
Training on Occupational Health and Safety

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Workers Resource
Center, Cividep-India

Sriperumbudur

Cividep India

Workers' Rights & Corporate Accountability

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Background

Cividep India has been involved with electronic sector workers in the area in and around Nokia SEZ since 2009, and has been working in the field of labour education, legal awareness and workers' issues.

The electronics industry is often incorrectly perceived as a 'clean industry'. There are several problems related to occupational health and safety in the sector: a considerable share of those currently identified relate to semiconductor manufacturing. Several other processes in the industry such as moulding, soldering, assembly, stamping etc. also involve hazards and related diseases.

In this context, it is imperative that workers know what risks they are exposed to while engaged in the industry. Often, factories do not provide enough information on the materials or processes workers deal with on a daily basis on the shop floor. Even protective equipment provided serves the purpose of protecting the product and not the workers. The main objective of the training was to ensure that the workers had more information about the processes at the shop floor, the materials/chemicals they handled, and the common hazards and occupational diseases associated with the same. The training was also directed at identifying the common causes of accidents and identifying the level at which workers were familiar with the safety procedures and facilities available at their respective factories.

Workers from Salcomp, Sanmina, Dell and Samsung attended the program. There were nineteen participants in total, out of which nine were women.

Introductory Exercise

A preparatory exercise was conducted before the training to identify the most common problems reported by workers in relation to occupational health and safety.

- **(Ergonomics)** Workers have to stand for eight hours continuously during work. They also have to perform repetitive movements: often involving

· Semiconductor manufacturing has not yet started in India. Chips are imported and then assembled into units here.

bending/turning etc. The workers associated this with leg pain, shoulder pain, back pain and neck pain.

- **(Breaks)** Workers have limited bathroom breaks and often they cut this short, drink less water to prevent having to go to the bathroom.
- **(Protective Equipment)** Protective equipment given to workers are quite flimsy. They are provided 'disposable gloves' that are not replaced daily, but only once a week.
- **(Lack of ventilation)** The factories are air conditioned and there is no provision for open ventilation. Often the fumes from a department are released into the corridor or other parts of the factory rather than being effectively disposed.
- **(Stress)** Several of the workers reported that their work was extremely stressful. Workers associated symptoms such as headaches to the stress they go through in the factory.
- **(Reproductive/women's health)** At least some women workers suffer from anaemia and irregular periods. Women often eat less due to their rigorous shift schedules.
- **(High levels of noise)** Particular departments have high levels of noise, and workers reported a gradual decrease in hearing due to this. They often experience a ringing in their ears even after leaving the factory.

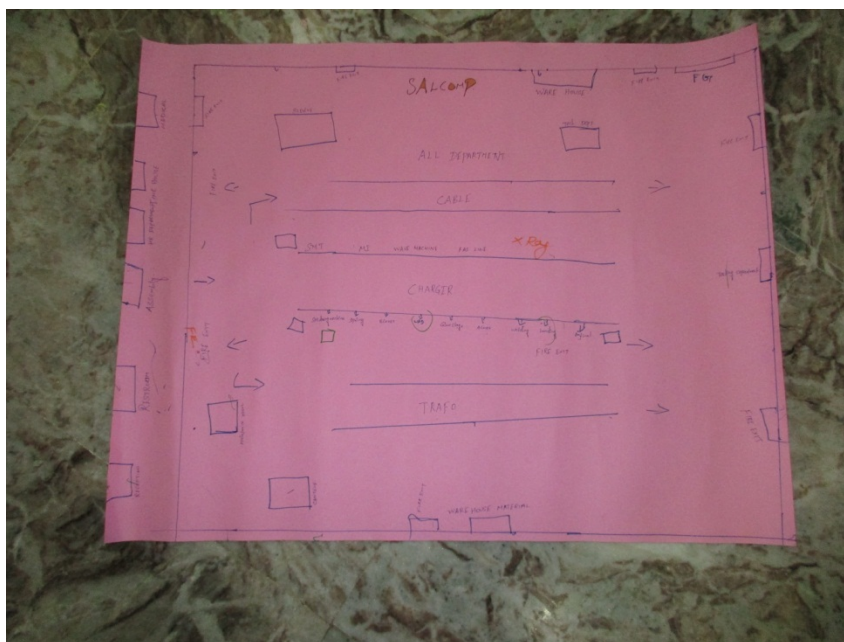
The workers were provided with an OHS manual prepared by AMRC (Asia Monitor Resource Centre) during the preparatory exercise.



Cividep Field Coordinator talking to workers before the program

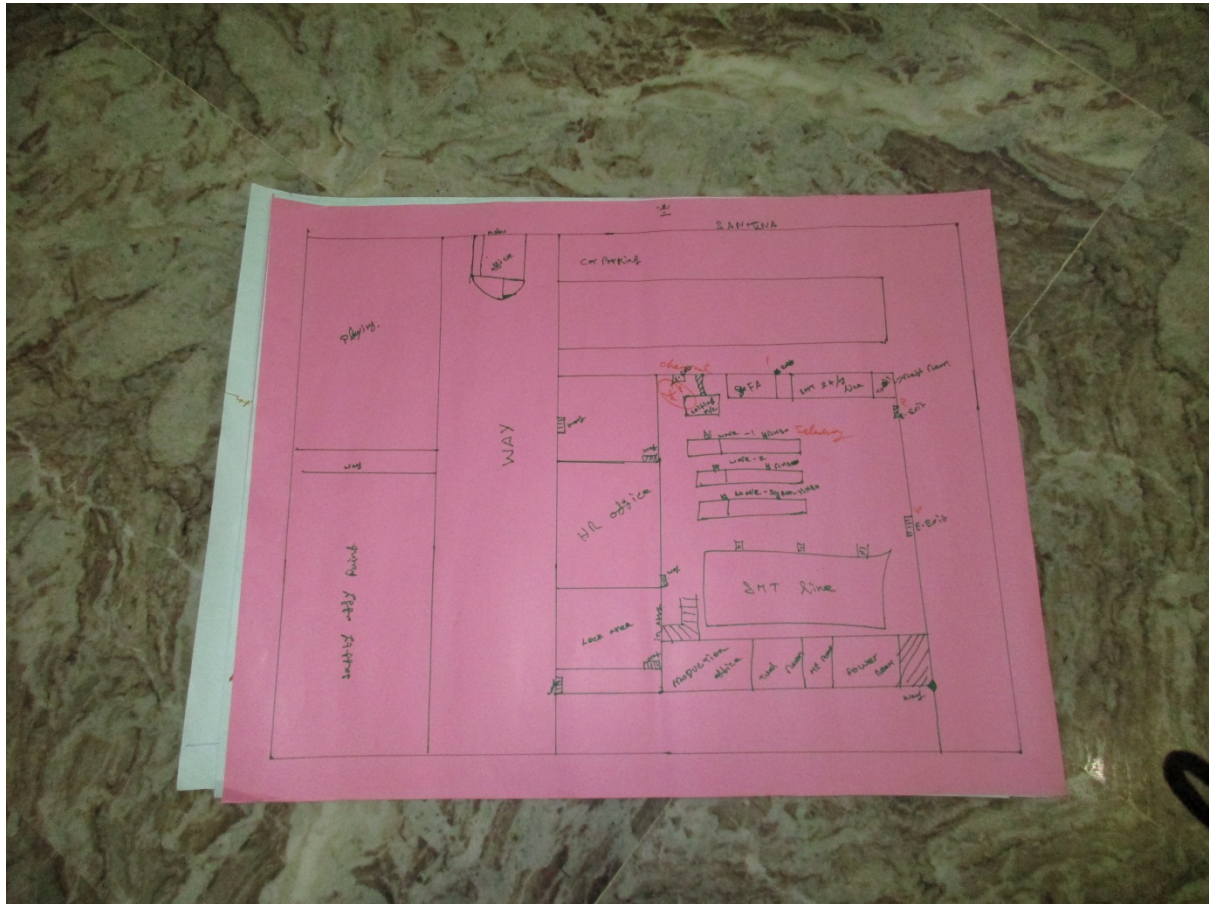
Hazard Mapping

The training began with an activity where workers from different factories sat together and drew a map of their factory unit, along with the emergency exits, fire extinguishers, ventilation, chemical storage spaces, panic buttons et al.



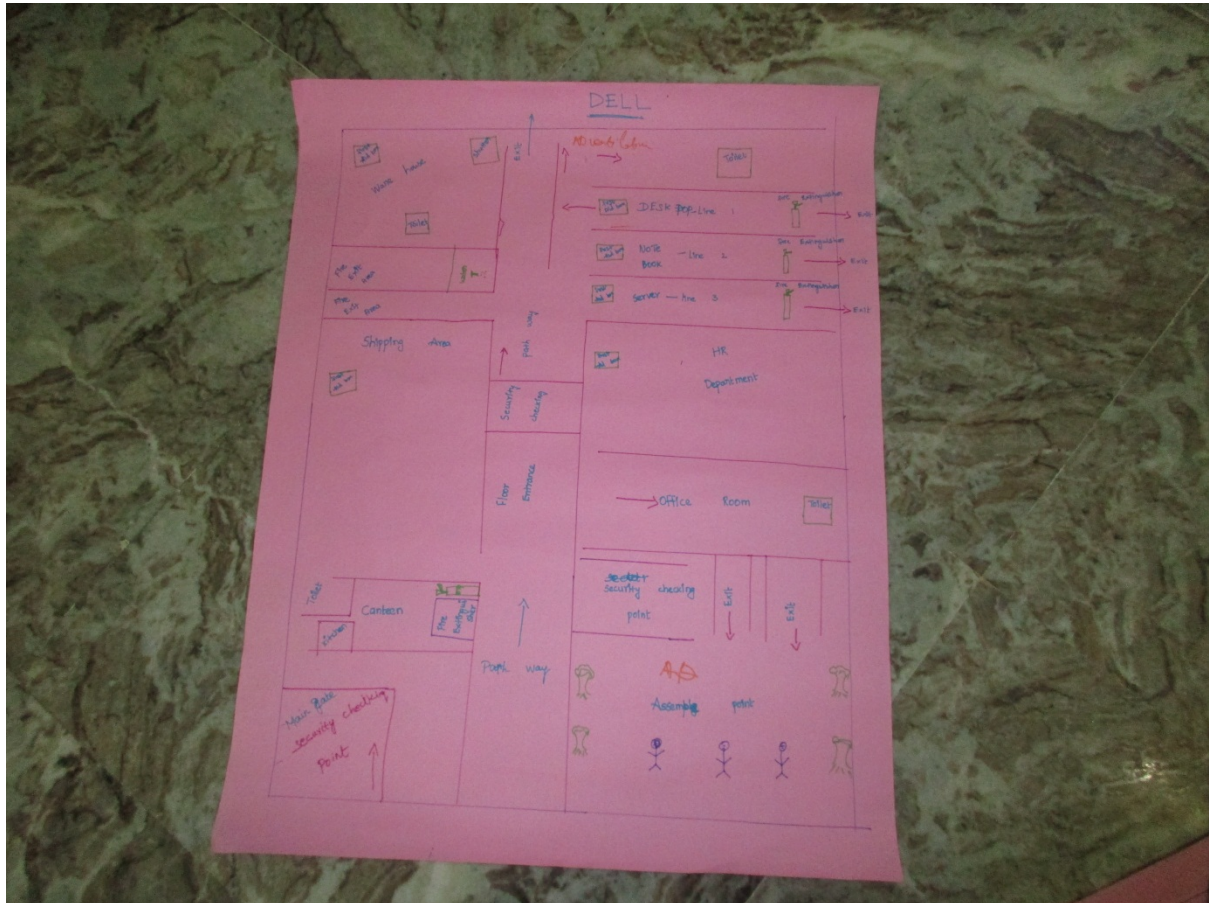
Salcomp Hazard Map

All four factories do not have ventilation ducts or open windows. Salcomp and Dell workers reported that there are vents running on the ground near the line to suck the fumes from the air. However, they reported that often these just release them back to another part of the department or the factory.



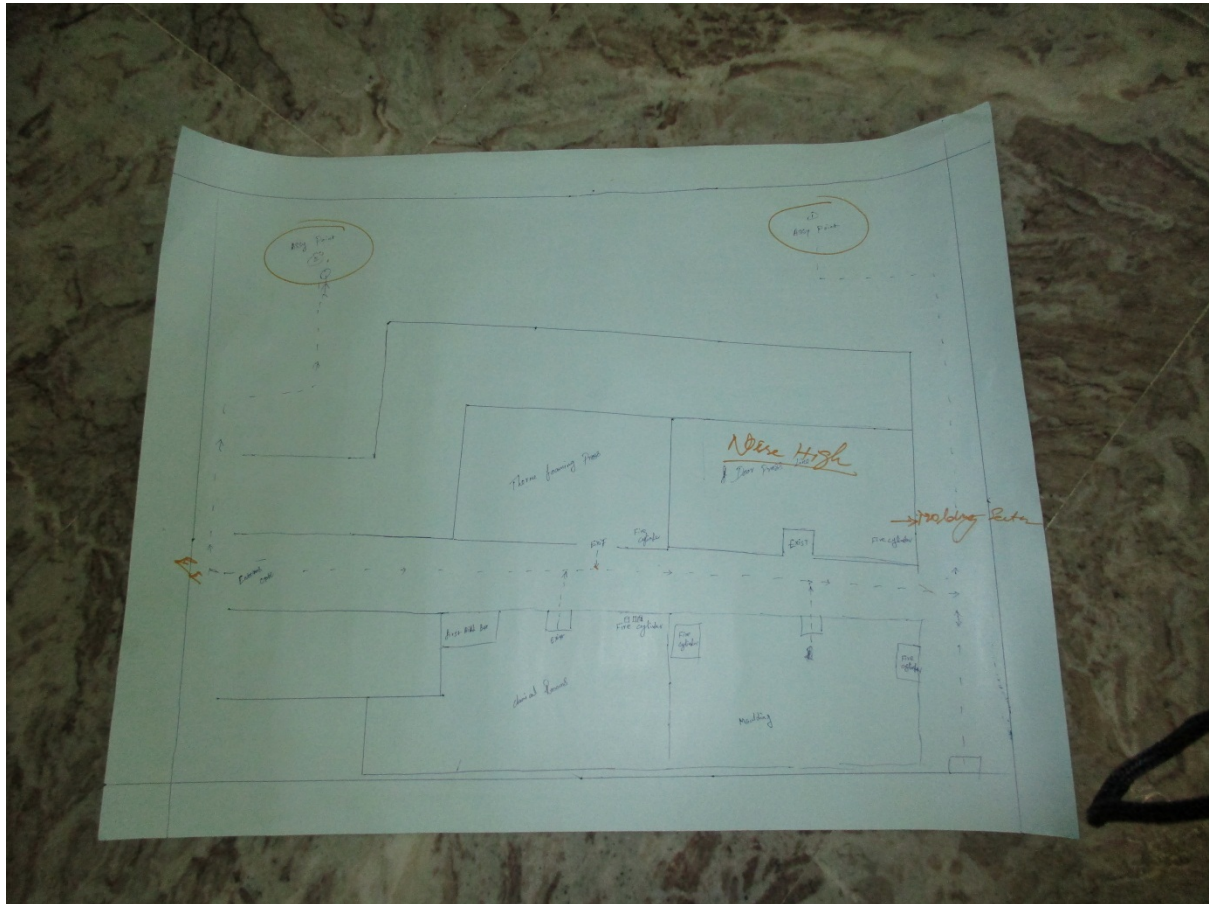
Sanmina Hazard Map

Most workers did not know about a panic button or a similar emergency response mechanism. Machines had sensors but they only respond if your hand was positioned in a particular way. There was limited knowledge as to how to shut down a machine if an accident had occurred. There were separate assembly points in case of fire or similar accidents.



Dell Hazard Map

Chemicals were stored outside the factory in most cases but none of the workers knew the names of the chemicals they work with. Workers reported that rashes would appear on their hands which did not go away even by repeatedly washing their hands.



Samsung Hazard Map

Training on Occupational Health and Safety: Dr.Sankar

Doctor Shankar from Meenakshi Medical College, Kanchipuram started out with a reference to the Hazard Mapping Session. He talked about the lack of awareness among workers regarding the processes and materials involved in the manufacturing process.

He underlined the fact that most occupational diseases take a long time to surface. Since the electronics factories in the area are still not more than a decade old, it would be difficult to point out the long term effects of working in an electronics factory. However, electronics were manufactured much before this in other countries: so we have instances from abroad that we can now learn from and be better prepared against such hazards. In the Silicon Valley in the USA, several environment and health issues were associated with electronics factories. Similarly, several countries in Asia have reported occupational diseases such as cancer, lung diseases and other occupational health issues in workers in the electronics industry.

The electronics industry is among one of the most polluting industries in terms of releasing contaminants into the air, water and land.

Every profession or employment may have some inherent risks; however, it is our duty to be aware of, and to make an effort to reduce those risks. It is also the responsibility of the factory and the government to work together to provide safety measures and reduce those risks. However, workers should also make an effort to take care of themselves. Most of time workers spend in factories workers have to stand and perform repeated motions. The trainer proceeded to ask some workers to demonstrate the motions on the shop floor.

Standing for long hours without moving affects blood circulation and may lead to complications such as varicose veins at a later stage. There are some simple exercises that can be done during break times and even during work that can help blood circulation and reduce this risk to some extent. The trainer then went on to demonstrate these exercises.

Examining the Hazard Maps made by the workers he pointed out that the ventilation was not adequate. The kind of mechanism illustrated by the workers would only remove the fumes from one area of the department to another.

Although the chemical storage facility is outside the factory, the workers did not have any idea about what chemicals they handled. Dr Sankar spoke about the common materials and processes in PCB assembly: preheating (possibility for accidents, exposure to evaporated solvent), soldering (which involves exposure to lead/tin/corrosive gasses|/formaldehyde), hand soldering (lead/tin fumes).

Dr.Sankar then went on to discuss the protective equipment given to workers. He pointed out that disposable gloves and masks are only to be used once and should not be used for the entire week/month. These seemed to be the only equipment given to workers for their safety. It was apparent that this served not to protect the workers from harmful substances but rather to protect the products manufactured from getting contaminated through contact with the workers. Ear plugs were given to workers in the stamping department but they were also of low quality. They did not eliminate the noise and workers still suffered from hearing problems.

Although most workers reported that they have enough breaks they also said that they often cut short toilet breaks at work, especially during high production. Dr Sankar pointed out the dangers of this: namely, urinary infection, kidney stones etc. Drinking less water can also cause the same problems, in addition to dehydration, kidney damage and other serious health risks.

Dr.Sankar proceeded to briefly talk about common health problems in Tamil Nadu: such as anaemia (especially among young women), lack of a healthy diet, high amounts of stress etc.



Dr Sankar addressing the workers

The session was concluded by highlighting the importance of associations of workers in identifying hazards and the importance of safety measures within the factory.

Field Coordinator Nanthini S. talked briefly about the upcoming medical camp (to be conducted by the end of November) and thanked Dr.Sankar and the participants for their cooperation in the programme.

After the training some of the workers approached Dr Sankar for a brief consult on their personal health issues.

Health Check-ups

A Health Check-up was conducted on December 1st, 2015, with two doctors: Dr Prasan Norman (ENT) and Dr Mohankumar (Eye specialist), and three technicians who conducted the optometry and the audiometry tests. Thirty four workers participated in the programme out of which seven were female workers.



One Flextronics worker was diagnosed with a deviated septum. A female worker had swelling in her ear due to post-operative modified radical mastoidectomy. Seven workers were diagnosed with eye related refractive problems. One male worker was diagnosed with anaemia.



Audiometry Test

Conclusion

It was heartening to see that about half of the participants of the training were women workers who were very active throughout the program. Women workers took the lead in the Hazard Mapping exercise and asked several questions during the training conducted by Dr. Shankar.

Contract workers also participated in the program. Since contract workers are generally not members of unions (if there are any in the factory) it is significant that they participate together in our meetings with permanent workers.

The training has enabled workers to identify common health problems associated with working in the electronics industry. Through information sharing during the hazard mapping program, the workers were able to get a better idea of safety procedures inside their factory unit as well.

Although there were a significantly lesser number of women in the health check-ups, the general attendance of workers was higher than regular programs. This indicates that workers regard health as an important issue and more programs of this nature have the potential to be successful.

However, most workers were sceptical of factories taking any measures on occupational health and safety on individual requests from workers. The lack of unions in factories such as Dell and Samsung is a significant factor reducing the chances of workers demanding better facilities as far as occupational health and safety is concerned. This may also be a factor in the worker's lack of awareness as far as materials and processes in the factory are concerned.

Even in companies where there are unions, occupational health and safety seems to be taking a back seat among issues such as wages, increments, bonuses, workload and shift timings. Although awareness programs are important and will certainly help in reducing risks associated with occupational health and safety, to make meaningful changes workers right to freedom of association: effective worker's organizations and health and safety committees needs to be ensured.
