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NUCLEAR REGULATORY COMMISSION  
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TO

LOCATION

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NUMBER OF PAGES 3 AND COVER SHEET

FROM JAMES FIRTH

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*Main/legacy - det firth*

October 8, 1993

NOTE TO: Dr. Detlof von Winterfeldt,  
Professor of Systems Management and  
Consultant to the TYMS Committee

FROM: James R. Firth, U.S. Nuclear Regulatory Commission

SUBJECT: STUDIES ON HUMAN INTRUSION AND COUNTERMEASURES

I have put together a list of studies pertaining to human intrusion and institutional controls (countermeasures).

There is NUREG/CR-3964 (Volume 1 and Volume 2): *Techniques for Determining the Probability of Events and Processes Affecting the Performance of Geologic Repositories*, which discuss human intrusion. Volume 1 is edited by R. L. Hunter and C.J. Mann and Volume 2 is by Apostolakis, et al.

There is a Center for Nuclear Waste Regulatory Analysis Report (CNWRA) titled *Natural Resources Regulatory Requirements: Background and Consideration of Compliance Methodologies*. It is dated September 1992.

A Sandia National Laboratory report was issued in June of 1993 and includes a list of references. The report, SAND 91-7097, is titled *The Use of Protective Barriers to Deter Inadvertent Human Intrusion Into a Mined Geologic Facility for the Disposal of Radioactive Waste: A Review of Previous Investigations and Potential Concepts* and is by Terry L. Tolan.

There are a couple of NKS reports that address the form of information on a nuclear waste repository that must be stored, future threats to this information, and countermeasures. They are associated with project KAN-1.3. I have attached a cover sheet that may be helpful. The reports are:

NKS/KAN 1.3(91)5: *Archive Safety Analysis. Case Study: German Archives During the 20th Century* by Botho Brachmann, Matthias Herrman, Susanne Pollert.

NKS/KAN 1.3(91)6: *The Vatican Archives. A Study of its History and Administration* by Suzanne B. Pasztor and Stephen C. Hora.

There is an Inspector General's Audit Report from the U.S. Department of the Interior titled: *Inspection and Enforcement Program and Selected Related Activities: Bureau of Land Management* (Report No. 98-18, November 1989). This report concerns compliance with regulations covering drilling on federal lands. The U.S. Department of the Interior has an extensive history of oversight of land use and access, so they might have other reports that would be applicable to the NAS study, although their availability may be limited.

I will inform you of additional studies that we become aware of in the time preceding your November 1, deadline. Also, Dan Fehringer has left the NRC and is currently working with the Nuclear Waste Technology Review Board.

Sincerely,

*James R. Firth*  
James R. Firth  
Systems Performance Analyst

## KAN-programme

KAN-1.3 is a project within the Nordic Nuclear Safety Research Programme, NKS. KAN stands for *Nuclear Waste and Decommissioning*.

This report is a case study for the project KAN-1.3

The project KAN-1.3 has addressed the question of conservation and retrieval of information from a nuclear waste repository by investigating the type and form of the information which needs to be kept and by studying future threats to the information and describing possible counter-measures.

The project's main report is written in English. It will be printed in 1993 and will be available from me.



Mikael Jensen  
Project leader

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### The KAN-1.3 Working Group

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