Muhammad Omer

Case Study

Risk Management is better than Disaster Management:

Introduction:

Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability or impact of unfortunate events or to maximize the realization of opportunities. Risk management's objective is to assure that uncertainty does not deflect the endeavor from the business goals. Risk management is considered as one of the most important aspects for business. Being an under developed country, Pakistan is still in a growing phase of Risk Management. It is generally human psychology that we consider ourselves an exception and not prone to disasters. This behavior can be easily seen if you stand at a petrol pump and observe people. You can see people using mobile phones despite the display of the prohibition sign. As long as we don't get affected by disaster we consider ourselves safe from it. After getting affected by a disaster, sometimes it is too late or the damage done is great. So, it is better to learn from disasters happened to others rather than learning after becoming a part of it. In this case study, this behavior will be discussed and it will show that how approach of a company towards risk management changes before and after any disaster.

Key Parties Involved:

1. Prospective Insurer – IGI Insurance Ltd.
IGI is a public listed general insurance company (KSE: IGIIL) that was founded in 1953. Being part of the Packages Group, IGI is the largest insurance company by market capitalization. Headquartered in Karachi, IGI has offices in 8 cities nationwide and offers a wide range of general insurance products including Fire, Motor, Marine, Travel, Health, Personal Accident and Home Insurance.

2. Prospective Insured – Dyeing and Finishing (Pvt.) Ltd.
Dyeing and Finishing (Pvt.) Ltd. is a state of the art well established quilt & other home textile dyeing & finishing firm.
Note: This study is based on a real case however the actual name of insured company has not been mentioned to maintain confidentiality.

Background of the Case with Details:

Dyeing and finishing textile unit is an inherently high hazard industry. IGI Insurance is well aware of risks involved in the dyeing and printing textile industry and has experienced fire losses in this business line in the past. After such losses, major safety improvements were brought about in the dyeing and finishing textile industry. IGI risk management team, while understanding the inherent hazards of dyeing and finishing unit of textile industry, conducted rigorous surveys. During the first survey, it was found that the facility had a gravity based hydrant system. Fire hydrant system, pressurized by an overhead water tank of 50,000 US Gallons capacity at a height of 40 ft., gave a pressure of around 1 – 1.5 bars at the hydrant outlets. There was a total of around 15 external hydrant points available; though no points were available near the packaging material/ chemical stores. Furthermore, there were no hose reels available inside the buildings that were outside the reach of external hydrant points e.g. rear portion of grey godowns or the multistory stitching building. During the hydrant test, we observed that the hose couplings of 02 of the 03 tested fire hydrant points were loose and this caused a delay of more than 10 minutes to properly fit and operate the hydrant. The resulting water pressure was in the range of 1 to 1.5 bars, which is extremely low compared to the fire load at the factory. We recommended that immediate measures must be taken to install a pump-based fire hydrant system in closed loop at the factory premises. The fire pumps were to be made able to deliver a minimum of 500 gpm of water and delivery pressure of 100 Psi, as was recommended by IAP. The pressure was to be maintained by a jockey pump and switching-on of these fire pumps was to be made automatic. The fire pumps would then be able to work in case of power outage. Additionally, we recommended that hydrant points/ hose reels be made available inside the buildings especially the stores and multistory stitching building. It was advised to extend the hydrant system to cover the chemical/ packaging material stores. Maintenance of fire equipment was also recommended. Faulty hose couplings were to be rectified as per our recommendations. It was recommended to increase the storage of fire water from 50,000 gallons to 100,000 gallons. Fire drills were to be conducted on a periodic basis to train the staff in the use of fire equipment so that there is no delay in firefighting in case of an emergency. Results of these drills were to be recorded for future references.

As the standards suggest; the pressure of hydrant water in such occupancy should be equal to 7-9 bar as the existing pressure was too low. It was recommended by IGI Risk engineer to upgrade their hydrant system so that it should be according to standards. It was also recommended by IGI engineer to extend the coverage of hydrant system to chemical store, carton store and finished goods warehouse.

Stock keeping practices were also found poor. Stocks were stored such that there were improper gangways &

over stacking caused less than 1 foot clearance from roof height. It was recommended by IGI Risk engineer that uniformity of store should be maintained, cartons should be stored at newly-built carton stores only, fire break in terms of gangway of 4~ 5 ft. should be provided between stock piles, clearance of stocks from ceiling height (or lowest level of beam from ceiling) should be at least 2 ft. at all locations, a clearance of 1~ 1.5 ft. should be maintained from the walls, distance of 4 ft. should be maintained from all openings/doors connecting two stores or process areas.

Moreover, it was also found that there were openings in the wall for exhaust fan installation, glass windows for daylight utilization & sliding windows were open. It was recommended by IGI risk engineer that all exhaust fans must be provided with small shed covering the opening satisfactorily, all glass windows must remain closed & locked from the inside, openings & glass windows should be permanently closed.

It was found that there was no fire alarm system installed in the stores and stitching units. It was recommended by IGI Risk engineer to install a fire alarm system throughout the premises. Fire detection is crucial in occupancies like Textile. It is important to place automatic fire detectors in all areas where there is a potential of fire and its propagation, so that fire can be detected at a very early stage and controlled immediately. It was recommended by IGI team to install smoke detection system as well.

We observed that the fire doors of the grey fabric godowns were blocked by fluff/ dirt; to utilize these fire doors the fluff/ dirt was to be dug out using a metal rod. These were the manual single proof fire doors type.

An absence of fire doors in some areas was also observed by us. It was to be ensured by store-keepers that there must be no fluff/ dirt accumulation in fire doors to avoid any delay in case of emergency. The number of fire doors was to be increased. We recommended that the fire doors should be installed between the following areas. We recommended converting the current manual single-proof fire doors to automatic double-proof fire doors, if capital cost justified.

There was no dedicated fire safety team although one firefighting supervisor looked after the fire safety related matters. A dedicated fire safety team was to be arranged whose primary purpose was to upkeep the firefighting systems while also conducting fire / evacuation drills periodically. This team was responsible for training people from other departments in use of firefighting equipment and following of proper protocols in case of any emergency. For effective use of fire extinguishers / hydrants, it was advised that selected people from all departments and security guards should be trained in firefighting operation.

A large quantity of wood was found stored in the open dangerously close to the chemicals/ packaging material store building and fabric folding area. We recommended that a distance of at least 15-20 ft. must be maintained between the wood stocks stored in the open and the nearby buildings.

Lights were uncovered throughout the factory, especially in polyester bales receiving store, buffer stores in stitching/ cutting halls, printing screens stores etc. where lights were dangerously close to the stocks. It was recommended that all lights fitted in the fabric handling areas, especially buffer stores in stitching/ cutting areas, polyester bales stores, printing screens stores etc. must be covered properly with shades to avoid any fire risk.

Waste accumulation was observed in the receiving store of polyester bales, boiler house of 03 oil heating boilers and waste store leading from grey fabric godown 2. It was recommended to dispose-off accumulated waste, e.g. in polyester bales receiving store, boiler house and near grey godown, at frequent intervals, at least twice a week and keep the accumulation at minimal level.

There was no permit system in place at the factory for different scenarios like hot works, cold works, work at height, excavation etc. therefore, it was recommended to establish a written permit system for hot works like welding, cutting, grinding etc., cold works, work at height, excavation. Permission was to be obtained from the production manager, store-keeper etc., and prior to the work with his signature on the permit along with the signature of the workshop manager. This permit was supposed to detail the work to be carried out and the time that will be required to carry out that task. The filled permit was to be hung at the site where work was to be carried out and after the work was done, it must be kept for future reference.

The site was recommended to be cleared of stocks/ machinery and barricaded. Furthermore, firefighting equipment was to be kept on standby near the hot work site during the entire duration of work.

We observed that many fire exits were blocked/ locked especially in the stitching building. It was recommended to keep the fire exits open so that the workers can exit the building in case of emergency without causing any mass panic or disarray.

After one year, a follow up risk survey was conducted to see the status of risk improvement recommendations. It was found that out of 27 recommendations only 8 were complied.

A year later, in the printing section of the Dyeing and Finishing (Pvt.) Ltd, incident of fire took place causing loss of PKR 100 million. Printing machines got burnt completely due to which company also incurred loss of business interruption. As the Dyeing and Finishing (Pvt.) Ltd was insured so the claim was paid.

With Dyeing and Finishing (Pvt.) Ltd Company's fire insurance renewal approaching in four months, IGI faces a critical question to answer. Can IGI dare to insure a business that apparently is a bad risk and has a huge recent fire loss?

Solution:

A revisit of the site was done. Major hazards were discussed. It was agreed upon that a risk report will be shared showing plan to improve the risk. A risk survey report was handed over to the Dyeing and Finishing (Pvt.) Ltd Company's management. Apart from general and technical information; IGI's risk survey report discussed the observations made during the survey, associated hazards and clearly recommended action points to improve the risk. From insurance point of view one critical aspect of the report is to mention a timeline for implementation of recommendations. High investment recommendations have been given lenient timelines of up to 3 months.

IGI risk engineer would be authorized to visit the Printing Company premises to track the progress at any point of time. This would also allow for valuable advisory and technical discussion to have the right systems in place at the right time.

A brief description of recommendations given to Printing Company is shared as below:

1. We recommend that immediate measures must be taken to install a pump-based fire hydrant system in closed loop at the factory premises. The fire pumps should be able to deliver a minimum of 500 GPM of water and delivery pressure of 100 Psi, as recommended by IAP. The pressure should be maintained by a jockey pump and switching-on of these fire pumps should be automatic. The fire pumps should be able to work in case of power outage.
2. Additionally, we recommend that hydrant points/ hose reels be made available inside the buildings especially the stores and multistory stitching building.
3. It is advised to extend the hydrant system to cover the chemical/ packaging material stores.
4. Maintenance of fire equipment is recommended. Faulty hose couplings should be rectified.
5. It is also recommended to increase the storage of fire water from 50,000 gallons to 100,000 gallons.
6. Fire drills should be conducted on a periodic basis to train the staff in the use of fire equipment so that there is no delay in firefighting in case of an emergency. Results of these drills must be recorded for future reference.
7. It should be ensured by store-keepers that there is no fluff/ dirt accumulation in fire doors to avoid any delay in case of emergency.
8. If capital cost justifies, we recommend converting the current manual single-proof fire doors to automatic double-proof fire doors.
9. It is recommended that automatic fire alarm system (addressable type) along with a closed network of suitable fire detectors should be installed at the factory.
10. Preferably a dedicated fire safety team may be arranged whose primary purpose should be to upkeep the firefighting systems while also conducting fire / evacuation drills periodically.
11. This team will be responsible for training people from other departments in use of firefighting equipment and following of proper protocols in case of emergency.
12. For effective use of fire extinguishers / hydrants, it is advised that selected people from all departments and security guards should be trained in firefighting operation.
13. Keeping in view the exceptional high fire-load, it is strongly recommended that stock height should be restricted to at least 2.5 ft. below the lowest point of ceiling and kept 1.5~2 ft. away from the walls and 3~4 ft. away from electrical appliances/fixtures at all places.
14. Furthermore, we recommend that gangways of at least 5 ft. width are maintained between individual stacks of the stocks such as polyester bales, packaging material and fabrics.
15. We recommend that a distance of at least 15-20 ft. is maintained between the wood stocks stored in the open and the nearby buildings.
16. It is recommended that all lights fitted in the fabric handling areas especially buffer stores in stitching/ cutting areas, polyester bales stores, printing screens stores etc. must be covered properly with shades to avoid fire risk.

17. It is recommended to dispose-off accumulated waste, e.g. in polyester bales receiving store, boiler house and near grey godown, at frequent intervals, at least twice a week and keep the accumulation at minimal level.
18. It is recommended to establish a written permit system for hot works like welding, cutting, grinding etc., cold works, work at height, excavation.
19. Permission should be obtained from the production manager, store-keeper etc. prior to the works with his signature on the permit along with the signature of the workshop manager.
20. This permit should detail the work to be carried out and the time that will be required to carry out the task. The filled permit would be hung at the site where work is to be carried out and after the work is done; it must be kept for future reference.
21. The site should be cleared of stocks/ machinery and barricaded. Furthermore, firefighting equipment should be on standby near the hot work site during the entire duration of work.
22. It was observed that doors between yarn store & finished store were closed but stocks in both the stores were placed very near to the doors. Stocks should be located at least 4 ft. distance from the door opening in all directions.
23. It is recommended that the chemical spill containment be made for each category of chemical.
24. It is recommended that drainage channel be provided for each category of chemical.
25. It is recommended that a security check post or security tower should be located at the back side of the newly erected Dyeing and finishing unit.

The Implementation:

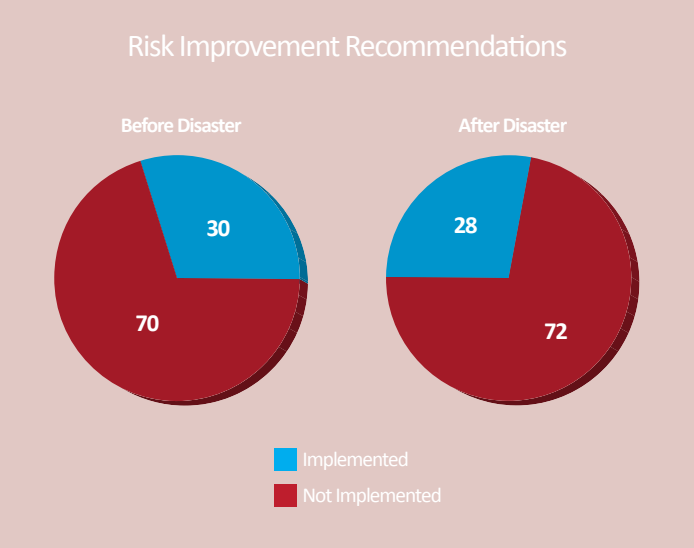
At the end of three months (due date for policy renewal), IGI found that most of the recommendations including high investment recommendations had been implemented.

Fire hydrant system according to IAP standards was installed. Centralized smoke detection system is installed. A fire safety team is developed, people from different departments are trained in firefighting. Regular drills are conducted to prepare staff in case of emergency situation. Stock keeping practices were improved. Practice of wood storage in open is abandoned. SOP related to waste disposal is architectured. Hot work permit system is implemented. Spill containments are made. A new security post is also constructed.

All these factors gave IGI the confidence to insure Dyeing and Finishing (Pvt.) Ltd. Following all the rigorous risk management efforts and close liaison with the insured; Dyeing and Finishing (Pvt.) Ltd today is a much safer occupancy. This is not only a contribution towards profitability of insurer and insured but also is significant in regards to human life safety.

Before and after Studies:

The effect of disaster on approach of Risk Management of a company can be understood completely. The same company which was not willing to even implement managerial control recommendations have now spent worth PKR 10-12 million on risk mitigation. A comparison of implementation of risk mitigation measures before and after disaster is shown below.



Conclusion:

Dyeing and Finishing (Pvt.) Ltd incurred a loss of PKR 100 million in that fire incident causing huge business interruption losses as well. After the fire, Dyeing and Finishing (Pvt.) Ltd invested PKR 10-12 million on its fire safety (fire hydrant system). If company would have opted this approach before disaster; the fire might never have occurred or the impact would have been less. Having a risk management plan is very important. Implementing it before disaster is always better than implementing it after disaster as it can be seen that same investment that would have been PKR 10-12 million is actually now PKR 110-112 million plus business interruption loss and market capture loss. As the loss was indemnified by IGI insurance; the impact on Dyeing and Finishing (Pvt.) Ltd was shared but ultimately it was a loss for the country. So in Risk Management we should opt for proactive approach rather than reactive approach.