

APPENDIX A

SCOPE OF SERVICES AND METHOD OF PERFORMANCE

The following will define the details of the purpose, scope of consulting services, consulting schedule and quality assurance for the review of criticality safety analysis for a spent nuclear fuel (SNF) cask developed by KEPCO E&C, designated OASIS-32D.

1. Criticality Safety Analysis for OASIS-32D

1.1) PURPOSE

The purpose of the consulting services is to review the criticality safety analysis for OASIS-32D. OASIS-32D is a SNF cask developed by KEPCO E&C, considering both transport and storage. The OASIS-32D holds 32 fuel assemblies of PLUS7 or ACE7 type, and is suitable in order to be positioned on-site for temporary or long term storage.

Criticality Safety Analysis Information

KEPCO E&C will provide the contractor with the necessary information of criticality safety analysis for OASIS-32D. KEPCO E&C committed depletion and criticality calculations including all possible biases and uncertainties in accordance with the NRC Interim Staff Guidance 8 Revision 3 (ISG8-Rev.3). KEPCO E&C will provide the necessary data to the contractor within 2 weeks after both parties sign the contract.

1.2) SCOPE OF SERVICES

1.2.1) Consultation Items

1. Reviewing the criticality safety analysis committed by KEPCO E&C and providing the recommendation, if there needs to be modified.

The appropriacy of

- depletion parameter selections,
- criticality code validation,
- the bias due to the minor actinides and fission products,
- the uncertainty due to reactor burnup record,
- the uncertainty due to depletion calculation,
- the uncertainty due to tolerances,
- the uncertainty due to eccentric positioning,
- the bias due to end effect,
- loading curve generation,
- single misloading analysis, and
- multiple misloading analysis.

2. Consulting meeting

One KEPCO E&C engineer will make 5 days trip to the Contractor's office in USA to discuss the comments proposed by contractor.

1.2.2) Method of Performance

The method of performance for the consulting services shall be as follow:

- a) The Contractor shall perform consultation using the criticality safety analysis information that is provided by KEPCO E&C. The contractor shall review the criticality safety analysis in detail before the contractor provides KEPCO E&C comments (recommendations and ideas) to improve the current criticality safety analysis.
- b) The Contractor shall provide KEPCO E&C with final compilation reports including comments for the criticality safety analysis for OASIS-32D. The Contractor should provide the answer to KEPCO E&C questions related to the comments.
- c) The Contractor shall provide the consulting meeting minutes as part of the final compilation report. The topic of the discussion in the consulting meeting will include a review of criticality safety analysis for OASIS-32D. In addition, KEPCO E&C will provide an agenda for the meeting that needs to be included in the final compilation report. It is requested that the Contractor provides KEPCO E&C with clarification and answers of questions in the meeting. Any unanswered open items after the meeting shall be resolved by E-mail.

1.3) DELIVERABLES

The deliverables by the Contractor under this contract will be as follows:

- a) Meeting minutes of the meeting at the Contractor's office.
- b) Final compilation report that includes the review comments on the criticality safety analysis for OASIS-32D.
- c) The Contractor will transmit the completed final compilation report with other items such as meeting agenda and minutes to KEPCO E&C in word or pdf format.

The Contractor shall keep all confidential data and information provided by KEPCO E&C that is not publically available or that is not provided independently by other third parties, or that was not already in Contractor's possession.

If the compilation report includes any Contractor's proprietary data and information, it shall be identified in the report and shall remain as the Contractor's proprietary data and information and it shall not become KEPCO E&C property data and information.

1.4) CONSULTING SCHEDULE

Within two weeks of the contract date, KEPCO E&C will submit all the necessary criticality safety analysis data for OASIS-32D.

The schedule below is determined from the date of the signed contract and depends on the dates to be selected for the meeting at the Contractor facility in the USA.

ACTION ITEMS	SCHEDULE (WEEK)					
	1	2	3	4	5	6
Preparation and Submittal of the Criticality Analysis Data to Contractor by KEPCO E&C	■	■				
Review of the Criticality Analysis Data by Contractor			■	■		
Meeting at Contractor Office					■	
Submittal of Final Report by Contractor						■

* The final report will be completed in one (1) week after the end of the meeting at the Contractor's facility.

1.5) QUALITY ASSURANCE

The services will be performed in accordance with the Contractor's general engineering guidelines and its Quality Assurance (QA) Program.