

SEVESO II INSPECTIONS IN FINLAND

20.7.2004

Chief safety engineer Päivi Rantakoski
Safety Technology Authority (TUKES)

SUMMARY

Finland implemented the Seveso II Directive on the 1st of February 1999. Enforcement created new duties for operators and authorities as well. One of the most important tasks was the creation of an inspection system and an inspection programme.

According to our legislation, safety report establishments are inspected once a year. Some establishments are obliged to prepare a major accident prevention policy document (MAPP) and to be inspected every third year, all other establishments are inspected every fifth year.

There are 14 inspectors carrying out inspections. The system has to be planned with this number of inspectors and the number of establishments kept in mind. Because of this framework, the time spent at any one plant cannot usually be more than a single day.

When enforcement commenced, several days' briefing was given to the inspectors. There were also guidelines prepared for inspectors and for establishment operators as well.

1. BACKGROUND

Chemical plants and storage facilities were also under surveillance prior to the implementation of the Seveso II directive. Operators were obliged to apply for a permit from the Safety Technology Authority of Finland (TUKES) prior to the start of construction. Permits were required for new installations and for existing installations whenever there were significant changes. Permit granting was followed by a commissioning inspection.

The main area of concern was directed towards technical systems. An application had to contain detailed information of the plant and its facilities.

Specific features resulting from our former inspection system:

- plants and their installations became familiar to our inspectors
- technical systems were strictly inspected - especially at the start up of a plant
- supervision of plants throughout their whole life-time was not so systematic
- supervision of management systems was not of primary importance
- the operator had to take the initiative (apply for a permit, ask for a commissioning inspection and other more voluntary initiatives)

The Implementation of the Seveso II directive meant some basic changes in our inspection system and the survey of chemical plants and storage facilities. A permit is only needed when a plant is built or when changes that have been made can be compared to the building of a plant (e.g. new production buildings or tank fields). Other significant changes only have to be notified to TUKES.

The two most important changes in supervision are the new inspection system and the requirement of a safety management system (SMS). Periodic inspections offer a new systematic tool for the constant surveillance of plants. On the other hand, the main "survey" is done by the operator himself - through his safety management system.

2. THE INSPECTION SYSTEM

2.1 Establishments and our inspection programme

According to Finnish chemical legislation a permit has to be applied for and inspections also made in smaller plants, other than those which are covered by the directive.

"Safety report establishments" (Art 9, upper tier) are inspected annually. Establishments obliged to prepare a major accident prevention policy document (MAPP, Art 7, lower tier) are inspected every third year, all other establishments every fifth year. TUKES, as an authority, may also execute further site visits if it is necessary to ensure safety. And the other way round: If an establishment has a well run safety management system and has demonstrated it to the authorities, there may be fewer inspections needed.

The following table shows the number of different categories of establishments and examples of typical plants.

Table 1. Number of establishments

Category and number of establishments	Typical plants	Frequency of inspections
Safety Report establishments 80	oil refineries petrochemical plants pulp mills pharmaceutical plants fine chemical plants steel mills harbour storage sites explosives factories	every year
MAPP-establishments 120	paper mills air separation plants (oxygen production) large LPG-storage tanks paint factories chemical plants of different types (e.g. binding agents for the paper industry)	every 3 rd year
Others under TUKES' surveillance 500	power plants surface treatment plants printing plants small LPG storage tanks chemical plants (without toxic substances) waste water treatment plant paint shops (ship yards) explosives storage premises	every 5 th year

2.2. Inspection personnel

There are at present 16 personnel in the Safety Technology Authority working within the field of process safety which includes chemicals, explosives and mine safety. Fourteen of the inspectors execute periodic inspections.

Our inspectors are highly experienced and trained in almost all fields that require the carrying out of inspections. But we discovered that one of the weakest areas in our skills resources was in the field of management systems. A lack of knowledge in this area was soon identified and several days of briefing was given to inspectors. Guidelines were also prepared for inspectors and establishment operators.

The inspection system had to be planned with the existing number of inspectors in mind. This meant that the time spent on site could not usually be more than a day. Of course, there were some exceptions: oil refineries, petrochemical plants, pulp mills and other big industrial complexes cannot be inspected in haste. When a safety report establishment was the case in hand, normally there are two inspectors on an inspection.

As well as inspectors of the Safety Technology Authority, inspectors from other organisations (authorities) may attend inspections and by attending, broaden expertise. These other authorities might include occupational health and safety district representatives, regional environment centres, municipal fire chiefs and municipal chemicals supervisory authorities.

3. FUTURE TARGETS

In terms of our future targets, the mission is to achieve a situation in which establishments are so well run through their management systems, that only a limited number of inspections by authorities is required.

We have established a working group which is responsible for creating criteria for the frequency of inspections. The main criteria will be:

1) Operator statistics (results, outcome)

The number of accidents (fatalities, injured, environmental accidents, leaks, fires); if this number is high or there are accidents of a serious nature, it is not possible to reduce the number of inspections.

2) Inspection observations

We are developing our processes, aiming to systematically collect inspection observations from all sites. These observations tell us about the safety level of a site. This safety level, we believe, more or less, can forecast the results the operator is potentially able to achieve.

These observations should cover following points:

Management commitment

- An establish operator has to establish his major accident prevention policy, and it should include his aims and principles of action. The operator must be able to show how these aims and principles are taken into account in practice and in decision making.

Identification of requirements

- General requirements: all necessary permits applied for, reports delivered etc.

Decision making and risk evaluation

- Process of decision making
- Results from risk evaluation should have a big influence on decisions.
- Identification of development areas.

Definition of requirements

When above mentioned points are at an acceptable level, observations concerning following facts should be positive: physical reality (technical solutions), processes (guidelines, instructions) and knowhow and responsibility distribution and good communication at every level of personnel.

3) Operational Characteristics

The frequency of inspections is also very much tied to the complexity and scale of the establishment. The operation of a storage facility having perhaps only a single chemical, is covered by fewer inspections than a big industrial complex.

The instructions for inspections were prepared as a part of our training activities in 1999. Now these instructions have been reviewed thoroughly in accordance with the above mentioned targets.

Safety Technology Authority (TUKES)
P.O.Box 123
00181 Helsinki
Finland

www.tukes.fi