強健之地被植物加以美化。
- (二) 於貯存設施周圍栽種高大喬木，如當地常見之相思樹等，以植栽遮

蔽貯存設施，增加貯存設施之隱密性。

## 二、輻射劑量

運轉期間為有效降低貯存設施對廠內工作人員及廠外民眾之輻射劑量，將擬訂完善之環境監測計畫及輻射防護計畫，其中環境監測計畫將與核能一廠環境監測計畫一併實施。依據台電公司已訂定「核能發電相關設施輻射防護工作守則」，並報經原能會核備，中期貯存設施運轉前將參照其他相關標準守則並依設施特性擬訂輻射防護計畫，報原能會後實施。其主要原則敘述如后：

### (一) 設計上之考慮

1. 使用合乎「放射性物質安全運送規則」規定表面劑量率之運送護箱或混凝土護箱。
2. 根據外國實地運轉經驗，編擬燃料填裝程序書。
3. 貯存設施採用「被動」設計減少維修之需要。
4. 引用已有之運送程序書及經驗來控制處理及運送核燃料時的污染情形，核能一廠將訂定合乎「合理抑低原則」及「保健物理法規」的運送、裝填、取出用過核燃料的程序書。

### (二) 運轉上的考慮

1. 進入輻射區域：在高劑量區內或附近工作時均必須有事先之計畫、特殊之方法及準則以使人員所受劑量合乎「合理抑低」原則。
2. 對人員的曝露劑量：工作前的訓練以及執行高劑量工作前進行之簡報均有助於降低人員劑量。
3. 除污：確實的除污亦有助於降低人員劑量。

擬使用的程序書及應用技術將根據已使用人員劑量合理抑低之運轉準則及經驗，並併入核能一廠之運轉程序書中。

## 三、保健物理

核能一廠現行之保健物理計畫適用於用過核燃料中期貯存設施，茲將核能一廠終期安全分析報告中之保健物理計畫概述如下：

### (一) 組織

保健物理課將負責整個輻射防護工作。保健物理課長直接向負責的副廠長報告，並負責限制區的進出管制、正常及異常之運轉、地區監測及除污，並保管人員的輻射曝露記錄。

### (二) 設備、儀器及設施

終期貯存設施將充分運用核能一廠現有設備、儀器及設施。

### (三) 程序書

終期貯存設施將利用現有的核能一廠保健物理程序書，倘若有任何為終期貯存設施新編之程序書，亦將予以併入。

每年至少將對整個貯存設施進行全面的輻射偵檢 4 次，以補儀器之不足。

## 貳、境監測計畫

前述環境現況差異分析結果，環境現況與原環境影響說明書相較均無明顯差異，另本計畫變更造成之影響差異均屬影響降低或無差異，故將維持「核能一廠用過核燃料中期貯存計畫環境影響說明書」施工期間及營運期間之環境監測內容。核能一廠目前所執行之環境監測計畫包括海域生態、放流水水溫及環境輻射偵測等，在原環境影響說明書於施工及運轉期間所增加之各項環境監測計畫內容如表 1、2 所示，並說明如后。另經檢討變更後施工期間之執行環境保護經費約新台幣 11,738 萬元，較原環境影響說明書所編列經費 10,995 萬元高出 743 萬元；此外，運轉期因監測項目皆採固定式儀器監測方式進行，無額外之採樣及分析人力需求，故補充修正運轉期編列經費為每年約新台幣 498 萬元。有關執行環境保護經費詳細內容請參見表 3。

### 一、 施工期間

#### (一) 空氣品質

1. 監測地點：西南民家及乾華溪出海口二十八號橋，二處測站。
2. 監測項目：總懸浮微粒(TSP)與懸浮微粒(PM<sub>10</sub>)。
3. 監測頻率：每兩個月測一次，每次連續 24 小時。

#### (二) 水質

1. 監測地點：茂林橋及生水池取水口，二處測站。
2. 監測項目：總固體物、懸浮固體、酸鹼值、油脂、生化需氧量、化學需氧量。
3. 監測頻率：每兩個月取樣分析一次。

#### (三) 噪音與振動

1. 監測地點：西南民家及乾華溪出海口二十八號橋，二處測站。

表 1 施工期間環境監測計畫

監測類別	監測項目	監測頻率	監測地點
空氣品質	<ul style="list-style-type: none"> <li>• 總懸浮微粒(TSP)</li> <li>• 懸浮微粒(PM10)</li> </ul>	每兩個月一次，每次連續 24 小時	1. 西南民家 2. 乾華溪出海口二十八號橋
水質	<ul style="list-style-type: none"> <li>• 總固體物</li> <li>• 懸浮固體</li> <li>• 酸鹼值、油脂</li> <li>• 生化需氧量</li> <li>• 化學需氧量</li> </ul>	每兩個月取樣分析一次	1. 茂林橋 2. 生水池取水口
噪音	<ul style="list-style-type: none"> <li>• 逐時均能音量 (<math>L_{eq}</math>)</li> <li>• 最大音量 (<math>L_{max}</math>)</li> </ul>	每兩個月一次，每次連續 24 小時，必要時將配合實際施工狀況增加量測。	1. 西南民家 2. 乾華溪出海口二十八號橋
振動	振動位準 ( $L_{Veq}$ 、 $L_{V10}$ )	每兩個月一次，每次連續 24 小時，必要時將配合實際施工狀況增加量測。	1. 西南民家 2. 乾華溪出海口二十八號橋

表 2 運轉期間環境監測計畫

監測類別	監測項目	監測頻率	監測地點
非輻射部份	混凝土溫度 <ul style="list-style-type: none"> <li>• 混凝土溫度</li> </ul>	每週計讀一次。	每個混凝土護箱內可能之熱點附近設置熱偶式溫度計一只
	結構材料 <ul style="list-style-type: none"> <li>• 裂縫兩側相對位移</li> </ul>	每月判讀一次，遇特殊事件(如地震、颱風等)則增加判讀一次。	在混凝土表面上每一條肉眼可見之裂縫上設置一只裂縫計。
輻射部份	輻射強度 <ul style="list-style-type: none"> <li>• 空間輻射強度</li> </ul>	<ul style="list-style-type: none"> <li>• 熱發光劑量計測站：每一季(三個月)計讀一次。</li> <li>• 高壓游離腔測站：連續監測方式。</li> </ul>	<ul style="list-style-type: none"> <li>• 熱發光劑量計測站：用過核燃料中期貯存設施邊界上每 30 公尺設一站。</li> <li>• 高壓游離腔測站：西南民家及西南崗哨處。其中西南民家已包含核能一廠輻射監測計畫中。</li> </ul>

表 3 執行環境保護工作項目及所需經費對照表

貯存型式 混凝土護箱式		新台幣(萬)元
施工期間	環境保護工程費	10,268
	環保設施設置費	250
	工地維護費	500
	環境監測費 (以四年預估)	720
	總計	11,738
運轉期間	植栽綠化	18
	場址輻射監測 (每年)	360
	混凝土溫度監測 (每年)	120
	結構材料監測 <sup>(註)</sup>	-
	總計(每年)	498

註：1. 由於結構材料監測需視實際發生情況而定，目前無法預估。

2. 因 94.07 發包結果，承包商採用混凝土護箱貯存方式進行設計，故以混凝土護箱式表示。

2. 監測項目：噪音之逐時均能音量( $L_{eq}$ )及最大音量( $L_{max}$ )；垂直方向之振動位準( $L_{Veq}$ 、 $L_{V10}$ )。
3. 監測頻率：每兩個月進行噪音與振動測定一次，每次連續 24 小時，必要時將配合實際施工狀況增加量測。

## 二、 運轉期間

### (一) 非輻射部份

#### 1. 混凝土溫度監測

(1) 監測地點：每個混凝土護箱內可能之熱點附近設置熱偶式溫度計一只。

(2) 監測項目：混凝土溫度。

(3) 監測頻率：每週計讀一次。

#### 2. 結構材料

(1) 監測地點：在混凝土表面上每一條肉眼可見之裂縫上設置一只裂縫計。

(2) 監測項目：裂縫兩側相對位移。

(3) 監測頻率：每月判讀一次，遇特殊事件(如地震、颱風等)則增加判讀一次。

### (二) 輻射部份

#### 1. 監測地點：

(1) 熱發光劑量計測站：用過核燃料中期貯存設施邊界上每 30 公尺設一站。

(2) 高壓游離腔測站：西南民家及西南崗哨處。其中西南民家已包含於核能一廠輻射監測計畫中。

#### 2. 監測項目：空間輻射強度。

#### 3. 監測頻率：

(1) 熱發光劑量計測站：每一季(三個月)計讀一次。

(2) 高壓游離腔測站：連續監測方式。

## 參、 工業安全衛生管理計畫

### 一、 政策及組織

- (一) 原環境影響說明書內承諾辦理之「行政院游離輻射防護安全標準」、「內政部勞工安全衛生組織管理及自動檢查辦法」、「內政部營造安



全衛生設施標準」、「台灣電力公司工業安全衛生章則彙編」、「輻射防護作業程序書」及台電公司核能後端營運處之「交付承攬工程安全衛生實施要點」(原「承包商工作安全衛生管理守則」),皆將依據最新版之規定辦理。

(二) 工業安全衛生組織中本公司工業安全衛生處已更名為「工安環保處」。

(三) 事故報告與處理：原環境影響說明書內之事故報告及事故處理程序修改如下：

1. 天然災害、生產事故、民眾陳情請願活動、圍廠抗爭、勞資事件等，依照「台電公司天然災害、生產事故緊急事件速報程序」相關規定陳報。
2. 工安災害、環保事件及媒體可能報導之工安災害與環保事件，依照「台電公司災害事故速報程序」相關規定陳報。
3. 政風部門依照「經濟部重大危安事故處理業務計畫」之「經濟部暨所屬各機關(構)重大危安事故等級區分表」相關規定辦理。

二、本計畫原環境影響說明書中，針對施工及營運期間之勞工安全衛生相關事宜及緊急應變計畫將予沿用。