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Establishment and legal requirements

The SMC Organization is fully owned and financed by the Oil Industry Companies in Sweden. The SMC was founded 1994, after a thorough investigation and planning process together with concerned authorities in Sweden; the Fire Expertise from the Swedish Technical and Research Institute (fire specialists, SP Fire Research in Borås, Sweden) were also involved. The background on the shaping of the SMC organization is primarily based on formal and legislative requirements for industries posing a major risk to the surroundings in Sweden.

Is there a specific reference for a Swedish legal requirement to provide full surface fire response capability? The answer is “yes” and “no”. “No” in the sense that there is not a law saying “*You must be capable of extinguishing full surface fires*”. “Yes” in the sense that there is a law in Sweden called “Law on prevention of Accidents” (abbreviated LSO SFS 2003:778). Freely translated, it means the following:

LSO Chapter 2, § 4:

“It is the plant owner’s responsibility to provide an emergency preparedness with organization, equipment and personnel to a reasonable extent, on such facilities where an accident may cause serious consequences for human beings or the environment”.

Please keep in mind that the “LSO” law is valid even though we also have the so called “Seveso legislation” as well, on top of the abovementioned regulations.

This legislation has been in place since 1986, but it had a different name back then. The law was changed and somewhat sharpened and was given a new name in 2004: “Lagen om Skydd mot Olyckor”. But essentially the SMC was created out of this legal – or formal – requirement for the owner of a “high hazard establishment” (1994) to acquire the abovementioned capabilities. To fulfill this particular legal requirement is also why all the oil companies, in a joint effort, decided to join forces in a financial agreement for putting the SMC organization in to action.

As an answer to this legal requirement, the oil companies, instead of each depot or refinery having their own standing Fire and Rescue Service (which is *extremely* costly), proposed a joint organization as being shared and mutually funded in and by the whole industry, to fulfill this requirement. The major risk on an oil depot is obviously large storage tank fires. The SMC is therefore NOT a traditional Fire and Rescue Service i.e. with CBRNE (Chemical, Biological, Radio & Nuclear, Explosives) has handling emergency preparedness equipment or similar capability. *The SMC is created for, equipped with, trained for with tactics etc. only to extinguish very large tank fires.* With the primary objective

to extinguish fuel fires in large storage tanks etc. Nothing else. To do this, there is a very powerful set of equipment which has basically the same set up in all 4 regions.

Four regions

The organization of the Fire Extinguishing capability is organized in the country via a 4-regions-system, with a contract between the SMC company towards 4 big Fire & Rescue Services and 4 major cities in Sweden. These four regions are:

- Stockholm (Region East);
- Sundsvall (Region North);
- Gothenburg (Region West);
- Malmoe (Region South).

In addition to the agreements among the oil companies in these four regions, there is a system which enables "Associate Member Companies" to join in the SMC for an annual fee which guarantees the members to get SMC's full participation and support with mutual drills, exercises, advise etc. This is to ensure the capability is always "up to scratch" on their sites or depots, refineries etc. All these formal things are declared and written down in Agreements with the Fire & Rescue Services (from the abovementioned major cities) in each and every one of the regions respectively.

Finally, the SMC company has an agreement with the Swedish Air Force to ask for immediate logistical support if necessary. This is accomplished by utilizing the Lockheed C-130 Hercules Military transport aircrafts i.e. for conducting transport of the equipment from an Air Force establishments in the Gothenburg vicinity to Gotland (Gotland is a fairly large island on which there is an oil depot) or up to the far north, if need be. They also are conducting on some 3-4 year intervals exercises together with the Swedish Air Force and the Hercules aircrafts to check that all links in the transport chain are working.

Management and governance

The SMC company is managed as any other legitimate company with a company board, Managing Director, paying taxes and fees etc. The SMC is a non-profit organization, and so it has no own employees. In the regions (biggest 4 cities and municipalities Fire & Rescue Services), all together some 200+ fire fighters (including officers) are trained in the whole of Sweden with the specific knowledge and experience of large oil tank fire extinguishing capability and competence. All fire fighters are not available simultaneously for deployment however, since they also have other duties in their employments in the municipalities or regions as described above. Each region with the preparedness "standing" are just small groups of some 10-12 individuals per region during the first alarm wave. More (SMC trained) people can be deployed in each region should it be necessary.

The administrative roles and tasks are done under the SPBI umbrella. The Swedish Petroleum and Biofuels Institute, which is an industry and interest organization for the oil industry in Sweden. Here, Per Brännström has the part-time task of being the appointed Managing Director of the SMC with a main task of ensuring that the whole "system" is working and will maintain its operational capability at all times as intended, in case they are called out. "It is always a priority to have both equipment and personnel in a high degree of alertness," Brännström says.

Training

The training for all firefighters assigned to the organization is funded by the SMC. The firefighters are trained in GESIP France, or in the U.S.A. with live firefighting on real storage tanks. Both practical and

theoretical exercises are required. International fire experts are invited to ensure the quality of the theoretical side and to share live experiences on firefighting. There are specific competence requirements stated in agreements towards those who are recruited as well. The firefighters are to be selected based on their suitability for the task and must have a previous minimum rank as a Fire & Rescue officer (senior operational position experience) and/or fire engineer rank or corresponding competence. "Rookies" are not accepted.

With regards to training, Per Brännström says: "Certainly in case of an emergency situation such as a Large Tank or Oil fire in an oil depot (that is solely what we are doing), we come to help, but only after the Fire & Rescue Commander on the accident site had called for us (another requirement due to legislation in Sweden). You see, in Sweden the Fire & Rescue Services are usually organized under the municipalities, and are not allowed by legislation to be privately governed. This does not exclude the precautionary measure that each industry establishment with major accident hazards creates small fire safety task forces to cope with fires, but still the entity "Fire & Rescue Service", due to societal risks etc., is dedicated to be under the municipalities' government. There are also formal competence requirements for those deployed in municipal fire authorities such regarding Fire & Rescue tasks. The problem is however, once again, that a "traditional" Fire & Rescue Service employee in a traditional Fire & Rescue Service does not have the capability to cope with very large depot fires; therefore the SMC needs to be used for these particular tasks."

"Every drill or exercise with the SMC on a site contributes to enhancement and improvement of our way of doing things. We also have regular meetings twice a year"

- Per Brännström

The formal basic training, basic level, for a firefighter in Sweden is approx. 2 years distributed in several sections with practice and theory. After this, several other courses or complementary training are provided by the municipalities, or when asked for it, the SMC. The SMC Fire Training is, as a complementary training for fire fighter officers, one full week. Fire engineers (which usually is the commander or Rescue Leader in a Municipality Rescue Service) are formally educated with a MSc. in Fire Technology degree, and usually are the officers in their organization(s) respectively. Long experienced senior officers without engineering degree may also be appointed and act with the same authority as a Rescue Leader in the same leading firefighting role.

Equipment

Equipment such as pumps, hoses, extinguishing monitors, foam liquid etc. is owned solely by the SMC company, but the maintenance and maintaining the serviceability of the different equipment out in the regions is done by Fire Brigades, paid to do so via the SMC company (funded by the oil companies).

The present design criteria for managing and extinguishing large oil tank fires on one (1) region is fire in a 47m diameter oil storage tank. In case of an alarm, two (2) regions are always called out simultaneously. The first to be called out is always the nearest to the accident site, obviously expected to reach the accident site first, the other (the next nearest region group) are rolling as well act as a "back-up". This has proven to be vital, especially so when the one site storage capacity of foam liquid may be limited.

Incidents

Primarily the SMC is intended for large storage tank fires in oil depots or refineries. They certainly also have been deployed into various other large fires, the last time about a year ago, where there

was a catastrophic forest fire in the middle of Sweden. People were killed and the Military, including a very big effort from the various resources, were also deployed. The SMC is not a traditional Rescue Service. It is rather a kind of a specialized firefighting task force. One could almost call it an “emergency preparedness organization for very large fires”. Period. The SMC is intended for extinguishing large depot storage fires alike, that is to say large fires no one else can handle. A traditional Rescue Service is dimensioned along the principles they are supposed to handle fires in i.e. living places, smaller houses, car accidents and such. But NOT an oil depot fire. That is another reason why the SMC organization exists.

In Sweden, the municipalities’ Rescue Leader is the one who is in charge, appointed to this role by Swedish law. The first minutes into the accident development however, that is to say before the Municipalities Rescue Leader has arrived to the accident scene, the Industry establishments rules on safety and security are to be observed at all times, also by the Rescue Services. This also means that the Company Safety (Fire-) officer on that particular industry site affected by the accident/fire is assisting the oncoming fire fighters with advice. The responsibility for the continued actions are, after the Rescue Leader’s arrival, formally transferred to him/her.

If you are interested in any more information, please contact either Kees Kappetijn or Per Brännström.

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