

A Study on the Development of Interview Procedure for HSA at Kori Unit 1

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1. Introduction

For Kori unit 1 to be finally released after completion of site restoration, the licensee (KHNP) should demonstrate that the level of residual radioactivity at the site meets the criteria for site release. This demonstration can be accomplished by implementing the Radiation Survey and Site Investigation (RSSI) process. Historical Site Assessment (HSA), the first step of the RSSI, uses two methods in order to investigate the history of a radiological contamination from siting to permanent shutdown: 1) collection and assessment of documents and data produced during the operation period and 2) interview of persons who know undocumented events resulting in radiological contamination. Among the two methods mentioned above, this paper describes how the procedure of the interview including questionnaires was developed to obtain "tacit knowledge" [1] for Kori unit 1.

2. Purpose of Interview

The purpose of the HSA interviews or questionnaires is to obtain "tacit knowledge" regarding undocumented events resulting in radiological contaminations. Usually, it consists of unique capabilities, skills, and knowledge. Interviews with current or previous employees allow the collection of first-hand information from a site or facility. Interviews cover general topics, such as radioactive waste handling procedures. Results of early interviews are used to guide subsequent data collection activities [2].

3. Development of Interview Procedure[3]

3.1 Interview type & methods

3.1.1 Type of interview. The interview can be grouped into two types. First, direct interviewing is a

method where an interviewee meets an interviewer in a face-to-face interaction. If the interviewee is working, the interviewer visits him/her in the office and proceeds with the interview. If not (retired employees), the interviewer arranges the schedule and place for interviews. The second method, indirect interviewing, is using other means in situations where direct interviewing is not possible. Examples include mail, e-mail, telephone, and fax.

3.1.2 Methods of interview. Several different interviewing approaches may be used to gather information. These approaches should be tailored to best meet the site needs. One common approach is a single interviewer and a single interviewee. The advantage of this approach is that it is less intimidating to the interviewee and may be viewed as a more confidential way of gathering information. However, a limitation of this approach is that the interviewer must continually split the focus between asking questions and documenting the obtained responses. Another approach is two interviewers and a single interviewee. This format allows one interviewer to ask questions, while the other one notes the responses. However, while eliminating the potential concerns with adequate recording of the interview responses, the interviewee may view two interviewers with some concern, hence using this approach might potentially result in less openness and potentially less information. A third approach is group interviews with multiple interviewees at a time. In this case, it is essential that at least two interviewers gather information. The advantage of this approach is that information may be gathered faster than when only one interviewer or one interviewee is involved.

3.2 Questionnaire development

The questionnaire should be structured in a way so that it allows for obtaining undocumented contamination information among all the produced

data during the operation of a facility for the purpose of the interview. In addition, questionnaires should be developed according to the implementation method, because it can vary in time, content, etc. depending on how interviews are conducted. There are four types of questions with a questionnaire being able to simultaneously employ two or more of those types of questions:

- Open type: The questions do not have a predefined response format, so that respondents can reply in a free form.
- Choice type: The type of choose an answer from a prepared question.
- Dichotomy questions: Respondents can answer "yes" or "no".
- Multiple choice type: Respondents are provided with choices to answer a question.

The questionnaire developed referred to the questionnaires of overseas decommissioning plants, and was revised to determine details. At this point, the details were determined according to the purpose of the questionnaire, accuracy, and needs of information. Finally, the questionnaire should be easy to understand considering the interviewee's position, avoiding ambiguous expressions and two or more questions on one question. In addition, indirect expressions should be used in questions asking about potentially sensitive issues.

3.3 Selection of interviewee

The interviewer should select a person (current / retired) who has worked for at least 5 years in Kori unit 1 related departments and partner companies or add through an existing interviewee introduction. In particular, the interviewer should give priority to those who have worked in a department related with operations, maintenance, and radiation management (radiation protection, health physics, radioactive waste management, etc.).

3.4 Implementation of interview

Interview schedules are determined through coordination with the interviewee, and the schedule was discussed at least seven days in advance. After

scheduling, the questionnaire was sent to the interviewee at least three days in advance to shorten the interview time. In the case of a direct interview, an independent location for the interview should be decided and a voice recorder should be used if necessary. After the interview, the final questionnaire should be collected and, if the interview results are not sufficient, additional interviews should be performed.

4. Result & Conclusion

This paper describes the interview procedure with current or previous employees to collect undocumented information about the site or facility and to verify or clarify information gathered from the existing records. Interviews can vary according to the type and method, and the contents of the questionnaire should be prepared in accordance with the purpose of the interview. The questions should be easy to understand for interviewees. The undocumented contamination information obtained from the interview results is used in classifying an area as a potential contaminated area.

Kori unit 1 is the first nuclear power plant in Korea to which the HSA applies. Results from the interviewing which is an important process of the HSA can affect the level of characterization effort. Therefore, interviews using systematic procedures are useful for performance of HSA at Kori unit 1, and they are expected to play an even greater role for site release criteria at Kori unit 1 in the future.

REFERENCES

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