

붙임2.

자문내역서(국외)

[고리 1호기 영구정지 후 화재방호계획 수립을 위한 경험
습득 및 현장 답사]

2017. 02.

원자력 본부 발전 BG



1. Scope of Work

The scope of work to perform these services is described in the following tasks.

Task 1: Provide Licensing Documents of Reference NPP in Decommissioning Process

- Introduction of Licensing Documents
- Description for each Licensing Document
- A. EPM proposes to collect applicable fire protection information by performing the following:
 - Interview applicable personnel such as the plant manager, fire protection engineers, fire brigade personnel, maintenance rule personnel and insurance representatives. EPM currently has plant contacts who work at Kewaunee NPP. These personnel can help expedite document gathering and facilitate interviews with appropriate plant personnel as they are willing to do so.
 - Review available information that the designated plant(s) is willing to share. Such documents will detail fire protection measures; such as compensatory actions, FP organization, FP equipment, and inspection, testing, and maintenance (IT&M), taken during the various phases of decommissioning / dismantling.
- B. EPM will provide additional general insight, as applicable, regarding decommissioning efforts at U.S. nuclear power plants. EPM has direct experience and connections with others who have experience working at decommissioning plants.
- C. Following document gathering and interviews with appropriate plant personnel, EPM will provide presentation of licensing documents detailing fire protection measures in particular with respect to the decommissioning process at nuclear power plants, as well as offer general insight of decommissioning efforts at U.S. nuclear power plants.

TASK 2. Systematic Methodology of Component Abandonment

- Component Selection Criteria
- Configuration Control
- Differences in the electrical circuit analysis for fire protection between the operating plants and the decommissioning plants
- Difference in the performance-based fire protection between the operating plants and the decommissioning plants

There will be a discussion on the downscaling of plant fire protection equipment resulting in the phasing out of systems and/or components at specific milestones in the decommissioning process. This discussion will also involve the identification of various impacts to the plant's configuration control processes and the necessary plant procedure revisions which will arise as a result of system abandonment.

TASK 3. US Nuclear Site Visit with EPM Support

EPM proposes to visit Vermont Yankee on March 1, 2017 for a one (1) day visit on site with plant personnel and conduct a 4 day discussion at EPM's offices. EPM will contact a representative at the utility and develop a site visit plan with utility staff to discuss the plant's Fire Protection Program with specific focus on the requests provided in the emails. After the dates have been confirmed, EPM will also provide KEPCO-ENC with recommended hotel accommodations and directions to the site. It is recommended that booking of air travel occur after these dates are confirmed with the site.

TASK 4. Discuss the Necessary Fire Protection Programmatic Changes Once an Operating Nuclear Power Plant Ceases Operations

- Description of the changes to the Fire Hazards Analysis and Fire Protection Program reflecting the reduction in hazards associated with a nuclear power plant undergoing decommissioning
- Abandonment of the Fire Brigade
- Public Relations with Off-site Emergency Organizations

TASK 5. Schedule an Additional Site Visit

Provide an additional site visit of a decommissioned nuclear power plant if the opportunity becomes available.

Deliverables

Task 1. Presentation of Vermont Yankee licensing documents (UFSAR, Technical Specifications, Technical Requirements Manual, Fire Hazards Analysis and Fire Protection Program) with associated change package documentation including

background information and technical basis. Additional examples of this type of material from other decommissioning nuclear power facilities will also be included as available.

Task 2. Discussion of equipment abandonment to ensure both capital and human resources are used effectively

Task 3. Site visit plans and coordinate before arrival site access with the proposed plant.

Task 4. Provide an open discussion with the current Vermont Yankee Fire Protection Program Owner (presently an EPM employee with approx. 10 years previous experience as the Vermont Yankee site Fire Protection Engineer) regarding the necessary changes which are required once a nuclear power plant permanently ceases power operations.

3. Compensation and Terms

EPM proposes to perform the above scope of services on a fixed labor fee of \$81,312. A breakdown of the estimated costs associated with performing these task(s) is provided below.

Task	Description	Estimated Cost
Task 1	Licensing Documents	\$ 22,170
Task 2	Equipment Selection	\$ 10,250
Task 3	Site Visit	\$ 15,800
Task 4	Open discussion with the Vermont Yankee Fire Protection Program Owner	\$ 19,767
Task 5	Additional Site Visit (optional)	\$ 13,325

Invoices will be submitted monthly for services performed based on percent complete of the work scope.

Payments must be made within 30 days from the date of the invoice. Failure to make payment on time may result in a late fee of 1% per month, which will be billed on a monthly basis.