

Officer on Duty at the Swedish Radiation Safety Authority

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Abstract. One of the tasks of the Swedish Radiation Safety Authority, SSM, is to protect people and the environment from the consequences of radiation accidents or incidents. Consequently, the Authority is on alert to deal with events such as an accident involving nuclear technology or an accident occurring during transport of radioactive material. The Authority therefore has a radiation protection officer on duty reachable 24/7/365 via the SOS Alarm Centre. The officer shall have the competence to make a preliminary assessment of the situation in order to decide what the officer on duty individually, or together with an external actor, can manage and when SSM's preparedness group, or the entire emergency organization, should be alerted. The officer also replies to, or forwards, requests about radiation protection resources and expert actions at a national and international level.

In this paper we will discuss the different roles of the officer on duty: an advisor, a coordinator, the person initializing the emergency organization and its executive until the organization is settled. The paper will also present the background to the functions of the officer on duty at SSM and some real life examples for the officer on duty during the last years.

KEYWORDS: (Emergency preparedness, officer on duty, radiation protection)

INTRODUCTION

Early on, there was an officer on duty at the then state owned company Studsvik, in case of a radiological incident or accident. Studsvik were able to perform measurements and take care of stray radiation sources. In the middle of the eighties the Swedish Radiation Protection institute, SSI, took over this emergency function and TSI (Tjänstgörande Strålskydds-Inspektör) was established. The former Swedish Nuclear Power Inspectorate, SKI, has had an officer on duty in case of an emergency since the inspectorate was established in the early seventies. This nuclear power expert and the radiation protection duty officer at SSI have always co-operated and the emergency organizations at the two authorities have been a part of each other. In 2008 there were a merger of SSI and SKI, and a reorganization of the emergency preparedness was again needed.

Since 2006 the Swedish government has required a number of authorities to have an officer on duty reachable 24/7/365 (SFS 2006:942). The officer is called TiB, the Swedish acronym for officer on duty (Tjänsteman i Beredskap). According to a governmental decision the officer should (Fö2011/379/SSK)

- be easy to contact by relevant others,
- be available and prepared around the clock every day of the year, and
- have a clear responsibility with the authority to take action according to the authority's mission.

The Swedish Radiation Safety Authority, SSM, is among the group of authorities in Sweden obliged to have this function.

ROLE AND RESPONSIBILITY

The Swedish Radiation Safety Authority (SSM) is an expert authority regarding, among other areas, the sudden onset of accidents, incidents threats with ionizing radiation and radioactive substances. For this

purpose, there is a national radiation protection and nuclear safety preparedness in place, which can be activated by alerting the officer on duty, TiB, at the SSM. TiB is the contact to the preparedness group and shall round the clock be able to receive alarms and offer advice by telephone or other available communication means.

In case of an emergency TiB can be reached by anyone through SOS Alarm. SOS alerts TiB through a pager, TiB calls back to SOS to get information about the situation and who to contact. Depending on the emergency TiB may personally manage the situation, manage it together with an expert in the area or call in SSM's emergency organisation through initially activating a pre-determined preparedness group. During office-hours TiB shall as soon as possible, and if appropriate, hand over the errand to the normal SSM organisation. If it is a more severe incident and TiB decides to start up the emergency organisation, TiB is the chief operating officer until a person with this function has arrived to the emergency centre at SSM. As such TiB has the right to take the initial necessary decisions and contact or call in relevant expert groups, for example the medical expert group at the National Board of Health and Welfare.

The preparedness organisation at SSM includes a nuclear safety expert, also on duty 24/7/365, to assist in case of an emergency at a nuclear facility. An alarm from a nuclear facility may come to TiB directly from the facility, from the on duty nuclear safety expert or the normal way via SOS Alarm.

It is TiB, the on duty nuclear safety expert or the head of the Radiation protection department who has the authority to decide if the emergency organization should be started.

To assist the TiB function there are several experts, networks and organisations available. SSM also has an informative secure web-area for the TiB-function where there is email- and telephone-lists, handbooks, action checklists, various templates etc. The web-area is also hosting TiB's log where information on incoming events that have occurred are registered.

In order to secure communication, TiB is equipped with a telephone, a pager and a computer with various connections. TiB should also be able to receive and send confidential information using encrypted fax machines and GSM phones. An alarm should be responded to within 10 minutes and TiB should be able to be at SSM's emergency centre within 2 hours after the alarm if necessary.

QUALIFICATIONS

The manager of the TiB group at SSM, today the head of the radiation protection department, decides who can hold the TiB function. The assignment is voluntary and for a time period of 12 months. Apart from the normal job they should, approximately 4 weeks a year, hold the TiB function and be on duty all around the clock. According to an internal SSM instruction the requirements are that the TiB function should:

- have a deep knowledge about the Swedish radiation protection and nuclear safety preparedness,
- have a broad knowledge about radiation protection and in case of incidents or accidents, which measures should be taken,
- be able to give advice regarding measurements and have knowledge about national, regional and local resources,
- be oriented regarding likely threats, and
- be oriented about existing rules in different emergencies.

There are today 12 persons sharing the TiB function. The professional background and expertise varies between the persons and they are organisationally located in three different departments at the authority. The persons have completed a security check before the assignment.

EDUCATION, TRAINING AND EXERCISE

Persons assigned as TiB are continuously educated and attend exercises to maintain the competence that is required for the function. The training aims to practice different situations that may occur and to be used to using the technical and analytical equipment that goes with the function. The Swedish civil contingencies agency (MSB) has a national education at an overarching level for TiB from different agencies and authorities.

TiB participates in international exercises (CONVEX, NEPEX, ECURIE, CBSS), national exercises (DEMOEX, SAMÖ, LÄRMÄT), exercises with the Swedish nuclear power plants and local SSM exercises. The local SSM exercises can be table-top exercises together with the nuclear safety expert, start-up exercises with the preparedness group or the bigger exercises with the SSM emergency organisation. In addition the TiB members are invited to participate in exercises together with rescue teams at other expert agencies.

In addition to education and exercises the TiB-group meets four times a year and exchange information and experiences. Special topics are discussed during seminars in connection to the meetings to which experts in different areas are invited. This year there have been seminars about transport of radioactive substances, lasers and electromagnetic fields.

ALARMS DURING 2010-2011

During 2010 TiB received 64 different alarms. For example there were alarms about two workplace accidents (one involving a malfunctioning level switch and another one during radiography repair work) and three alarms about unidentified sources for radiation (a cylindrical-shaped object on the Gothenburg coast with a radiation symbol, deviant objects among smoke detectors at a waste company, waste bag causing an alarm at a recycling company). There were several alarms to give TiB international information like information about the fires in the Russian forest in August. Two alarms originated from the worried general public, several alarms were due to Greenpeace activities outside nuclear power plants, one alarm was about a transport incident and eight alarms were connected to nuclear facilities, for example smoke in the facility, reactor scrams etc.

This year, until August, TiB has received alarms about unidentified radiation sources at a scrap firm, the ash-cloud from Island in May, fire in the containment at Ringhals, high radiation levels in a hotel room, leaking UN2910 package, the nuclear accident in Fukushima (very many alarms), high radiation levels from riflescopes at a recycling company and the terror attack in Norway.

In the initial part of the Fukushima accident, TiB became the obvious contact point with the cabinet emergency office and other authorities. Moreover, TiB became a competent switchboard and provider of information. Due to the workload TiB was reorganised and started to go work on shift. We learned that the role for TiB in such a major accident was different than planned for, due to other authorities' expectations, and the SSM need to develop routines for this type of scenario.

CONCLUSION

The Swedish Radiation Safety Authority has a long tradition of having an officer in duty, TiB, reachable 24/7/365 to deal with radiological and nuclear incidents or accidents. The need for such a function has been apparent during these years. Today several authorities in Sweden are required by the Swedish government to have this service to be able to act fast and efficient in case of an emergency. The TiB function is designed to be a crucial part of the national emergency organization in the early stage of an incident or accident. In order to continuously improve this function, networks between TiB at different authorities and also different countries, to share information and to improve the co-operation would be desirable.

REFERENCES

SFS 2006:942, Förordning (2006:942) om krisberedskap och höjd beredskap, 12 §
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