NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE:HCM 435

COURSE TITLE:SECURITY AND LOSS PREVENTION MANAGEMENT

COURE GUIDE

COURSE : HCM 435

SECURITY AND LOSS PREVENTION MANAGEMENT (2 UNITS)

Course Leader: Dr. O. J. Onwe

Course Coordinator: Mrs. Caroline Aturu-Aghedo

Course Developer: Ayano D. A.

CONTENT

INTRODUCTION

Corporation have become larger and more complex and machines and industrial processes too complicated to be understood by those operating them. The link between a man's attitude to risk and his actions on one hand, and the physical and economic consequences to him on the other, is not now so clear to see. Not only are risk factors affected by an increasing number of variables outside the individual's control, but also the number of these variables has encouraged the emergence of specialists in all the different aspects of risk handling.

WHAT YOU WILL LEARN IN THE COURSE

During this course, you will be learning about:

1. **types, severity and frequency of risk**
2. **the systematic identification of risk**
3. **risk measurement**
4. **risk handling decisions**
5. **financing potential loss**
6. **the insurance mechanism**
7. **loss control**
8. **contingency planning**
9. **the protection of property**
10. **the protection of earnings**
11. **the protection of vital records**
12. **the threat of crime**
13. **helth and safety at work**
14. **environmental pollution**
15. **organization of risk management**

COURSE AIM AND OBJECTIVES

This course aims at:

16. **state types, severity and frequency of risk**
17. **analyze the systematic identification of risk**
18. **discuss risk measurement**
19. **explain risk handling decisions**
20. **enumerate financing potential loss**
21. **use the insurance mechanism**
22. **examine loss control**
23. **articulate contingency planning**
24. **appraise the protection of property**
25. **highlight the protection of earnings**
26. **provide the protection of vital records**
27. **identify the threat of crime**
28. **discuss health and safety at work**
29. **consider environmental pollution**
30. **discuss organization of risk management**

When all the above aims are considered, we can conclude that the major aim of the course is to expose you to various managing development in rural areas.

WORKING THROUGH THIS COURSE

For you to complete this course successfully, you are required to read the study units, reference books, and other resources that are related to the unit. Each unit of the course contains Tutor Marked Assignment.

The Tutor Marked Assignment (TMA) is to be done immediately and submitted to your tutorial lecturer/course facilitator for assessment.

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The medium to be used and the time to submit the TMA will be specified to you later. This course is a 2-credit course. As such you are expected to spend a minimum of two hours every week studying the course. You are expected to complete the entire course outline within a period of 18-25 weeks.

COURSE EVALUATION

As stated before every unit of this course has an assignment attached to it. You are required to keep an assignment file. After every unit the assignment should be done. At the end of the course, the evaluation shall be as follows:

Assignment – 30 %
Examination – 70%
Total =100%

Out of all the assignment you will do, each one shall be marked and converted to 3%. At the end of the best 10 shall be selected so as to make up to 30%. The examination at the end of the course shall cover all aspect of the course.

COURSE UNITS

In this course, we have discussed the topic of the course content titled Tourist Sites: products and operations under different topics. Based on this, the following units have been designed for the course.

UNIT	TITLE
4.0	**TYPES, SEVERITY AND FREQUENCY OF RISK**
5.0	**THE SYSTEMATIC IDENTIFICATION OF RISK**
6.0	**RISK MEASUREMENT**
7.0	**RISK HANDLING DECISIONS**
8.0	**FINANCING POTENTIAL LOSS**
9.0	**THE INSURANCE MECHANISM**
10.0	**LOSS CONTROL**
11.0	**CONTINGENCY PLANNING**
12.0	**THE PROTECTION OF PROPERTY**
13.0	**THE PROTECTION OF EARNINGS**
14.0	**THE PROTECTION OF VITAL RECORDS**
15.0	**THE THREAT OF CRIME**
16.0	**HELTH AND SAFETY AT WORK**
17.0	**ENVIRONMENTAL POLLUTION**
18.0	**ORGANISATION OF RISK MANAGEMENT**

These units must be treated sequentially; as a logical link exists in the arrangement. Every previous unit lays a foundation for subsequent ones. A maximum period of one week is required for every unit.

REFERENCE MATERIAL AND OTHER SOURCES

As was earlier mentioned, materials relevant to the course include not only the ones below but also others that you can lay your hand on. But for now, the following references are recommended.

1.Adams J. (1995), Risk. London: UCL Press

1. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

2. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

3. BMA (1994), Water: A vital Resource, London: British Medical Education.

4. Blunden J. And Reddish A. (eds.) (1991), Energy Resources and Environment. London: Bodder and Stoughton

5. Cerni, J. (1993), Urban environmental Pollution and child health in Houston USA: the link to economic growth in J holder, P. Lane et-al Perspectives on the environment. Aldershot : Avebury.

6. Cahill, M. (1994), The New Social Policy. Oxford: Blackwell.

7. Harper G. A. (1954), Motivation and personality. Prentice Hall New York

8. Flixborough: The Human Response. University of Bradford Disaster Research Unit occasional Paper No. 7, 1975

PRESENTATION SCHEDULE

Specific dates for particular activities, such as submission of assignment, tutorial schedules and examination dates shall be made available to you on a later date. This will enable you plan your activities in the same line. The method of submitting your assignment and receiving other course materials shall be agreed upon on a later date. You should endeavour not to be falling behind the schedule whenever it is given.

CONCLUSION

By the time you exhaust this course, you will find it useful to safeguard yourself and your organization from experiencing any loss and secure personal and organizational properties.

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(2 UNITS)

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UNIT ONE: TYPES, SEVERITY AND FREQUENCY OF RISK

1.0 Introduction

Risk expresses itself in a company in financial terms: in the variability or potential variability in its assets, earnings, cash flow or in the services it exists to supply. The following are some of the wide range of uncertainties, which threaten a business. As will be seen, the possibility of loss is not limited to the obvious direct consequences, nor need the results of these risks necessarily adverse.

2.0 Objectives:

At the end of this unit students will be able to:

- Understand various types of loss experience in organisation
- Examine severity of risks
- Analyze the frequency of risks

3.0 Main Content:

3.1 Types of Risks in Organisation

According to Harper (1954), risk expresses itself in a company in financial terms: in the variability or potential variability in its assets, earnings, cash flow or in the services it exists to supply. The following are some of the widely range of uncertainties which threaten a business. As will be seen, the possibility of loss is not limited to the obvious direct consequences, nor need the results of these risks necessarily be wholly adverse.

Natural perils

Damage by fire, windstorm, flood or other natural catastrophe is probably the most immediately apparent threat to a company's materials properly, just as the interruption that result is the chief threat to its earnings, to increased prices for surviving stocks and for those produced when operations are resumed, and therefore to an increase in earnings.

Loss of personnel

Death or injury to employees may involve the obvious direct costs of compensation for the injury, or insurance premiums to transfer that cost, time lost at the time an accident occurs, and possibly fines for breaches of legislation. There will, however, be indirect costs as well – the time that has to be spent in investigating that accident and in compiling the necessary reports and attending any subsequent legal proceedings, the losses of production which stem from any property damage associate with the accident, the time spent by staff who may not have been directly involved in discussing the accident, and any industrial relations problems that the apparent lack of safety may causes. The there is the cost of recruiting or training someone else to carry out the injured employee's task. This could be considerable where special skills or knowledge are involved. Loss of a key employee's, for example in a research-based company, could have a disastrous effect on the business.

Labour risk/loss

Even in the absence of accidents, employment involves risks for a company. The availability of suitable labour may be fundamental to its success. Vulnerability to the effects of staff dissatisfaction may also be crucial and if measures are introduced which might increase to be gained from the measures measure against the possibility of a lengthy withdrawal of labour or co-operation.

Liability risk/loss

Every business faces the possibility that a single event could involve it in crippling liabilities to third parties. For many companies these days, particularly those supplying products to the USA, this is one of the chief threats to be faced. The risk of liability is, in any event, worse for being capricious. It bears no relation to the size of the company, or the value of what it owns, and once the chain of events that leads to be liability begins, it is it is largely fortuitous whether the loss results will be trivial or serious.

The time scan of liability risks is increasing all the time. Limitation periods have become much less rigidly enforced and liability may now be incurred as a result of circumstances which happened many years ago, and even where the

possibility of injury or damage was unsuspected or discounted at that time. The effect of long-standing liabilities on asbestos firm in recent years has provided a dramatic example.

Technical risk/loss

The industrial scene is rapidly being transformed from one where change happened at a pace which gave time for adjustment to it, time to adapt methods of action and thought to it and time to handle it, to one where change occurs at a pace which makes ordered and adequate preparation for it much more difficult. The time span between a research discovery being made and its incorporation into standard technology is shortening all the time, and there is an increasing risk that the performance targets set for a new plant may not, or even cannot, be attained. The introduction of a new process carries risks, which could have either positive or negative results. It could produce all the benefits expected from it. On the other hand, if it were late coming on stream, or if full-scale production threw up unexpected problems, the result might be a serious loss.

Marketing risk/loss

The lunch of any new product involves the risk that, however well the market has been researched, customer may reject it. The proportion of new products, which survive to gain a significant market share, is very small. Even if it becomes established, there is always the possibility that a change in needs, attitudes, taste or fashion may render it obsolete. Equally, fashion may revive an apparently superseded product, as the vogue for blue jeans did for non-fast indigo dyes.

Political and social risk/loss

Until recent years, political risk could be defined as the risk of nationalization, sequestration or other government intervention, but it is now used to include acts of terrorism and political motivated hi-jacking and kidnapping. Political action need not, however, be as extreme as that to introduced variability into a company's fortunes. The introduction or abolition of grants or local incentives industry may have either a favorable or an adverse effect on its business, as

adverse effect on its business, as may changes in legislation affecting its production method, its products or its customers. Such changes may reflect a development in general public opinion or be the result of a campaign by a sectional pressure group which may be able to influence the way a company's business is carried on, even in advanced of legislation. Such non-governmental influences constitute social risk, which often resemble and are intertwined with, political risk proper.

Environment risk/loss

The risk of harming the world about it and those who live there has bees a steadily increasing one for industry over the past century. The constraints upon permissible contamination of air, water and land are becoming more severe all time, and is a particular form of social risk which is arousing special public concern, as the arguments of the already strong environmental lobby find popular support in the wake of disasters.

3.2 **THE SEVERITY AND FREQUENCY OF RISK**

According to Flixborough (1975), it is possible to divide losses into four types, with differing characteristics of frequency, severity and predictability, as shown in Fig. 3.2

Type of loss	Frequency	Severity	Predictability
Trivial	Very high	Very low	Very high
Small	High	Low	Reasonable within 1 year
Medium	Low	Medium	Reasonable within say 10 year
Large	Very low	High	Minimal

Fig 3.2 Loss characteristics

Trivial losses are to be expected in any organization and can be met from normal operating budgets without inconvenience. Some loss prevention may be possible, but it may be uneconomic except for those type of risk which are normally acceptable, but which might have much more serious effects if circumstances were to change slightly.

Small losses, too, present little problem, unless their frequency becomes so high that their aggregate effect approaches that of a single medium loss. Fortunately, small losses can often be reduced by fairly simple loss control measures. Distribution of these losses over the year may vary in response to external factors; a bad spell of winter weather will increase accidental damage to motor vehicles, for example, and this may occur before Christmas in one year and after in another, while it may be absent altogether in some years. There will thus be some fluctuation, but it will usually be possible to make a reasonable accruable prediction of the probable overall cost.

The medium losses would not cause the business serious concern if they happened at regular intervals, for then their cost could be expressed as an annual amount and provision made for it. But this is not the case and predictability is the variable, which causes concern, because one can never tell whether this is the year in which such a loss will happen and if so how many medium losses there will be. In the longer term predictability is responsible good but because of the period that must elapse before this is achieved; a business is likely to need short-term help in dealing with this type of loss.

The large loss presents the most serious problems. A loss this kind happens very rarely, but if it did occur, it could be catastrophic for the business. The difficulty arises from the fact that no one can foretell when such a loss will occur, or even if it will occur at all. It is in solving the problem of the large loss that insurance has its justification for large organization today.

The relative frequency of losses in these four classes can be shown as a pyramid (Fig. 3.2). The distribution this illustrates holds good both:

a. Geographically, for losses occurring at one location or in one company or industry over a relatively short period; or

b. Chronologically, for all losses over an extended period.

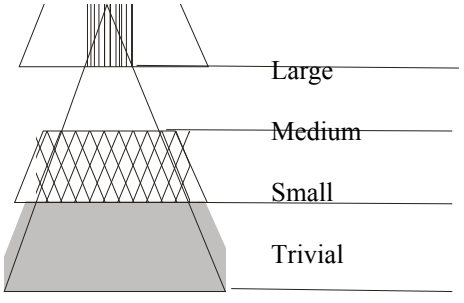
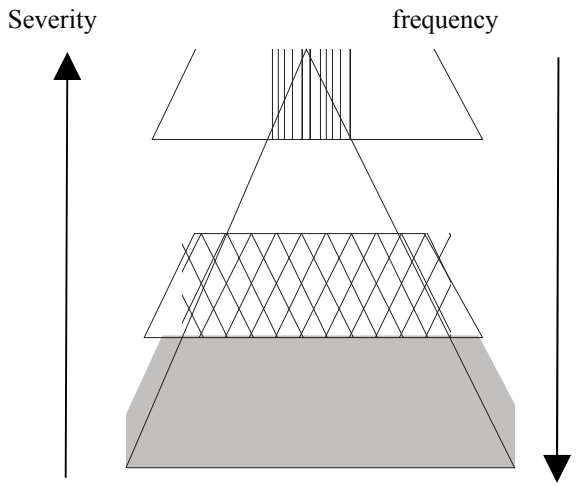


Fig. 3.2 Relating frequency of losses

Applying the characteristic set out in Fig.3.1 to this distribution, it can be seen that frequency and severity of loss are inversely proportional, so that, as the one rises, the other falls (Fig. 3.3).

Insurance rating

Although an individual may need insurance protection against all but the very smallest losses, companies have higher threshold of retainable loss.



And one might expect insurers to concentrate on offering them cover against more severe risks only. Insurers wider spread of loss statistics should enable them to forecast the occurrence of such losses more accurately than a company relying on the limited statistic at its disposal could do, and they would be spared the administrative expense of setting the many small claims.

This, after all, is how insurers themselves buy insurers. They retain the small losses which present no threat to their finance statistics and but reinsurance for the more serious risks. They have historically, however, been reluctant to sell insurance in this way, preferring to issue politics, which includes cover against, small, and sometimes even trivial. Risks as well as against the large ones for which protection is really needed. “Excesses” or “deductibles”, by which the insured bears the cost of smaller risks, have often been rewarded with smaller premium reductions than they deserve.

The essence of insurance from the buyer’s point of vies is that it substitutes a small certain loss (the Premium) for an uncertain and possibly much large loss. It thus provides at least a partial solution to the problem of uncertainty. It does this, however, in a very crude way and if the buyer is to be sure that the insurance solution is the best in economic terms, he must be certain that the insurance is exactly tailored to his needs, in terms of both of insured values and of the types of loss covered. He must also set up a monitoring system to make sure that he is kept informed of new and changing values at risk, and also to see that the operating activities of his company are such that the police conditions are complied with. It need hardly be that this is very difficult task.

The rating mechanisms used by insurers are very impressed, and are of only limited help in assessing the true possibility of loss. There are two basic methods – class rating and experience rating – which are used for most types of insurance. Class rating applies the total loss experience to the total sums exposed in a group of similar risk to produce an average loss ratio, which, after addition of the insurer’s expenses, profit element and other corrections, becomes the class rate. Experience rating departs from the original concept of insurance as a device for paying the losses of the few from the contributions of the many, by considering the record of the individual insured only future premiums are calculated from the past actual losses with the addition of expenses, profit and other corrections. This form of rating is applied to such insurances as those of large motor vehicle fleets, and most reinsurance treaties are, at least in part, experience – rate.

Neither of these methods of rating is wholly objective, because there must always be an element of individual judgment in deciding the extent to which the past is to be taken as a guide to future experience. The optimism or pessimism of the underwrite, or any bias in his judgment, may lead to rates which are higher or lower than the risk in fact warrants. The fluctuation in market capacity for industrial and commercial insurance also has a cyclical effect upon rating. When there are many insurers interested in covering a particular class of risk, over-supply may drive rates may shoot up until they are far too high in objective terms. Recent years have shown such a cycle in operation. High interest rates encouraged new entries into the reinsurance market because of the availability of premiums for investment. The supply of reinsurance was further increased by the trend for large industrial and commercial companies to form ‘captive’ insurance subsidiaries which often transaction reinsurance. Increasing supply drove reinsurance rates down, thus reducing the need for direct insurers to undesirable so selectively, since it was easy for them to pass the undesirable portion of the risks they accepted on to the on to the reinsurance market.

Direct insures themselves were inclined to put the emphasis on obtaining premium income to invest. Premium rates tumbled and restrictive conditions on policies were eased as insurers fought to retain their market shares. This had its consequences for risk management, as risk managers found insurance being offered at rates which could only lead to an underwriting loss for the insurer. The exercise of purchasing skills in the insurance market thus became economically more effective in the short term than the application of all the skills of risk management.

Inevitably, there came a change. Interest rates fell, the claims, although slower to arrive than the premiums, at last began to reach the reinsures and many of the new entrants to the market found out of, the business. Reduced reinsurance capacity and the realization that investment profits would no longer cancel out underwriting losses forced direct insurers back to prudent underwriting and to charging premiums, which reflected the risk. Rates thus began to rise sharply, making proper Security and Loss Prevention Management once again a priority

for the insured, to counter the tendency by insurers to apply an over-correction and to set rates which were, objective, too high.

4.0 Conclusion

Conclusively, we can see that there exist different types of loss/risk in organisation among which are technical loss, marketing loss, liability loss, labour loss and so on. Also, there are frequency and severity at which this forms of risk can operate. Thus this unit successfully discussed trivial, small, medium, and large forms of loss in an organisation. It is therefore important for any manager in any organisation t watch out for the various types of loss/risks and evaluate the likely frequency and severity of such a loss.

5.0 Summary

In the course of this discussion we were able to mentioned various types of loss/risks namely natural perils, personnel/labour loss, liability loss, marketing loss, technical loss, and political loss /risks as well as frequency and severity of the foregoing mentioned loss/risk which could fall among the following forms viz: trivial, small, medium, and large.

6.0 Reference

1. Flixborough F. O. (1975), University of Bradford Disaster Research Unit Occasional Paper No. 7, 1995.

2. Harper G. A. (1994), Motivation and personality. Prentice Hall, New York.

7.0 Tutor Marked Assignment

1. Briefly discuss the following types of loss/risk?
   i. Technical loss/risk
   ii. Liability loss/risk
   iii. Marketing loss/ risk
   iv. Labour loss/risk

2. What do you understand by insurance rating in loss management?

UNIT TWO
THE SYSTEMATIC IDENTIFICATION OF RISK

1.0 INTRODUCTION

It is self–evident that no orderly plan for the treatment of risks can be put into effect until it is known exactly what the risks are. The need for identification will, however, vary according to the particular part of the Security and Loss Prevention Management process that is the main concern of the person doing the identification.

Those concerned with the practical aspects of loss control will, for example, need to identify detail the risks presented by particular locations, processes or machines if they are to design or install suitable preventive devices. Those whose concern is the financing of risk, particularly by insurance, will however, tend to identify risks in much broader categories, because their concern is to establish boundaries of cover for classes of risk, whether they have been identified in detail or not. Both sides have developed a wide range of tools and methods to suit their own purposes, but in each case the approach is too limited for adaptation to the needs of an overall Security and Loss Prevention Management investigation.

2.0 Objectives:

At the end of this unit students will be able to:

- Understand Component of Risks
- Evaluate risk and everyday experience
- Plan charting risk
- Use check list

3.0 Main Content:

3.1 Components of risk

Any risk is made up of four components, which we may classify as:

31. Threats: the broad range of forces which could produce an adverse result;
32. Resources: the assets, people or earnings which could be affected by the threats i.e. the things on which the operation depends for continuity.
33. Modifying factors: Those particular features, internal or external to the resources, which tend to increase or reduce the probability of the threat becoming a reality, or the severity of the consequences if it does;
34. Consequences: the manner in which or the extent to which, the threat manifests its effects upon the resources.

In their consideration of risk, insurance people concentrate on consequences. They tend to think or risks in terms such as material damage risks, personal accident risks, liability risks, interruption risks etc. classifying them according to the effect produced. Classification of this kind is, however, of limited use in seeking to identify threats if the aim is to prevent them producing the consequences.
Because of their much-detailed approach, those concerned with loss control tend to limit their enquiry to specific types of threat. Their specialization may effectively narrow their perception of risk, so that the only threat that are considered are those to which they already have an answer. Threats which are more remote may easily fall within the gaps between specializations, and thus not be identified at all, if he approach is from loss control. Where, however, there is good liaison between the areas of specialization, loss control can be the basis of a very efficient system of risk management. The example of the US space programme comes immediately to mind.

Commercial enterprises, however, can neither afford expenditure comparable with that of a space programme, nor are their operations generally surrounded by the dramatic dangers of the unknown. What they need is an overall approach which will provide guidelines to the sequence in which the identification programme should be carried out and also prompt enquiry about risk which might otherwise be overlooked. It must ensure that the search ranges over all the possibilities, or at least that all the possibilities are acknowledged. Essentially it must focus the mind on what it is really looking for – risk in all its guises. The jargon of specialists and the plethora of definitions of risk can lead to confusion, because one man's exact definition or risk, for his particular purposes, may well exclude whole areas of what another man calls risk. The definition of risk used by a mathematician in calculating probabilities in different from that which is appropriate for a person concerned with the need to reduce damage.

3.2 Risk and everyday experience

Most people would find the accepted definitions of risk and uncertainty incomprehensible, but everyone has the capacity to identify risk. A mother seeing her child about to step off the pavement of a busy road doesn't think to herself: "Here is a situation involving the chance of variability from the expected outcome." She simply thinks: "He may be run over."
This same example, however, shows the limitations of intuitive identification of risk. The obvious risk has been identified immediately but there are countless other threats to the child's safety which it is most unlikely the mother would ever consider. The wall alongside the pavement might collapse on him, some toxic or corrosive material might suddenly escape from that tanker which appears to be passing at a safe distance, there might be an earthquake, or the child might be struck by something falling from an aircraft high overhead. The list of possibilities can be extended as long as you like.

In practice, as far as personal risks are concerned, most people take some steps to manage the obvious risks, but tend to assume that the more remote have a zero probability. This contrasts with the common attitude to chances of gain. Most people filling in a football pools coupon do so because they feel they have an outside chance of winning a fortune, yet most of them at the same time will regard their chances of being the victim of a statistically much more probable accident as too remote to be contemplated.

3.3 Charting risk

Clearly this concentration on the obvious risk and rejection of the more remote is not good enough for an ordered programme of risk management, but even the fullest programme must begin with the obvious risks and work outwards from them. To begin with, the search for risk must be reduced to its simplest terms and the single question that must be asked is: “What can go wrong?” The field of enquiry implied by that question is a wide one, and if from that field we taken a simple, but broad concept, that of threats to operations, we can begin to analyze the risk in a logical way in terms of the four components of risk listed above.

Under each of the headings, “Threats”, “Resources”, “Modifying factors”, and “Consequences”, one can se down as full a range of possibilities as one requires. Under “Threats”, for example, such things as fire, pollution, breakage, etc., may be listed; under “Resources”, all the men, materials, plant, etc., that the operation depends on; under “Modifying factors”, “Consequences”, the way in which the resources will be affected, in terms of damage, injury, liability, interruption, etc.

Once the columns have been completed it is possible to arrange the various items in the different columns alongside one another and consider how they interrelate. One can consider the resources in turn and relate each threat to them, or one can start with each threat and consider which of the resources come within its range and which of the modifying factors increase or decrease the risk. Alternatively, one can start from the other end and look at each of the consequences in turn, considering which of the resources are subject to threats would be necessary to produce those particular consequences in each case.

This method is capable of producing either very broad or very detailed pictures or risk, according to what is needed, but it has to be based upon an on – the – spot examination of operations. It is possible to sit at a desk and draw up a theoretical risk picture based on supposition and generalization about up a theoretical risk picture based on supposition and generalization about an industry, but this will be a very inaccurate guide to the risks which threaten a particular business. In risk identification, there is no substitute for going out to see what is done, how it is done, where it is done, by whom it is done and what is used to do it, or for asking questions of the people involved in the day – to – day operations, who are often the only people who know what goes on in fact, as distinct from what is presumed to go on.

They may, however, have no incentive or channel to pass on their awareness of risk to someone with the authority to have something done about it. Only by going to see for himself can the risk manager gauge the extent to which departures from standard procedures are authorized or condoned, or how temporary arrangements (and temporary arrangements can easily become permanent) can affect normal operations.
Using this first – hand knowledge of the operations, the listing of the different components or risk provides a very useful and adaptable tool. Under “resources”, for example, one might consider a building as a whole, or break it down into its component floors, sections, or process areas. A project might be considered as a whole from the initial idea to machine might be thought of as forming part of all the plant and machinery in a factory or as a single item, or again as a combination of many different components and the threats to each component analyzed.

This technique is therefore useful both to the insurance man, thinking in terms of consequences and broad categories, and to the loss prevention engineer, thinking of particular threats in extreme detail. Through it, each can obtain a fuller risk picture and one which does not have the limitations of his speciality built into it. It can ensure that all the risk factors are identified, although the degree of detail about each factor will vary for each person in the Security and Loss Prevention Managementprocess and will depend upon how much detail he needs to carry out his particular risk treatment function.
In practical risk management, it will not be found necessary to set down all the listings under the various headings on paper, unless this method of charting risks is adopted as a formal record. Provided the various factors are borne in mind as the location is visited, or the project is discussed in detail, the key risks can be identified without difficulty. In order to go through the possible range of threats systematically some form of check list will probably be found useful.

3.4 Checklists

Many forms of classification have been suggested as the basis of useful check lists, so there is no lack of choice. The soundest plan is to adopt those lists which appear to be most relevant to the business under consideration to use them and to modify them from experience until they become second nature. Above all, one should never fall into the trap of thinking that one has finally arrived at the definitive checklist. However neatly it has been adapted, it will always be capable of further adaptation. The following are some of the approach which might be used.

Categorize of “Resources”

This would list the various types of buildings, plant, materials, products and other property owned, or the property of others for which the business is responsible, or with which it may be involved. People, both employees and non – employees, involved in or affected by the business would also be included. Using this check

list it will be possible to spot the threats which exist to each of these categories and the consequences which would follow from the operation of each particular threat.

Categories of "Consequences"
Here one would list the various situations of disadvantage in which a business might find itself: loss of or damage to assets, loss of income, liabilities incurred, interruption of operations, etc. Using these as a starting point, one can look to see whether each of the resources one is considering could be affected by such a consequence and which threat would be necessary to produce it.

Categories of "Threat"
This would begin with the broad classifications of types of threat: natural forces, human error, deliberate damage, progressive deterioration. The inclusion of the last category is important, as it is all too easy to think only of external or suddenly operating threats and to overlook the fact that operations can be interrupted just as severely because a piece of equipment is worn out or because it, or an organizational process, has ceased to operate as efficiently as it should. These broad categories of threat can be broken down to include the specific threats which might endanger the resources that one is considering and from this the likely consequences can be projected.

Other possible check lists follow a chain of events, in order to identify the risks associated with each stage. Among these are the following.

Flow charts
Constructing diagrams to show the flow of materials, services and information within a company, a department, a building or a process and be very helpful in identifying potential vulnerabilities. Significant concentrations of resources and possible production bottlenecks are often made more apparent by schematic representation. The dependence of different parts of the operation on one another can also be revealed.
The diagrams should preferably be annotated with the values at risk at each stage of the operation, since the point of maximum concentration of materials may not necessarily represent the organization's maximum potential exposure to loss.

Energy chain
The chain of events followed may be expressed in more fundamental terms than would usually be found in a flow chart. For example, any operation can be thought of as involving a redistribution of energy, and it would be possible to construct a check list which considered the build up and release of energy in the operation, how each could go wrong, what might be affected in consequence, and what the result would be for the company.
Other check lists can be compiled from existing information sources within the organization and outside.

Written sources

The emphasis here is on identifying potential "consequences", which can then be related back to the resources which would be involved and the threats which would produce the consequences. Such a check list would include the various types of record available within a company, such as:

(a) financial and accounting records;
(b) fixed assets registers;
(c) maps, plan, photographs and descriptions of premises, plants and processes, etc;
(d) loss records – statistical and financial and descriptions of particular incidents;
(e) procedural manuals;
(f) contracts and leases;
(g) conditions of sale and purchase;
(h) promotional material describing the organization;
(i) insurance policies – for example, a study of the exclusions from a liability policy may suggest threats which might otherwise be overlooked;
(j) competitors literature;
(k) trade journals and other published information about the industry;
(l) the wide variety of other records available

Responsibilities within the organization

This form of check list follows the organization chart of the company and by listing the responsibilities of each official, helps to identify the threats to the smooth running of his particular part of the organization, the resources under his control and the consequences which it is his responsibility to avoid or to put right.
Check lists can play a useful part in prompting the sort of questions that must be asked in identifying risk, but they must never be looked upon as giving all the possible variations on the question "what happens if …?", which can useful be asked. Above all, it is important not to use a single check list on its own. The possibility of a major omission will be greatly reduced if it is cross checked by use of another check list which uses a different starting point. It must be emphasized again, however, that check lists and other desk research must be supplemented, wherever possible, by site visits.

Using the risk chart

The formal statement of "Threats", "Resources", "Modifying factors" and "Consequences" can perform two useful functions once a Security and Loss Prevention Managementprogramme has been instituted.
First, it provides a convenient means of recording information on which that plan has been based, so that it may be up dated from time to time by local management. If they are required to study the chart and set out, in the same form, any changes in circumstances which have taken place since the chart was drawn up, the information is more likely to be accurate and complete, because a

logical framework for it will have been provided in a form which will be readily understood.
Secondly, the chart can be used as an effective training aid for management, since it can quickly demonstrate the many sided nature of risk, the multiplicity of risks which can surround and single operation and the variety of ways in which those risks can be reduced or controlled. In using it for this purpose, however, care should always be taken to avoid giving the impression that it is the job of line management to identify risk only, and for the risk manager, or any other single person, to do something about it. Identification is only a preliminary to risk control, which management, if it is to be effective, must be seen to be part of management and not as a form of magic practiced by remote control by one particular official.

34.0 Conclusion

In conclusion, it is expedient for every risk/loss manager to show understanding various component of risks and know how to formulate plan towards charting risks/loss and make use of checklist effectively and efficiently to reduce loss in organisation.

5.0 Summary

In course of our discussion we were able to state various component of Risks, evaluate risk and everyday experience, narrate Plan charting risk, shown how to make use of check list

6.0 Reference

1. Flixborough F. O. (1975), University of Bradford Disaster Research Unit Occasional Paper No. 7, 1995.

2. Harper G. A. (1994), Motivation and personality. Prentice Hall, New York.

7.0 Tutor Marked Assignment

1. Discuss various components of risk/loss?
2. State and explain various categories of checklist?

UNIT THREE
RISK MEASUREMENT

1.0 Introduction

Hand in hand with the identification process goes that of risk measurement. One cannot pose the question, “What happens if…?, without prompting the further questions: “How serious would it be?” and “How likely is it to happen?” Risk has thus to be measured in two dimensions – those of potential severity and probability. Severity is the easier of the two to estimate in most cases, but neither can ever be more than estimates, because both involve looking into the future. The only guide to the future is what has happened in the past, as modified by factors observable in the present or which may develop later. The information on which measurement is based will therefore also be incomplete, but this should not be used as an excuse for not trying to make the best possible estimate.

Fortunately, some help can be derived from the relationship between severity and frequency Once an approximate value has been obtained for the potential severity of a risk, it is possible to make an assumption about its probability. As we have seen, the greater the severity, the smaller the probability is likely to be. This is not, of course an absolute rule, for there may well be risks where loss prevention is so bad that a major loss is more likely to happen than not, but through risk identification should reveal anomalies of this kind.

2.0 Objectives:

At the end of this unit students will be able to:

- understand measuring severity
- examine measurement of each type risk

3.0 Main Content:

3.1 Measuring severity

So far, risk has only been classified as “large”, “medium”, “small” or “trivial”, but these terms are not exact enough to be useful in practical risk management. First, it must be recognized that each of these will represent a different level of risk for organizations of different sizes. What is a trivial risk to a multinational concern may be a major one to a corner shop.

Secondly, the aim of risk measurement is to locate the risk on the pyramid of severity, so that it is possible to make decisions about whether the risk is an acceptable one and, if not, what action can be taken to avoid, transfer or reduce it. For each company, the boundaries between each category of risk will be set at specific financial levels, in order that the more accurately its severity can be measured, the more certain one can be about the category into which the risk falls. Similarly, accurate measurement of the severity after risk reduction

measures have been applied will reveal whether or not the object of pushing the risk down into a lower category has been achieved.

Thirdly, the case for Security and Loss Prevention Management expenditure, as for any other in business, must be argued in financial terms. To talk of a “large” risk is insufficient, because the term is vague and subjective, and to do so deserves to be met with the question: “How large, exactly?”
The measurement of severity for Security and Loss Prevention Management purposes should not be confused with the exercise of fixing values for insurance purposes. That is done within the context of the cover provided by the policy, and what is uninsurable must be omitted. Many indirect costs will not therefore be included in the insurance calculation, but they form part of the loss, which the organization would have to face if the risk produced its effects, and thus cannot be omitted from the risk measurement calculation.

Sums insured in property insurance are based on the replacement cost. For Security and Loss Prevention Management purposes, the cost that has to be assessed is not only that of replacing the damaged property, but also that of all the time and materials which are lost and all the expenses which will be incurred in overcoming the interruption to the flow of earnings caused by the loss. Fo27 insurance purposes, one can think separately of material damage and consequential loss. For risk measurement purposes, one must combine these and include costs which neither policy would cover.

3.2 Measuring Risk Types

Risks to property
For property such as raw materials, work in progress, finished stock and cash, measuring the probable cost of loss will not be too difficult, because replacement, which involves a readily ascertainable cost, will usually be the most efficient posy – loss strategy. The total cost will then be the cost of replacement plus the cost of any delay in obtaining replacements.
With capital assets, the problem is more difficult because, in order to know what the loss would be, one needs to know what the company would do if it were suddenly deprived of their use. Unless this has been considered in advance, one has to assume that the asset would be replaced, but this might not be the quickest or the most effective way of getting back to full profitability. The opportunity might be taken to make some operational changes which would improve efficiency.
If, for example, a soft drink firm lost its bottling plant for a popular drink, which sold in large quantities, but with a low profit margin, it might have a number of options. It could simply replace the line, it could have the bottling done by another firm on contract, it could cease to do the bottling itself, but set up a franchise arrangement with a number of local bottlers around the country, or it could phase the product out and replace it with, say, a vitamin-rich drink with a healthy image which offered a much higher rate of return.

From the Security and Loss Prevention Management point of view, the cost of the risk of losing the bottling plant would differ according to which of these options were chosen. Although the loss in replacement terms might be a major risk for the company, the opportunities it would give might be such that a true Security and Loss Prevention Management assessment would rate it a minor risk. Contingency planning for major losses is thus essential for good risk measurement.
In considering losses of property, one cannot look at particular items in isolation. One must always consider what else might be lost or damaged at the same time. It is not enough to know, for instance, that an explosion would cause considerable damage. It will be necessary to know, for Security and Loss Prevention Management purposes, just how much damage is to be expected, what will be affected, and how much of that would belong to the company and how much to others. It is possible to calculate the over pressures which could be generated by an explosion at any of the probable locations in and around the site, and how far the effects could be expected to spread. By plotting the various, over pressure zones on a plan of the area, it is possible to estimate the extent of damage that would be caused and, based on the type of property involved, the likely maximum cost.

Comparable techniques can be devised for a whole range of threats, and using them can save a company from being in the embarrassing bad." On the other hand, accurate measurement may show that the effects of a threat have been over estimated, and that what was intuitively thought of as a catastrophic risk was in fact one, which, although still serious, was capable of management, by the company.

Risks to employees
In addition to the cost of compensation, or of premiums paid to insure against it, injuries to employees will involve many indirect costs, which must be taken into account when measuring the risk. There often will be a considerable amount of time lost at the time of the accident and, subsequently, while the circumstances are reported and investigated, and when criminal or civil proceedings arise. Although production may continue during these events, some employees, particularly members of management, are bound to be diverted from their normal activities, and this cannot be done without incurring a cost.

The accident may lower morale and productivity in the company, or it may induce a tendency to over – caution among employees in the short term. If an accident reveals serious safety shortcomings, strikes or restricted working may be among the costs of the accident. Whether or not the employer was to blame for the occurrence of the accident, the injured employee will have to be replaced, either temporarily or permanently. This may mean reorganizing the duties of other employees, or recruiting and training a replacement, all of which will involve costs. If it is a key employee whose services have been lost, finding a

replacement may be very expensive, and there may be a substantial loss of business in the meantime.

Senior management is not exempt from injury. More than one company has suffered considerable financial loss because several members of its board have been killed while traveling together. In a small company or partnership, the lot of goodwill or of the entrepreneurial drive could mean the end of the business.
These indirect costs are very difficult to quantify, but awareness of their existence will enable a contingency amount to be added to the foreseeable direct costs. It may also help in the identification of particularly high risks, and give clues to suitable loss reduction measures.

Interruption risks
Here the important questions to be asked concern the nature and purpose of the organization – does it exist to make a profit or is its main aim the continued supply of a service? How important is it to the organization to get back to normal quickly?
At one extreme will be the organization which provides a vital service a specialized hospital, say, or a water authority, where it is essential to restore the service as quickly as possible, even at an “uneconomic” cost. At the other extreme is a company which, because of the lack of alternative suppliers or because of the nature of its contracts for supply, can suspend operations until the effects of the loss event have been rectified and then restart operations without serious financial penalty.
Most organizations will be somewhere between these extremes. They will need to estimate the additional expenditure they would have to incur for temporary resources or alternative method of operation (which again will be simpler if a proper contingency planning exercise has been carried out), plus the net loss of income attributable to the loss during and after the period of interruption.

Financial risks
In the field of pure risks, the most important are likely to be the risks of theft or fraud and credit risks. In measuring exposure to the risk of dishonesty, one must try to estimate the maximum amount that any person, or group of persons acting in collusion, could steal before being detected. Large cash losses may attract most attention, but it should not be forgotten that a long – running stock fraud may be more costly than a spectacular robbery.
Computer fraud has come into prominent in recent years, although there is rarely anything new in the nature of the frauds perpetrated. The use of the computer system, not only to commit the theft, but also to conceal it, can make detection much more difficult, and so it is wise to be pessimistic when estimating the amount which possibly might be stolen in this way. If one is looking at the past as a guide to the future in measuring this type of risk, one should always remember that the really successful frauds are the undetected ones which do not appear in the records.

In measuring credit risks, one at least has a maximum figure to work from, which will be the maximum amount owed to the organization at any one time. To this must be added the value of any stock made to the special order of particular clients which would be awaiting delivery, and for which there would be no other ready market. Given that maximum figure, it will be a matter of judgement as to what percentage of it represents the true extent of the risk.

Risks of liability

Liability risks present the greatest difficulty in being measured because liability is not a constant, but is modified as the attitudes of society change. There has been a rapid increase in the extent of liabilities, particularly those of manufacturers and the professions and there may be many years' interval between the action which gives rise to a liability and the notification of a claim.

Another problem is that each liability has a unique cost, which is, in the last resort, dependent upon the opinion of the court that hears the case. Added to this will be any consequent costs of investigating and administering the claim, and those of making any changes in operational methods or products which may be necessary to avoid a repetition of the event giving rise to liability. The latter will be the amount in the sum over which there will be the greatest degree of doubt.

By keeping oneself informed of trends in liability and of the amounts currently being awarded by courts in the areas in which the company trades, and by making the best assumptions possible about the number of persons who might be injured and the type and amount of property which might be damaged, it should be feasible to make a broad estimate of the extent of liability. Since transfer by insurance in normally the preferred method of handling liability risk, this will help in deciding suitable policy limits. The consequential loss to the company cannot, however be insured and this potentially disastrous risk must never be left out of the calculation.

Aggregation of risk

Risks have so far been treated in this chapter as if their effects were felt separately. In reality, of course, a single incident can give rise to damage to property, injury to employees and liabilities to others. It is necessary, therefore, to analyze potential loss producing events and to find the aggregate of all the costs which may flow from them, remembering that the ultimate cost may be out of all proportion to the apparent severity of the initiating cause. It will never be possible to predict such a total cost with complete accuracy, and the best procedure is to calculate a range of potential severities. The worst case must not be omitted, but one should not become hypnotized by it. It should be balanced by a prediction which represents the most favourable case, and one between the two extremes which constitutes the best guess of the likely cost. All these predictions must, of course, be updated as circumstances change.

It also should never be forgotten that the occurrence of pure risks is likely to be random and that the unpredictability will increase with the severity of the risk. There may be, say, one chance in five hundred of a large fire loss in any one year, but there could still be two in two years or even two in one month. The

measurements discussed so far in this chapter many such losses the company could stand in one year, and its spread of risk, before deciding what position on the pyramid of severity to allot to the risk in question, and taking the appropriate action to reduce it.

Measuring probability

The only evidence on which estimations of the probability of future events can be made is what has happened in the past, therefore the more relevant data of past losses that is available for analysis, the more confident one can be about the probability of future events. That is not to say that history will repeat itself. No entirely accurate assessment of probability can be made except in retrospect, when the probability will always be seen to have been either 0 (it did not happen) or 1 (it happened). Absolute certainty that a future event will happen is impossible and it is difficult to allot a zero probability to any event that does not contravene natural laws. Estimating probabilities, therefore, means allotting a value between 0 and 1 to the event under consideration.

Some knowledge of the science of probability and probability distribution is thus of great value to the risk manager. It should be a matter of concern that so little use is made of it in Security and Loss Prevention Management practice. The depth of knowledge required is not great and is available in simple textbooks of statistics for business, but there is reluctance among risk managers to accept that numeracy is part of their required qualities. Fortunately, it is not necessary to be able to construct and test distributors or to understand the formulae involved to make some use of probability theory. Obviously, the better the risk manager's own knowledge of the subject, the greater can be its contribution to his decisions. Many risk managers could, however, improve their risk measurement by having a simple computer program prepared to analyse past loss data using the most appropriate distribution so as to give estimates of probabilities of each level of severity.

Even this second – hand application of probability theory will emphasize the need for the fullest records of past losses to be kept, and the convenience of grouping this data into classes of different size which may be equated with particular levels on the company's individual pyramid of severity.

Of the various probability distributions which may be used, the risk manager is most likely to find the Poisson distribution helpful, as it can be used to estimate the probability of a particular number of events, such as the number of fires of ac certain degree of severity, occurring. If one estimates the expected number of such events on the basis of past data, one can, by using this distribution, obtain values for the probability of any number of the events occurring.

If say, one has calculated in this way that the total probability of one, two and three fires is 0.39, then one can use the fact that the probability of all outcomes must together equal 1 (or certain) to deduce that the probability of more than three fires occurring is 0.61. One can also decide the probable maximum number of fires by observing at what number of occurrences the probability become virtually zero.

Once probabilities have been allotted to future events, whether by the use of probability distributions or intuitively, they can be used to improve decision making in risk management. Consider the case of a risk manager who has made three predictions about the cost of loss if each of four courses of action is taken. These are shown in Fig. 5.1 with no information about probability, one can only assume that all three cases are equally likely, applying what is called the criterion of insufficient reason.

Course of action	Cost of loss (₦)		
	Best case	Intermediate case	Worst case
1	40,000	60,000	80,000
2	50,000	60,000	70,000
3	35,000	50,000	85,000
4	40,000	70,000	125,000

Fig. 5.1 Security and Loss Prevention Managementalternatives

The probability in each case will thus be one third, and multiplying each cost by this probability will give an expected cost for each option, as follows:

Option 1 40,000 x 1/3 + 60,000 x 1/3 + 80,000 x 1/3 = 60,000
Option 2 50,000 x 1/3 + 60,000 x 1/3 + 70,000 x 1/3 = 60,000
Option 3 35,000 x 1/3 + 50,000 x 1/3 + 85,000 x 1/3 = 56,667
Option 4 40,000 x 1/3 + 70,000 x 1/3 + 125,000 x 1/3 = 78,333

In this case, option 3 would appear to be the best, although it advantage over options 1 and 2 is not larger enough for it to be an unchallenged choice.

However, the risk manager may not feel that all the cases are equally likely, or that they should be so treated. The attitude of his company may show risk aversion, or it may encourage the taking of a certain amount of risk, and this thinking might colour the decisions to be taken.

The risk averse company might feel it wise to assume that the worst would always happen, and so would choose option 2 as it gave the past result in those circumstances. Similarly, the risk preferring company might assume that the best case would always happen and so would select option 3.

These are, however, the extremes of optimism and pessimism. The risk manager might try to place his company between these two extremes by calculating an expected cost from the figures for the best and worst cases only, allotting probabilities to each which express his degree of optimism. Thus a moderate pessimist might use 0.6 for the worst case and 0.4 for the best case.

If however, some measure of estimated probability has been obtained for the various outcomes, this can be used to obtain an objective expected cost. If, for example, the estimated probability of the best case is 0.2, that of the intermediate case is 0.5 and the of the worst case is 0.3 (assuming, for simplicity's sake, that no other outcomes are possible), the calculation will be as follows:

Option 1 40,000 x 0.2 + 60,000 x 0.5 + 80,000 x 0.3 = 62,000
Option 2 50,000 x 0.2 + 60,000 x 0.5 + 70,000 x 0.3 = 61,000

Option 3 35,000 x 0.2 + 50,000 x 0.5 + 85,000 x 0.3 = 57,000
Option 4 40,000 x 0.2 + 70,000 x 0.5 + 125,000 x 0.3 = 80,000

Option 3 would thus be chosen as it gives the best-expected cost using the best estimate of likely possibilities. Naturally, this estimate may be revised as fresh information is obtained, and the technique known as Bayes Theorem provides a way of doing this.
Proper handling of risks depends upon the most accurate measurement possible of severity and probability. Both depend upon efficient identification and the availability of the maximum amount of useful data from the past recorded in a systematic form, which can be used conveniently to help predict the future.

4.0 Conclusion

In conclusion, risk measurement employed various probability distributions which may be used, the risk manager is most likely to find the Poisson distribution helpful, as it can be used to estimate the probability of a particular number of events, such as the number of fires of ac certain degree of severity, occurring. If one estimates the expected number of such events on the basis of past data, one can, by using this distribution, obtain values for the probability of any number of the events occurring.

5.0 Summary

In the course of this study we focused on Severity of risks, types of risks among which are the following Risks to property, Risks to employees, Interruption risks, Financial risks, Risks of liability, Aggregation of risk, and finally Measuring risk probability.

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press
2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

5. Blunden J. And Reddish A. (eds.) (1991), Energy Resources and Environment. London: Bodder and Stoughton

7.0 Tutor Marked Assignment

1. Discuss the severity of risk in business?
2. Differentiate between financial risk and liability risk?

UNIT FOUR:
RISK HANDLING DECISIONS

1.0 Introduction
Once the activities of a business have been analysed and the risks, which it faces, have been identified and measured systematically, it is possible to begin to consider how these risks may best be handled.

2.0 Objectives:

At the end of this unit students will be able to:
- understand classes of risks
- analyze methods of handling risks
- identify dealing with specific risks
- examine Personal factor

3.0 Main Content:

3.1 Classification of risks
Measurement will have produced two values, one for the probability or frequency of the risk, the other for its severity. As we have already seen, a link will usually be found between these two measurements, a high frequency normally being found with low severity, low frequency with medium severity, and very low frequency with high severity.
In deciding the appropriate treatment for a risk the severity measurement is the more useful, and the correlation that exists between the two types of measurement permits assumptions to be made about relative severity where only the frequency can be measured – as might be the case where a record has been kept of the number of incidents, but the cost of those incidents has not been recorded separately.
Risks of low severity present few problems of management, especially when they are combined with a high frequency. The level of predictability is good, and these factors make it possible to identify readily what can be done to reduce the risk, or to limit its severity even more, and to budget to meet these costs in the same way as other recurrent expenses of the business.
The main risk-handling problem lies in deciding what can be done about the risks of high severity and low frequency. These are the most unpredictable risks, but they are also the risks which embody the greatest threat to the continued existence of the business. The decision to allocate risks into their various severity classes is thus the first risk handling decision that must be made.

3.2 Methods of handling risk

The next decision is to determine, by reference to the general indications given by the severity classification and the particular features of the risk, as revealed by the identification and measurement charting procedure, which of the various risk handling devices is most likely to be appropriate for the particular risk.

There are four broad strategies to choose from: avoidance, control, transfer and financing.

Avoidance

Avoidance is the first strategy to be considered. It may be possible sometimes to eliminate the risk altogether by abandoning an operation or project, or contracting it out to a specialist. Alternatively, there may be ways of carrying out the operation differently, or in another place or using different plant or materials, which will avoid the risk.

This method of risk handling has its limitations. In the first place, while a specific risk may be avoided, the changes necessary for that to occur will necessarily alter the risk pattern of the enterprise, and avoiding one risk may introduce new ones, while altering the probability and potential severity of others.

Secondly, while the option of avoidance is often available in managing speculative risk, it is less frequently a practicable option with pure risks. It is not easy to stop manufacturing a profitable product, or to relocate an established factory on pure risk grounds. The risk manager usually has to accept that risk avoidance is not a course open to him unless the change involved can be achieved without great cost or inconvenience. This will normally limit avoidance to specific parts of a process or to changes in the use of particular materials.

Control

Control is the risk manager's main method of combating risk. The basic question, "What happens if …?" implies, as we have seen, further questions about the severity and probability of risk, but finding answers to these questions serves little purpose unless a further question is asked: "What can we do about it?" If avoidance is not possible, then the risk manager must see what can be done at an economic cost to reduce the risk.

This can be done in one of two ways, either the probability of the loss occurring can be reduced or action can be taken to limit its severity if it should occur. Because of the correlation between probability and severity, it may be possible by using either method, or a combination of them, to bring the potential loss down into a lower category of severity.

The means to be used may be either organizational or physical. In the former case, rearranging the way in which certain tasks are carried out, or making certain people responsible for seeing that particular precautions are taken, may reduce the risk. The latter case involves the installation of equipment to reduce loss. Fire detection and extinguishing appliances, or machine guards and interlocks are examples. In re-evaluating the risk with such protections, however, it is important not to fall into the error of assuming that because the devices have been installed, they will necessarily always be operating. Over dependence on

the operation of protective devices may, in some cases, warrant inclusion as an aggravating factor in the risk identification chart.

Transfer

Transfer of the risk itself by, for example, arranging for a hazardous process to be carried out by someone else, is a form of risk avoidance. There is, however, another form of transfer available to the risk manager to transfer not the risk itself, but its financial effects. This can sometimes be achieved through contractual conditions, which require the other party to give indemnity against certain types of liability or loss or damage, but it is important, if this course is adopted, to make certain that the other party will be in a position to meet his obligations if called upon to do so. Unless this is done, the risk may in fact only have been transferred on paper and may return to threaten the organization, which, because it had put too much faith in the effectiveness of the transfer, may be unprepared to meet it. The most common form of contractual transfer of this kind is, however, by insurance, whereby the insurer agrees to assume specified risks in return for a premium.

Financing

Financing cannot truly be considered an alternative to the three strategies mentioned above, since it includes insurance, which is a special form of risk transfer. In a soundly planned Security and Loss Prevention Managementprogramme it will reinforce the other measures selected. However good the system of loss control may be, it is very unlikely that a risk can be eliminated by it. Transfer, whether by insurance or other means, is also unlikely to be so effective that the consequence of the risk could not involve the organization in some form of direct or indirect loss, interruption or inconvenience. In virtually every case, therefore, there will be residual or contingent risks for which a financing plan is necessary. Insurance is an important risk financing tool, but it is not the complete answer to risks, and is all too often used to finance the wrong category of risks. A full financing programme will, therefore, be made up of a combination of providing for risks in normal operating budgets, self – insurance plans, insurance and possibly other les common financing methods, such as contingent lines of credit.

3.3 Dealing with specific risks

Once the most appropriate methods of treatment for a particular risk have been determined, the third of the main risk handling decisions has to be made. That will be to decide the details of a plan to deal with each specific risk.

In order to make this decision, reference must be made back to the components of the risk identification chart. One must look at the consequence of the occurrence of the risk in detail and predict both the direct and the indirect consequence. Next, the cost of those direct and indirect consequences must be calculated and examined closely to see whether it would vary significantly if the loss were to happen at a particular time, or in particular circumstances. If there is such a variation, the worst possible situation must be catered for in the risk

treatment programme, for pessimism in matters of risk is the only prudent philosophy.

The potential cost is only one of the factors, which will determine the appropriate plan for treating the risk. It will also be necessary to establish both the probability of loss and the predictability of its occurrence. The risks, which threaten an organization, are rarely of a kind for which it is possible to calculate exact probabilities. With the smaller losses, which happen more frequently and for which there is likely to be a larger body of data, the law of large numbers can be of considerable help. Briefly, this law can be expressed as stating that the greater the number of events of the same kind that are observed, the closer will the results approximate to the true probability. Given a sufficient data base, some assumptions can be made about the underlying probability, which will be extremely useful in deciding how the risk should be handled. In theory, of course, the events considered should all be of the same type, but for practical purposes it is not always necessary that they be exactly homogenous. No useful information about the probability of fire, for example, can be deduced from the record of a group of 500 buildings, identical in every respect, in which there has never been a fire. Data about 500 fire losses in non – identical buildings may, however, enable some rough assessment of the probability to be made.

When it comes to major risks, which would endanger the continued existence of the organization, theoretical probabilities are of little value. Comparable events occur relatively rarely, so that there is an insufficient base to allow any calculations to be made, and since a catastrophe of this kind, if unprovided for, might well mean the end of the organization it can, from the organization's point of view, be treated as a unique event. In such a case, attempting to determine the exact probability is both impossible and unnecessary. All that needs to be noted is that if the probability is greater than zero then a decision will have to be taken as to how the risk should best be handled. It is easy – perhaps fatally easy – to assume a major risk away and to imagine that because the probability, although unknown, must be extremely low, it can therefore be treated as being zero.

3.4 Personal factors

Risk handling decisions are likely to be affected by the outlook of the person called upon to make them, for different people have different views on the attitude to adopt when faced with risk.

There are two aspects of this psychological modification of what would otherwise be a straightforward assessment of the probabilities, followed by a decision flowing logically from that assessment. There is, first of all, subjective probability. In making a decision relating to a possible future occurrence, the true statistical probability may be an important factor, but each person will have his own set of preconceptions about the weight that is to be given to the probability figures and it is on the basis of this subjectively higher or lower probability that the decision will be taken. Most people for example, underestimate the dangers of travel by

car and overestimate those of travel by aircraft. One might term this subjective probability a “nevertheless factor”, since it commonly expresses itself in thoughts such as “I know it’s ten thousand to one against it happening, but nevertheless I won’t take any chances”, or, “there is a chance things may go wrong, nevertheless I will take the risk.”
The estimation of subjective probabilities is very much a matter of temperament. The other psychological factor in decision taking, however, while it is normally also instinctive, could conceivably be modified to conform with a set policy laid down by the organization for the way in which decisions should be made. Every person has more or less of the gambler in them, which will determine whether they are prepared to take risks or will be predisposed to look for safety. This attitude will not be constant even in one person, for it may vary at different times of life, with different kinds of possibilities and with the amount at stake – most people who would willingly risk a small amount on a very remote chance would require a much greater probability of success if the loss would mean total ruin. In the same way, someone might identify the security of their job with the avoidance of unexpected losses and be less prepared to take risk on behalf of the organization than they might have done on their own account; conversely, they might be far more ready to risk the organization’s money than their own.

It is possible to detect a trend in modern business towards a more cautions approach to risk, which runs parallel with the decline in importance of the individual entrepreneur – who was temperamentally inclined to take a chance, and was, to a large extent, his company – and the rise of the large corporation, administered by professional managers and accountants. One can draw an analogy with the word of sport. There was a time when Ian Hay could write: “The tortoise is a terribly unpopular winner … a real hero is a man who wins a championship in the morning, despite the fact that he was dead drunk the night before.” In other words, the risk taker was an admired character, in sports as in business. Since then, however, there has been a change in attitude among prayers, associated with the growing rewards to be found in sport, so that “professionalism” has ceased to be a pejorative term and has become one of admiration. In the big-money sports, such as tennis and golf, the successful players have increasingly been those who “play the percentages”: that is to say, those who reduce risk by shots which can be relied on to give satisfactory results most of the time, or his minimize the chances of an opponent being able to make an unexpected reply. Sport has become big business and the readiness to accept risk has been reduced as more is at stake.
It must also be recognized that, whereas in theory a decision maker might be expected always to seek to make the decision, which gives the optimum result, he may in fact set his sights much lower and seek some lesser return, which he considers satisfactory. Another sporting example will illustrate this. A professional football team, particularly playing away, may very often aim not at the optimum result of a win, but at the satisfactory. Another sporting example will illustrate this. A professional football team, particularly playing away, may very often aim not at the optimum result of a win, but at the satisfactory result of a draw, and will

therefore base its strategy on the efficient avoidance of defeat. It will win if the opportunity presents itself, but its aspirations will be satisfied if it achieved the draw.

Risk handling decisions, like any others, will be affected by these factors and by the interaction of the personalities of those in command, which together make up the corporate attitude to risk and management style. At the same time it is worth remembering that the company's organizational manuals – if its management style lends itself to such things are unlikely to spell out the corporate attitude to risk, and that individual decisions may be affected by the personal degree of risk aversion of the particular decision maker. This may be very different from that of the company as a whole.
The risk manager therefore needs to be aware of the approach to risk of individual members of senior management, as well as the consensus of their views, which forms the corporate attitude to risk. Both will be important in determining the degree of caution that needs to be built into a Security and Loss Prevention Managementprogramme if it is to fit the organization's character. If it fails to do that, then no matter how logical the risk handling decision may be in theory or how accurate the suatistical base on which it was taken, it will not be the right one for the company.

The nature of the organization itself will influence its overall attitude to risk. A non profit making organization whose main objective is the uninterrupted supply of a service will be less inclined to take risks than an entrepreneurial company whose main aim is short term profit to satisfy the expectations of shareholders. A company, which is highly decentralized, whether because it is a multinational or because it has a broad product range, may find it difficult to utilize its full capacity for risk retention. This is because its pure risk decisions tend to be made locally in the context of the individual division or subsidiary.
A family business which puts a high value on continuity may be more cautions about risk than a publicly owned company whose horizons are its shareholders. A large company can be expected to have more Security and Loss Prevention Managementoptions open to it than a small company in a comparable state of financial health, although Security and Loss Prevention Managementcan, of course, help both. The large company will probably have a better spread of risk and greater financial resources, which will give it more scope to retain risk, and it is likely to be able to employ specialists in various aspects of risk control, while the smaller company will be more dependent upon insurance and on the services of outside consultants.

4.0 Conclusion

In conclusion, the right risk handling decision will thus depend on many factors, which will be different for each company. Apart from the generalization that catastrophic risks must be transferred if economically possible, one cannot therefore lay down firm rules for choosing between risk handling options. All one can say is that the decision must fit the individual company's nature aims and risk

attitude. If it fails to do that, then it has a poor chance of success, however correct it may seem in theory.

5.0 Summary

In the course of this study we focused on the following: classes of risks; methods of handling risks; dealing with specific risks and finally Personal factor.

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press
2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. List and discuss various methods of handling business risks?

UNIT FIVE:
FINANCING POTENTIAL LOSS

1.0 Introduction

In the previous unit we traced the series of decisions, which must be taken as part of the process of risk management. We have seen that after risks have been sorted into their various categories of severity, there are a number of alternative methods of dealing with risk from which to choose. In broad terms, however, the choice resolves itself into a selection of one of two strategies: either to accept a possible loss, or to arrange some form of financing procedure to meet the loss when it occurs.

As we have seen, potential severity is the factor which should govern the decision whether a risk is to be accepted or financed. Risk acceptance should be reserved for risks of low severity and risks should never be accepted inadvertently or without due consideration of their possible effects on the organization. Security and Loss Prevention Management exists to provide a technique for ensuring that risks are discovered and evaluated systematically, so that the appropriate handling method may be chosen.

2.0 Objectives:

At the end of this unit students will be able to:

- understand non-insurance transfer
- examine transfer by insurance
- identify internal funding and the use of crdit
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3.0 Main Content:

3.1 Non-insurance transfer

Let us first look at transfer or risk other than by insurance. The aim here is to finance the cost of potential loss by ensuring that if a loss occurs someone else will have the responsibility of paying for it. The usual method of attempting to achieve this is by means of exclusion or indemnity clauses in contracts, but this is far from being a certain way of freeing oneself from the financial consequences of a risk. Such conditions can, of course, only be enforced against a party to the contract, and only then if it can be proved that the clause formed part of the contract when it was made.

The courts have shown their dislike of exclusion clauses by putting the narrowest possible interpretation on them and legislation has restricted their use still further. The unfair contract terms act 1977 renders void contractual terms which restrict or exclude liability for death or personal injury resulting from negligence, and only permits restrictions on liability for other loss or damage by negligence if the

clause can be considered reasonable. In deciding whether such a clause is reasonable or not, the circumstances in which the contract was entered into, the relative bargaining power of each party, whether such clauses were normal in the trade and any other relevant facts will be taken into account.
Where goods are sold to the public, the act prohibits attempts to contract out of the implied warranties of merchantable quality and fitness for purpose under the Sale of Goods Act 1979. In non – consumer sales, such clauses are permissible, but only if they are reasonable.
There are thus serious obstacles in the path of anyone seeking to use this form of risk transfer. Even if they can be surmounted, such a transfer is worth no more than the financial resources of the person to whom the risk is transferred. These may be adequate at the time the agreement is entered into, but in the absence of a continuous system of check, which may well be impracticable, one can never be certain that the risk has been effectively transferred.

3.2 Transfer by insurance

The mechanism of insurance will be considered in detail later in this book, but it must be included here as the most widely used method of financing risk. The introduction of systematic Security and Loss Prevention Management into an organization will often show that the purchase of insurance has in the past been poorly planned, if it has been planned at all. Security and Loss Prevention Management can often eliminate many insurance against events which would have only a minor effect upon the organization, either financially or by interrupting the services which it is designed to provide.

The termination of these unnecessary insurances is often the first visible effect of Security and Loss Prevention Management and this has led to the myth that Security and Loss Prevention Management is anti – insurance. Nothing could be further from the truth. One of the most important constituents of Security and Loss Prevention Management is the proper use of insurance, which means using it where it will be most effective as a financing technique, i.e. in areas of medium and large risk. To refuse to buy unnecessary insurance is not to be anti - insurance, but anti – waste of resource. The application of Security and Loss Prevention Managementprinciples indeed may not lead to an overall reduction in the amount of money spent on insurance premiums, for the funds that are released by canceling unnecessary small covers may be used for catastrophe insurance in areas which have previously been overlooked or where cover was previously inadequate. By doing this, the organization will be getting better value from its expenditure on insurance, since the expenditure will be concentrated where it can do the organization most good.

3.3 Internal funding and the use of credit

If it is decided that the loss is neither to be financed by insurance nor to be accepted and paid for out of revenue, the financing possibilities are limited to a

choice between internal funding and the use of credit, both of which have substantial disadvantages.
If a budget or fund is to be set up from which losses of a particular kind will be met, many of the insurers' costs and expenses, which would have to be paid for as part of a premium, can be avoided. At the same time, however, non-insurance organizations of not normally enjoy the advantages of insurers in making pre – tax reserves from which to pay for future losses. This imposes a penalty upon companies wishing to establish a fund which is carried forward from year to year. Such a fund can, however, have its uses. It provides a way of overcoming the problem of losses which are too large for individual profit centres to bear, but which are well within the capability of the organizations do not normally enjoy the advantages of insurers in making pre-tax reserves from which to pay for future losses. This imposes a penalty upon companies wishing to establish a fund which is carried forward from year to year. Such a fund can, however, have its uses. It provides a way of overcoming the problem of losses which are too large for individual profit centres to bear, but which are well within the capacity of the organization as a whole to retain. Such losses can be paid from a fund to which all sections of the organization contribute as if they were paying an outside insurance premium. The advantage of maintaining an internal fund is that contributions each be varied, not only in accordance with the record of each contributor, but also with the changing financial state of the company, with additional central transfers being made to it in good times so that contributions perhaps may be suspended in bad times.

There can be administrative problems, however, with such a fund. Criteria for the acceptance of claims against the fund must be laid down, and internal standards of proof of loss should not be less stringent than those an insurer would apply. Unless this is done, the fund may be exploited by the wilier parts of the organization as a useful additional budget or contingency fund.
There is also the danger that if there is a healthy balance in the fund for several years, and claims upon it are low, it may be "borrowed" to finance other activities within the organization, so that when the more serious claims come along, the fund is insufficient to meet them.
The fund, too, much be adequately financed when it is set up. If it has to rely on the gradual accumulation of funds from contributions, the organization may find itself insufficiently protected against an unexpected run of claims early in the fund's life.

The alternative method of non – insurance financing of risk is to borrow the funds necessary to meet losses as they arise. This is a method, which is not often chosen, because the fluctuations of the credit market may mean a lower degree of certainty hat funds will be available to meet a loss than may be required. This is particularly true if recourse is made to normal credit facilities to meet a loss. Not only may the loss occur at a time when the amount of credit available is restricted, but the loss itself, if it happens to be of a major asset, may diminish the organization's bargaining power in seeking further credit.

An alternative possibility is to arrange a contingent line of credit in advance, to be drawn on in the event of a loss. This may be difficult to arrange on terms which are acceptable, and either form of credit, while it protects cash flow and earnings by spreading the loss over the period of borrowing, still results in a depletion of net assets.

Evaluating financing methods

In comparing the cost of other financing methods with that of insurance, it is important to remember that there are secondary costs involved, whichever method is selected, which may not be exactly quantifiable in advance, but which must be considered if any comparison of methods is to be meaningful. If insurance is selected it is important to anticipate the reaction of the insurance market to a large loss. Would the insurers, in these circumstances, be likely to terminate the insurance, or to require severely increased premiums for the future? It will be very much better for an organization to consider such possibilities at the outset, rather than to wait until the loss has happened and then be forced to consider the problem at a time when its freedom of maneuver will be much more restricted.

The effect that damage to, or loss of, a key asset might have upon the stock market must also be carefully considered if the organization is a quoted company. The share price in relation to other comparable companies tends to be the barometer by which the management of a company is judged, and the market wants to see a continued and uninterrupted flow of earnings. Loss of an important asset, even if it is insured, may be taken to imply a loss of earning power during the period until it is reinstated, and this reaction may be even sharper if the company has decided to finance the loss other than through insurance. In both cases, therefore, and particularly in the second, adequate contingency planning for continued operation without the asset is essential. It is also essential to be able to demonstrate that this planning has taken place and is reliable if market confidence is to be preserved.

In much the same way, reduction in the earning capacity of a company may adversely affect its borrowing facilities at a time when its resources are already strained. This is a strong argument against relying on normal sources of finance for credit from which to meet a loss. Evidence of constructive contingency planning to minimize the effects of the loss may be invaluable in retaining the confidence of the credit market.

In selecting an appropriate financing strategy, attention must be paid to the possible timing of the loss. The differing effects upon a seasonal business of a loss at different times of the year can easily be appreciated, and it would be unwise to do other than to base one's calculations on the assumption that the loss will occur at the worst possible time of the year. There are, however, other factors that can make the timing of a loss important, which apply to any sort of

organization. The effects of a loss may be magnified if it occurs at the peak or at the lowest point of a trading cycle, whether of the organization itself or of the economy as a whole.

19.0 Conclusion

In conclusion, the possibility of the loss coinciding with restrictions upon credit have been touched on above, and the effects of a loss could also vary according to fluctuation in the supply of labour or materials for rebuilding, or of replacement parts or machinery.

20.0 Summary

In summary, this unit focused on non-insurance transfer; transfer by insurance and finally internal funding and the use of credit.

21.0 Reference

1 Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. Discuss Internal funding and the use of credit?

UNIT SIX:
THE INSURANCE MECHANISM

Introduction:

One of the chief problems that Security and Loss Prevention Management has had to overcome has been to differentiate itself from insurance, partly because of the insurance background of many of the pioneers in Security and Loss Prevention Management thinking, and partly because risk – at least those varieties of it with which Security and Loss Prevention Management is chiefly concerned has for so long been considered the preserve of insurance alone. The confusion has been perpetuated because insurance retains such an important role as the main method of risk financing in a Security and Loss Prevention Management programme.

Security and Loss Prevention Management does not supersede insurance, but puts it in its proper perspective, as fulfilling a useful function determined after critical assessment of what it has to offer compared with other financing possibilities. To get the best out of any Security and Loss Prevention Management programme, therefore, requires a knowledge of how the insurance mechanism works, and an appreciation of ways in which the insurance industry treats the risk passed on to it in return for the premium paid.

For the purchaser, insurance provides a method of smoothing loss experience over a period of time, by exchanging the pure risk which is insured for the smaller risk of the failure of the insurer to settle a claim when it is made, either through lack of funds or by some breach of the conditions of the insurance contract by the insured himself.

Except for the small insured, or the catastrophic loss, it is unlikely that the cost of loss will be permanently transferred from the insured to the insurer; for the latter will seek to recover what he had paid out by increased premiums in subsequent years. Indeed, he may already have recovered it in previous years when the premiums paid have been grater than the amount needed to pay claims and meet the insurer's expenses.

Where there is sufficient supply of insurance and where insurers are competing strongly for business, it may be possible to defer or avoid repayment of the cost of loss by changing insurers, but in most cases this will be only a short-term solution, unless there has been some substantial improvement in loss control to improve the probable future cost of loss. A new insurer may offer a lower premium, taking the chance that the loss experience will improve, but if it does not, then the premium cost is likely to rise to, and perhaps beyond, its old level.

The service of chronological loss spreading is, however, what the insured really needs, even if the total cost is not thereby reduced, for it enable him to reduce the annual cost of large losses to a size at which they can be borne in a single accounting year.

From the insurer's point of view, the risk that is transferred to him has a different aspect. What was a pure risk for the insured becomes a speculative risk for the insurer, for in his hands it presents possibilities either or profit or of loss. The fact

that a reinsurance market exists as a method of treating this risk is, however, a reminder that pure risk and insurable risk are not synonymous terms.

2.0 Objectives:

At the end of this unit students will be able to:

- Understand risk spreading
- analyze risk financing and transfer
- evaluate rating system
- use mutual and captives as alternatives to insurers

3.0 Main Content:

3.1 Risk spreading

The methods the insurer uses to treat the risk he carries are themselves a good example of Security and Loss Prevention Managementin action. He seeks first of all to diminish his risk by ensuring that it is well spread. This is achieved in a number of ways. First, a good spread of risk is sought by endeavouring to ensure that the portfolio he is insuring consists of a large number of similar items. This will give the greatest play to the operation of the law of large numbers, and thus improve the predictability of the loss experience. Next, the insurers will wish these insurances to come from many different locations to provide the necessary geographical spread to minimize the chance of an abnormal loss experience due to a localized catastrophe.

This is the classic picture of the insurer as the collector of contributions from many of pay for the losses of the few that suffer them. It is still a true picture for many smaller types of insurances, but the changing nature of risk is reducing its validity, as we shall see, for many of the more potentially catastrophic types of risk.

As well as spreading risk geographically in this way, the insurer also seeks to spread it chronologically, by building up reserves for future losses – a process which is easier in nearly all countries for an insurer than for any other type of company which right like to do the same from its own funds. An insurer, unlike other companies, is permitted to set up reserves of this kind out of pretax earnings. This fact has been one of the attractions of setting up a captive insurance company as part of a risk financing programme.

3.2 Risk financing and transfer

In financing his risks, the insurer adopts sound Security and Loss Prevention Managementtactics in retaining only that part of the potential loss which can comfortably be borne in a single accounting year. The existence of the reinsurance market, which is designed to provide exactly this service to the direct

insurer, makes it simple for him to buy cover for the larger and catastrophic risk only.

3.3 Rating systems

In deciding on the premium to charge, insurers make use of three main rating systems. The first of these, class rating, is applicable to those risks where the insurer has in his portfolio a large number of broadly similar cases. In practice, they will rarely be identical, and the hazard each presents, and thus the premium which should equitably be paid for it, will vary. The insurer, therefore, subdivides the range of cases into a number of groups and decides on the appropriate premium to be paid by an average case within each group. Greater and lesser hazard in individual cases within the group is then recognized by increased or decreased premium in relation to the average.

Class rating is easy to apply and provides rough justice between one insured and another, as well as a means, for small insurance customers, of spreading loss amongst them, but it has the disadvantage that it offers comparatively little recognition to the insured who is substantially better than the average, so that the insured whose loss control is excellent may well find himself subsidizing the poor risks in the same class, even if the premium paid is the minimum for the class.

Where the number of comparable insurance is small, or where one cover is so large by comparison with others in its class that its results would affect those of the class unduly, experience rating is used. This system, under which the premium depends upon the past experience of the individual insured, provides the insured essentially with a chronological loss spreading service for his losses, since the insured will be expected, over time, to repay at least the non – catastrophic losses which the insurer has paid, together with the insurer's expenses of handling them.

This system gives more credit to the good, or lucky, insured and penalizes the insured with a poor record more surely than class rating. With changes in technology, more and more industrial processes are becoming concentrated into a much smaller number of units. Advantage may be derived from the economies of scale while all goes well, but the potential loss in the event of a serious stoppage will probably be increased by the reduction in the number of alternative sources of supply. This reduction will also make class rating less suitable, because the number of members of each class will shrink, and as they become larger, they are likely to develop distinctive features which will make the classification less appropriate.

In many cases, however, the risk is not only concentrated, but also not strictly comparable with anything in the past – it may, for example be on a larger scale, or the technology may be entirely new, or it may raise new questions about the boundaries of legal liability. In such a case, experience rating will not serve either and the insurer has to rely on some form of subjective rating. This term can cover anything from a rate based on detailed analysis of the probabilities involved to one based on pure guesswork. Objectively, the rates fixed in this way may prove to be too high or too low – subsequent experience showed that the premiums

initially fixed for wide bodies jet aircraft, for example, were too high; those for supertankers or satellites too low. Subjective ratings can create an insurance market for a new risk, or if they are too high when measured against the risk as assessed by the potential insured, they are increasingly likely to encourage him to see some alternative method of financing the risk, probably by entering the specialist insurance market himself or in conjunction with others in the same industry.

3.4 Mutual and captives

Dissatisfaction with insurers' rating methods is a common reason for the establishment of mutual or captive insurance companies. In fact many companies which have started out in this way have developed into important parts of the conventional insurance market, although they owe their foundation to dissatisfaction with that market. Others have found the inflexibility of the insurance market, notably in refusing to offer cover of the extent, or on conditions, that the client requires, to be a good reason for going into the insurance business themselves, and in this way to widen the variety of wares that are available in the market.

Direct access to the reinsurance market has also been an incentive for the formation of captive insurance companies. It is a wholesale market, and therefore cheaper; it is much more closely experience – rated, and therefore fairer to the large risk, and it provides cover particularly for the large and catastrophic risk, which is the protection that risk management, as we have seen, looks for from insurance. Direct insurers, although buying their own insurance protection in exactly this way, have in the past been reluctant to sell this kind of protection to other clients – they have preferred to sell cover from the ground up rather than offer large deductibles and excess of loss and stop loss covers have not been made readily available.

There has been a change in attitude in recent years, which has been encouraged by the buyer's market which developed in insurance. Faced with intense competition from conventional insurers and the proliferation of captives, the market found that it could, after all, offer deductibles and the retrospective rating plans and similar chronological loss – spreading devices that risk managers were demanding. The change of heart was first seen among American insurers but, under the pressure of competition, the British market followed suit. Whether, as a seller's market reestablishes itself, insurers will seek to revert to their older ways, remains to be seen.

4.0 Conclusion

The insurance mechanism is vital to risk management, where its function is to finance large risks. This requires forms of insurance tailored to this particular need, which, as we have seen, can be created. Insurance thinking, however, is still conditioned to a large extent by a conception of its role as the spreading of relatively small risks. For the individual insurance is often indispensable; for the large industrial concern, it is but one Security and Loss Prevention Management tool among many, to be used where its contribution is most valuable as a means of transferring the financial effects of large and catastrophic risks.

5.0 Summary

This unit focused on the following: risk spreading; risk financing and transfer; rating system; mutual and captives as alternatives to insurers.

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

9. What do you understand by risk spreading?

2. Discuss the terms mutual and captives

UNIT SEVEN:
LOSS CONTROL

1.0 Introduction
Good loss control lies at the centre of any effective Security and Loss Prevention Management programme. Without an efficient system to ensure that losses are kept to the minimum that is achievable by measures which are economically feasible, there is likely to be too much fluctuation in loss records from one year to another for risk financing decisions to be taken on the basis of data that are sufficiently reliable.

2.0 Objectives:

At the end of this unit students will be able to:
- understand the dangers of specification
- analyze loss control and risk management
- identify physical aspect of loss
- examine psychological aspect of loss
- use available resources for loss control
- discuss commitment, awareness and measurement, and
- evaluate recording and monitoring

3.0 Main Content:

3.1 The dangers of specialization
All organizations are likely to practice some form of loss control, but all too often the effort is fragmented, and responsibilities for different aspects of it given to widely separated functions within the organization, with no communication between them or overall coordination of their activities. Fire prevention, safety and security are the three aspects of loss control that receive most attention, and all too often they are the province of specialists, whose interest is bounded by the confines of their own specializations. Such a narrow view, of course, reduces the efficiency of an effective overall loss control programme, which should involve every member of an organization.
The aims of security and assured means of escape from fire, for example, frequently come into conflict, which may make it difficult for those engaged in the argument to appreciate that they are both essentially seek different aspects of the same thing a reduction in the possible loss of the organization's assets, whether those assets be represented by properly or by people.

Specialization too makes it harder to recognize other allies in the same fight. The safety officer, for example, might well find it surprising to think of the work of a product designer or quality controller as being part of a similar loss control effort to his own, and all of them might be unaware of the loss control work of the organization's legal department in checking the terms of contrasts it enters into.

If properly applied, loss control is part of every activity in the organization, reducing the probability of loss and increasing the probability of survival if the unexpected should occur.

3.2 Loss control and risk management

Since it should permeate the organization and should be recognized as part of every job description, it is unfortunate that rigid specialization has made it possible for one part of the loss control process to act in isolation from another. It is doubly unfortunate that loss control is also so often seen to be something entirely separate from other aspects of risk management. Indeed, there are many who say that loss control is risk management, and they are as misguided as those who claim that Security and Loss Prevention Management means risk financing only. Security and Loss Prevention Management is no more safety management alone, or fire prevention alone, or security alone than it is self-insurance alone.

The problems of coordinating loss control within an organization are very similar to those of coordinating Security and Loss Prevention Management as a whole. If it is not seen as everyone's task, if it is left to the specialist to worry about, then he alone will have to carry the immense burden of trying to bring about, in the face of indifference or opposition from all around him, something that can only be achieved through co-operation.

3.3 The physical aspect

Good loss control has two aspects – the physical and the psychological. On the physical side are all the devices, whether tangible or organizational, which prevent the actual occurrence of an event giving rise to a loss, whether it concerns material damage, safety and health of employees and others, the security of premises, documents, data and information, potential liabilities arising from premises, products or the acts or omission of staff, or any other aspect of the business. The loss control devices available, particularly in the fields of fire and explosion detection, control and suppression, and of security systems, become increasingly complicated, and inevitably are more and more the work of experts in a narrow field. While their expertise should be respected, it is perhaps worth remembering that to rely holly upon an expert of any kind is to open a gap in a loss control programme.

However effective the device that is installed, it is never a complete answer on its own to a loss control problem. Does it require periodic maintenance or inspection, and if so, is the property it normally protects vulnerable at these times? Can it be tested periodically, and if not, how certain can one be that it will operate effectively on the occasion, which may be far in the future, when it will be needed? Will it be as effective if premises or processes or materials used are changed or modified? Even though it may be 100 per cent effective at controlling accidental losses, could it be put out of action, or by passed by someone wishing to cause a deliberate loss? Does it interfere with ease of operations or cause annoyance of any kind to those working near it, so that there is a built – in

temptation to prevent it operating? All these questions and many more like them must be asked to obtain a true picture of the effectiveness of any loss control device, be it a sprinkler system, an intruder detection system, a machine guard, or any other.

The number and nature of these questions show the need to look beyond the expert's solution to a loss control problem and to consider the organizational situation into which it is going to be installed, for the psychological aspects of loss control are as important as the physical.

3.4 The psychological aspect

On the psychosocial side, awareness is the key factor. Every one connected with the organization must be made aware that losses are possible, and equally, that they can be controlled. But awareness on its own is not enough. There must also be motivation to take part in the loss control effort. To an extent, this means simply that general management must be good. It means that relations between various levels and various activities within the organizations must be harmonious, so that they do not feel separate and antagonistic towards each other. If they do, then the loss control efforts of one group, however good, can expect no support, and may even be deliberately or inadvertently sabotaged by another.

3.5 The resources available

An alternative way of classifying approaches to any kind of loss control is to consider the various types of resources available to the risk manager.
These are as follows:

(a) human resources
(b) physical resources
(c) organizational resources
(d) educational resources
(e) financial resources

Human resources

Human resources are the first line of defence against any type of loss. Human beings are not nearly so effective as machines at avoiding mistakes, but they are very good at detecting and correcting them, and it is often the immediate intuitive action of someone who happens to be on the spot at the right time that is the difference between a trivial incident and a catastrophic loss.
Everyone in the organization, therefore, can and should be involved in the process of loss control. Managers, foremen, plant operators, engineers, technicians and office staff all have a part to play. All have the ability to identify potential loss and to do something about it, even if that something may only be to think what they are doing and so avoid causing the loss!

Every organization has a wealth of loss control talents among its own staff, and the risk manger's aim must be to make full use of those talents individually and

combination, to prevent or reduce loss. Other human resources are available externally, in the form of experts and consultants of all kinds. Technical problems often need technical solutions, and advice on loss control problems frequently will have to be sought outside. Such expertise is valuable, but the involvement of an expert must not be allowed to become an excuse for everyone else to neglect their role in loss control. Security and Loss Prevention Managementis only fully effective if everyone is involved.

Physical resources

The use of physical devices to prevent or to reduce the effect of loss has been discussed earlier in this chapter. When one talks of loss control, it is devices of this kind that first come to mind, but they do not remove the need for human involvement. There is a cynical view that if you try to solve a problem by using a machine, you end up with two problems – the original one and the machine itself. That is the outlook of an extreme pessimist, but it is a useful reminder that, however efficiently a device may be designed to function, there will still be a need for human observation and organization to ensure that it is kept in a condition to perform when it is needed, and that it remains the appropriate method of loss control in what is unlikely to be a totally unchanging environment.

Organizational resources

Organizational resources are the opportunities open to an enterprise's management to deploy its human loss control resources to the best advantage. The aim should be to make loss control an integral part of the company's normal activities rather than an interruption of them. Much loss prevention publicity is designed to remind people not to do something which might allow a fire to start, result in an accident, permit a theft to take place, or cause some other kind of loss. All too often the action warned about is one that is early done. It is easier to avoid a loss than to cause one. If this is done to the maximum extent, the company will be using the natural tendency to follow the easiest course rather than fighting against it.

Loss control will be helped too, if the enterprise is so organized that there is every encouragement for all employee to participate in, and to make recommendations and suggestions about, prevention or reduction of losses. This is an important part of the participative nature of effective risk management. Risk cannot be managed by a single risk manager, nor by a Security and Loss Prevention Managementdepartment, however large, and enlisting the help of everyone aware of the need to identify a new risk as it arises. Loss control is an excellent starting point, because it does not require anyone to look beyond the activities in which they are themselves involved, and on which they will all feel they are to some extent expert.

Educational resources

Educational resources must be used in conjunction with organizational means to make fullest use of the human power for loss control within the company. Education is an important part of the job of any risk manager, and what he must

teach everyone with whom he comes into contact, and encourage them to pass on to everyone else in the company, can be summed up in three propositions, as follows:

1. That risk exists: awareness of risk must be created before risk identification can become part of any job.
2. That something can be done about it: risk awareness can be negative thing if it leads to excessive risk aversion, or to a fatalistic acceptance of things going wrong
3. That it is everyone's job to help in identifying and controlling risk

Financial resources

Financial resources are essential, because loss control, like any other activity in a company, costs money, and will be competition for funds with other projects which may be more attractive because they offer the positive prospect of additional profit, rather than the negative one of preventing the drain on profitability that loss represents. This always needs to be borne in mind, as a reminder of the need to quantify the benefits of proposed loss control activities when they are proposed. Since their true value will lie in the losses that do not occur, nothing more than an estimate of the benefit side of the cost / benefit calculation will be possible, and a range of values assuming the best case, the worst case and a predictable value usually will provide a better framework for deciding whether or not the expenditure should be incurred.

3.6 Commitment

There must be a firm management commitment to the positive control of losses, and this commitment must be effectively communicated, preferably by means of a definite policy statement, which is not a mere form of words, but which is a basis for action and example. The control of losses, while coordinated centrally, must be made a clear part of all duties, and each manager, at whatever level in the organization he may be, made accountable for losses occurring within his sphere of authority. Only in this way can the idea that loss control is everyone's job be communicated throughout the organization.

3.7 Awareness

If the basic commitment is there, loss control can express itself in practical terms in every activity within an organization. Awareness of the possibility of loss will mean that potential losses will be one of the factors taken into consideration whenever a new activity is planned, or when existing methods are reviewed. It will mean that staff are encouraged to draw attention to any aspects of their own particular job or surroundings which seem to make a loss possible. Toleration of unsafe conditions or the dispatch of defective products, for example, will become, and will be expected to become, unacceptable.

3.8 Measurement

With better awareness of possible loss comes the opportunity of better measurement, both of the probability and the potential severity of loss, and also

of the critical conditions in which losses can come about. This means more reliable figures of possible maximum loss, and a more realistic look at the true value to an organization to any of its activities which entail a particularly high degree of risk.
If awareness of the possibility of loss leads to a proper evaluation of the loss potential and the true cost of controlling loss in a particular high risk activity, it may well be found that the commercial benefit derived from that operation is insufficiently high for its continuance to be justified. All too often the risk manager finds that within his organization there is one activity, peripheral to the main operations of the organization, which contributes very little to the organization's profitability, but which carries a potential for catastrophic loss out of all proportion to its value. As we have seen, proper measurement can also help in determining the level of expenditure on loss prevention measures which is justified by the probability of loss.

3.9 Recording and monitoring

As with all aspects of risk management, loss control is a continuous process. The risks that have been countered may change, process or organizational changes may make the loss control programme less effective, and, as its requirements are absorbed into routine, observance of loss control procedures may become lax. Periodical review of all loss control systems are essential, in order to check that they are still needed, that they are still the most appropriate response to the particular risk and that they are still working efficiently.
Because, it is possible that those within an organization may be too familiar with it to form an objective view of its loss potential, the loss control effort can be helped by taking advantage of outside services – insurers, brokers and specialists in particular types of protection can all help by making periodic checks, particularly of key locations.
This programme or review can be further backed up by a system under which all incidents which cause, or could cause, loss however small are reported. If these are recorded and analyzed, recurrent small losses can be eliminated. Such a system can also give advance warning of the possibility of a catastrophic loss, even if the incident which reveals that possibility is itself trivial.

Each of these factors, and many others particular to the organization, will be relevant in deciding the appropriate financing method, and they impose upon an organization the necessity of trying to resolve two uncertainties: the probability of the loss occurring, and of its occurrence coinciding with the worst possible internal or external situation.
The convention of the accounting year is also a limiting factor in selecting methods of financing loss. The concept of an accounting year is very useful for comparative purposes, and for measuring the progress of an organization. At the same time, however, most organizations have either a continuous life, or the expectation of a continuous life. The stronger this expectation, the less relevant results over a period as short as one year can become. If, on the other hand,

there is doubt about the future of the business, a period of a year may be far too long to be meaningful.

The embarrassment, which a medium sized loss may cause a company largely, arises because its effects have to be shown against the results in a single year. If there were no necessity to account for the company's results every twelve months, it would be easier to recognize losses of medium size for what they really are. In the context of the whole life of the company, they are insignificant, and capable of being borne without jeopardizing the continued existence of the organization. The importance of geographical spread or risk is reasonably well understood as a factor in deciding how potential losses are best financed. The principle of chronological spread, however, is equally valid, and if a device can be found to spread a loss over several years of an organization's existence it may be possible to treat it as being of a lesser relative severity.

4.0 Conclusion

In conclusion, there must be a firm management commitment to the positive control of losses, and this commitment must be effectively communicated, preferably by means of a definite policy statement, which is not a mere form of words, but which is a basis for action and example. The control of losses, while coordinated centrally, must be made a clear part of all duties, and each manager, at whatever level in the organization he may be, made accountable for losses occurring within his sphere of authority.

5.0 Summary

In the course of this study the following areas were covered: the dangers of specification; loss control and risk management: physical aspect of loss; psychological aspect of loss; available resources for loss control; commitment, awareness and measurement, and finally recording and monitoring.

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. Discuss loss control and risk management?
2. State and discuss the available resources to risk and loss managers in organisations?

UNIT EIGHT:

CONTINGENCY PLANNING

1.0 Introduction:
Contingency planning forms an important part of loss control. Yet if one interprets it more widely, one could say that the whole of Security and Loss Prevention Management is an exercise in contingency planning. One must first identify the contingencies for which planning is necessary, and then decide on the appropriate action to be taken to prevent them occurring or, if this is not possible, to minimize their adverse effects.

To ask, “What happens if …?” must provoke the further question: “What can be done about it? Clearly prevention is better than cure, but contingency planning (in the more restricted sense) is a recognition of the facts that some things cannot be prevented, and that even where they can, the preventive measures adopted may fail wholly or in part.

It is unwise, however, to lose sight of the contingency planning aspects of all the stages of risk management. Planning which begins with the emergency-fire, flood, escape of toxic materials, denial of access, the need to recall a batch of faulty products or whatever else it may be- and ignores what has happened in the company before that point, runs the risk of being insufficiently related to the individual needs of the company. It may be an excellent plan in general terms, but it may overlook in particular the ways in which the methods adopted to control loss may themselves influence the nature of the emergency and in some circumstances even increase its severity.

The decision to install sprinklers, for example, will introduce a risk of water damage as a side effect of reducing the risk of fire. Thus the contingency plan for fire must take account of the possible need to dispose of quantities of water-damaged stock over and above that effected by the fire brigade’s hoses. But the contingency plan must also recognize that dependence upon an automatic system may make the disaster worse, if it falls, than it would have been if the system had never been installed. Perhaps before the sprinklers were installed there was a periodic patrol of the buildings at night to check that all was well. If the possibility of fire was the main reason for the patrol, it will probably have been discontinued when the sprinklers were fitted. Obviously, the sprinklers are a much better protection, but if the fire started when the sprinkler system was, for some reason, out of commission, the absence of the relatively inefficient older system could make the difference between a minor and a catastrophic loss. Any contingency plan must therefore be flexible enough, or contain sufficient options, to be effective when the loss prevention systems installed do no work as well as when they do.

2.0 Objectives:

At the end of this unit students will be able to:

- understand phases of loss
- discuss types of plan such as loss prevention, emergency plan and recovery plan
- identify various aims of each of the phases
- analyze common feature of emergency and recovery plan

3.0 Main Content:

3.1 Phases of Contingency Planning

Contingency planning must therefore be adequate to cover three phases of activity. These are shown in fig 8.1. The first of these phases will be the subject of more detailed treatment in the chapters, which follow, and we shall therefore concentrate here on emergency and recovery plans. It is most unlikely that these will be totally separate, because one will naturally merge into the other, and much that is done at the time of the loss will be as much concerned with long-term recovery as with immediate remedies. It is, however, convenient to examine individually.

Phase	Type of plan	Aims
Pre-loss	Loss prevention	To prevent occurrence of loss
Loss and immediate post-loss period	Emergency plan	To minimize duration and extent of loss. To maximize safety of person and salvage.
Post-loss	Recovery plan	To minimize interruption to normal activities.

Fig 8.1 phases of contingency planning

Emergency plan

Action at the time of an emergency must be swift, certain and effective. Some improvisation may very well be necessary to meet the particular circumstances of the emergency, but the main lines of action can be determined in advance, and to have a plan of action ready to be put into effect at a moment's notice will save the most valuable of commodities when disaster strikes-time. Once the emergency has begun, it is too late to begin the necessary pre-planning and training.

The need, in an emergency, is that as many people as possible should know what action to take, when to take it, and, equally important, when to stop. As a very simple example, all staff should know which type of portable fire extinguisher to use on which kind of fire, should know how to operate an extinguisher, if possible having practiced with one, and should know at what stage first aid fire extinguishments of this kind should cease and the premises be completely evacuated.
Everyone should know where to go. Recognized reporting centers enable checks to be made that all are accounted for, and also make it easier staff to be deployed to help in loss limitation efforts. Reporting centers should be selected not only for administrative convenience against a background of normal activity but also with some imagination about what an emergency situation would be like. The routes people are required to take should not run counter to their natural inclinations in a crisis. Research carried out after the Flixborough explosion into the routes taken by survivors revealed the extent to which they followed their instinctive desire to head for water, and made for the river bordering the site rather than follow the laid down reporting instruction-fortunately for them, as it happened, since the official reporting center was totally destroyed in the blast.

People should know what assistance to call and how to call it. This will cover the whole range of internal assistance, from alerting the company's own security services or works fire brigade to summoning the public emergency services.
Most important, staff must be able to recognize the agreed signals for action. People debating whether or not an incident is serious enough for action laid down in an emergency plan to be taken can lose much time. At the extreme, an excellent emergency plan might never be put into effect because the decision to activate it was delayed too long. The exact nature of the action in the emergency plan will, of course, vary according to the nature of the emergency, and to the particular vulnerabilities of the individual company, but it may include such matters as follows:

- Safety of life
- Planned evacuation of the premises and possibly of others nearby;
- Fire extinguishments
- Minimizing water damage-by placing sandbags, covering machinery with sheets and pumping or other removal of excess water;
- Restoration of security;
- Fast, safe plant shut-down;
- Initiating product recalls.

Priorities for action will often depend upon the trade in which the company operates, but common to all emergency plans will be a need for co-operative effort.
Clearly, specialists will play a big role in foreseeing what action will be necessary, in planning it and in controlling it if the plan has to be put into effect. Those whose job is concerned with the prevention of accidents or losses, such as safety

officers, fire prevention officers and quality controllers, will be closely involved, but so, too, will staff whose expertise is less obviously relevant. Engineers, lawyers, marketing and public relations staff may have very important roles to play in the operation of an emergency plan. Co-ordination of all these efforts may present a problem unless the company actively practices risk management, in which case the risk manager, who probably already will be co-coordinating the efforts of these and other members of staff in the identification and reduction of risk, might well be a suitable co-coordinator of the plan.
No one seriously disputes the advantage of the having an emergency plan, but many companies find it hard to invest the necessary money and time in drawing one up. Major hazards legislation now requires the preparation of such a plan where hazardous materials are stored in quantity. The arguments for planning to meet disaster in other industries and from other sources are no less strong.

Recovery Planning
Stopping the loss as quickly as possible at the minimum possible cost is only part of the contribution of contingency planning. Any emergency introduces an abnormal situation which interrupts the normal flow of a company's business, and there will therefore be a need for a further plan to help the company get back to its normal level of trading as quickly as possible.

In considering a recovery plan, one inevitably moves into the field of speculative risk and top management decisions. Questions such as the extended nature of competition in the market, the relative contributions of particular products, the effect of seasonal factors and fashion on demand for products, and the possibility of substitute products and alternative formulations may all have to be considered. There can, however, be an important contribution from the pure risk side in the form of the interruption report prepared to assist the underwriter of the company's consequential loss (business interruption) insurance. This will have highlighted many of the potential problems the company might face in getting back to normal after an interruption, and although its horizons will be bounded by its concentration on interruption caused by the perils being insured against, it can form a useful starting point for a recovery plan.

The problem which have to be overcome may be of many kinds, but those most likely to be faced will be the adverse effects upon one's market share or standing if goods cannot be supplied, and unavailability of the various elements necessary for production. If there is difficult in having materials, plant, premises, labour or transport available when the company is ready to use it, the period of interruption will be prolonged, and the more specialized any of them need to be for the company's purposes, the greater the potential disruption may be.

Surrounding such problems may call for ingenuity, but an ingenious way of obtaining and using alternative materials will be ineffective if ti is found that the substitute materials cannot be processed on the alternative replacement plant which a separate ingenious solution has provided.

Co-operation between the various departments concerned in returning the company to normal is therefore essential. Ideally, a recovery plan should be devised at a conference attended by all department heads, where each major threat can be considered and possible solutions discussed together. In this way, some at least of the post-loss difficulties can be foreseen and methods of surrounding them discussed. There may be other benefits, since considering hypothetical interruptions may raise the question of whether the normal way of doing things is in fact the best. One of the by-products of such a conference may thus be some suggestions for ways in which the company's efficiency could be improved in normal circumstances.
Such an approach to setting up a recovery plan is costly, and there may be a temptation to think of it as something to be done once only. Nothing stands still, however, least o f all risk, and so periodic updating of the plan will be essential.

3.2 Common features of emergency and recovery plans

Although the purposes of the two types of plan are different, their three basic constituents are the same- information, responsibilities and practice.

Information

Information is at the heart of both kinds of plan. Without the necessary information, action in an emergency will be undirected and takes on the basis of intuition or guesswork rather than knowledge. Lack of information in the post-loss phase will impose additional delays while it is obtained and verified. An essential part of the planning programme will therefore be to decide what information will be necessary and useful both during and after the emergency to obtain and check it and to record it in a form which will be accessible when it is needed.
Much of the information will relate to the company's normal way of doing business and will be readily available, but some of it would only be needed in an emergency and must be obtained specially. It is obviously easier to do that in advance at one's leisure than to attempt to put the information together in the disorganized environment of the emergency.
Typically, it will be necessary to record names, addresses, telephone numbers and names of contacts for all the organizations which may be of help at the time of the emergency or afterwards. In addition to emergency services, the list may include the following:

a. Suppliers of all kinds of temporary and permanent materials and labour that may be needed;
b. Estate agents specializing in the appropriate types of property;
c. Machinery suppliers and hires;
d. Usual and alternative suppliers of raw materials
e. Salvage and waste disposal firms;
f. Construction and repair firms

Compiling the list presupposes some thought as to the possible nature and extent of the emergency and its consequent interruption, so that he more

complete the planning exercise, the fuller and more relevant the information will be.
Once compiled, the information must be kept up to date and it must be safeguarded so that it is available instantly when it is needed. A single copy locked in the compiler's desk will not do; it must be distributed widely to all those who may have to use it, and it should preferably be in a form which makes it easy to consult, but difficult to file away and forget.

Responsibilities
Responsibilities for initiating and supervising each stage of he planned action must be spelled out in the plan. This is all part of ensuring that everyone knows what to do when the time comes. There should be sufficient delegation of duties to ensure that senior management are not burdened with unnecessary responsibilities at a time when they are bound to be under severe pressure, and are having to deal with all the unexpected aspects of an emergency which no plan, however full, can cater for.

It is also important to ensure that alternatives are nominated for each responsibility, in order that the plan is not hindered by the fact that the officers responsible for one particular aspect of it is on holiday, on a course, sick, out of the country, visiting another site or absent for any other reason at the time of the emergency, or even that he is one of its victims. The plan must designate clearly the persons who have the authority to put it into effect. No company wants to set a full-scale emergency plan in action every time there is a fire in a waste-paper basket, but equally, it wants to be certain that the plan will operate when circumstances warrant it. the person who is to take the decision, and his deputies who are authorized to take it in his absence, must be identified in the plan, and their identities must be known to all those responsible for particular aspects of the plan.

Practice
Practice is the third important feature. Only by testing parts of the plan in simulated emergencies can weaknesses in it be rectified before it has to be put into effect in earnest. Like Security and Loss Prevention Managementitself, perfecting a plan can be represented as a management decision-making loop. The first stage is to identify the problem. Next a plan to counter the problem is devised, recorded and communicated to all those who have a part to play in it. the next stage is to test it, to monitor the test results and amend the plan in the light of the lessons learned.
It will never be easy to arrange a full-scale rehearsal for disaster, except in particularly hazardous industries, where local emergency services may themselves wish to organize a training exercise simulating a disaster at the plant, but if such an exercise can be staged, much can be learned about the company itself and its organisation, as well as about the contingency plan and its shortcomings.

Where full-scale practices are not possible, one may still be able to test parts of the plan. Even a simple fire drill is a beginning. It may be possible to graft on to that simple evacuation exercise some special features, which will test some other aspects of the plan at the same time. Undoubtedly, the more that can be practiced the better, especially if doing so helps to increasing the general awareness of risk and the realization that something can be done about it, and that it is part of everyone's job to help in doing it. that, of course, is the main message of Security and Loss Prevention Management in a nutshell.

4.0 Conclusion

In conclusion, Co-operation between the various departments concerned in returning the company to normal is therefore essential. Ideally, a recovery plan should be devised at a conference attended by all department heads, where each major threat can be considered and possible solutions discussed together.

5.0 Summary

In summary the following areas were discussed: phases of loss; types of plan such as loss prevention, emergency plan and recovery plan; various aims of each of the phases; common feature of emergency and recovery plan.

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. Discuss emergency plan and recovery plan?

UNIT NINE:
THE PROTECTION OF PROPERTY

1.0 Introduction

The first main feature of the organization we will consider is its property. As always in risk management, the first essential is to identify exactly what is at risk and what threatens it; in other words, one must apply in detail the consideration of the various components of risk-resources, threats, modifying factors and consequences- which were discussed earlier.

2.0 Objectives:

At the end of this unit students will be able to:

- understand types of property
- analyze types of threats
- use cross checking
- discuss types of protection

3.0 Main Content:

3.1 Types of Property

The types of resources that are included under the general heading of "property" are very varied and each will be potentially subject to a different range of threats. In broad terms, we can classify property under the following headings:

a. fixed property
   e.g, land,
   buildings,
   services,
   fixtures and fittings,
   plant and fixed equipment

b. moveable property
   e.g, portable equipment,
   stock,
   vehicles,
   document;

c. money and its equivalents:

d. non-tangible forms of property
   e.g, rights and know-how
   commercial secrets,

3.2 Types of Threat

Next we must consider the different threats to property. The first division that suggests itself is between natural perils and those, which are man-made. But as soon as one lists the elemental threats-earthquakes, volcanic perils, wind, water, fire and explosion- one can see that, although nature may supply the force, the consequences can be substantially modified human actions. Construction, sitting and protections may increase or decrease the importance of these natural forces as perils and some, especially fire and the hand of man may, deliberately bring about explosion.

It is probably more appropriate, therefore, to follow this line of thought and to classify threats by two main divisions- the accidental and the deliberate-while recognizing that the same active force may appear in both sections, according to whether it is directed by man or not. The categorizes will therefore look like this:

ACCIDENTAL	**DELIBERATE**
Earthquake	Damage, destruction, removal.
Volcanic eruption	Deprivation of use
Windstorm	By human force or action
Natural water perils	By deliberate use of natural forces e.g arson
Natural and accidental fire	By dishonesty
Lighting	
Accidental explosion	

As a cross-check, one can then analyse the “deliberate” threats according to the possible motives involved. These will include:

a. gain
   e.g theft, fraud,
b. political or social reasons
   e.g war, sabotage, actions of strikers
c. revenge or dissatisfaction
   e.g malicious damage, arson;
d. destructive urges
   e.g vandalism

The distinction between accidental and deliberate threats is an important one in considering the protection of property. This is because the type of preventive measures necessary will not be the same if the need is merely to protect against an undirected force, as if the threat includes the possibility of the protective devices or systems being outwitted or rendered ineffective either before or during the occurrence that produces the loss.

This highlights the importance of not relying on physical protective measures only, if there is a possibility of a “deliberate” aspect to the threat. Such precautions must be backed up by organizational systems to ensure that they will

continue to operate when they are needed. At the same time it must be recognized that it is possible, given the necessary time and opportunity, for men to find a way to defeat any man-made system.

3.3 Cross-Checking

The next stage is to check each item of property against the list of threats to identify vulnerabilities, which call for protection. Not only will the major threats be different for different types of property, but they will also be different for the same kinds of property in different industries. Land, for example, will be thought of in most companies as being more unlikely to suffer any continuing damage or loss from the perils we have listed. Whatever happens, it is likely to retain its value. With agriculture or the extractive industries, however, land may essentially be the business itself, so that efforts to protect it become vital and may merit the spending of large sums of money.

Building and services are more likely to be affected by perils which will destroy or damage them, but as soon as one considers other kinds of fixed and moveable property the risk of dishonesty must also be taken into account. As one moves on to money and non-tangible property, dishonesty in one form or another becomes the major risk to be protected against.

3.4 Types of Protection

Once this analysis had been made, it is possible to determine the method of protection that is most appropriate for each item of property. It must be accepted that it will never be possible to achieve perfect protection for every piece of property-economic considerations must always be borne in mind-and there will inevitably be cases where the ideal protection for one item of property may reduce the protection for another associated with it or even create new risks for it, as, for example, when a sprinkler system which will reduce the risk of damage by fire to a building and most of its contents may introduce an additional major hazard for one small part of the contents which is abnormally susceptible to water damage, or even to changes in humidity.

There are three main methods of property protection to be considered:

a. reduction of vulnerability
b. physical protection systems
c. organizational system

And in most cases it will be found that a combination of the three methods is necessary.

Reduction of Vulnerability

The range of hazards we have been discussing are largely external to the company and once a decision has been taken that certain property shall be located in a particular place, the opportunities for avoiding the hazards entirely are greatly reduced. Nevertheless it is usually possible, provided one has correctly identified the vulnerabilities, to reduce them. Features of construction are likely to play a big part in this approach to property protection.

Appropriate fire separation can be provided within and between buildings, while a construction appropriate to the weather extremes that may be expected will avoid having flat roofs if there is a possibility of them collapsing under a weight of snow, for example, or avoid storing, say, finished steel products at a point on a site where the contours will ensure that they are in the path of surface water if there is a cloud-burst. In reducing vulnerability to natural perils in this way, it is always wise to plan for conditions worse than those ever recorded locally. Systematic weather recording has only been going on for a very brief period of the earth's history and climatic variations may always be greater than one expects.

There may have been changes, which render the experience of the past unreliable as a guide to the future. Extensive development may, for example, have taken place, so that areas of open land have been surfaced and built on. With less open ground to absorb rainfall, it may not need anything like the worst recorded storm locally to produce a flood.
This approach to protection is, of course, not limited to natural perils. Good housekeeping will reduce property losses of all kinds within the company's premises, while proper attention to maintenance, packaging and methods of storage will often show that even some damage to plant, products and other materials, which is accepted as inevitable, can in fact be reduced.

Physical Protection System
Whereas the aim in reducing vulnerability has generally been to minimize the likelihood of the risk occurring and is thus mainly concerned with the pre-loss phase, physical protection system are designed to reduce the effect of the loss as it occurs.
Into this category come such devices as sprinklers, explosion suppression devices, intruder alarms and security devices of all kinds. Many of these will be designed to work automatically and it is essential to develop means of testing that they will be effective. Attention must be paid to periods when they may be out of service for repair, maintenance through the interruption of public services on which they depend, so that, whenever possible, some alternative safeguard is introduced then.
Above all, it must be remembered that such devices are themselves a form of property which need to be protected, both from '"accidental" and "deliberate" perils. The more vital the property they protect, the more important it becomes that they should themselves be properly protected.

Organizational System
Physical protection must be backed up by organizational system, not only to monitor and ensure their effectiveness, but also to supplement them by preparing those concerned for the possibility of loss or damage, so that when it occurs as little time as possible is spent in stopping it. Since it is important that everyone should know what action should be taken in the event of any kind of foreseeable loss, emergency plans, which were discussed in the last chapter, can be vital to

effective loss control. It is also desirable that there should be a regular system of loss and incident reporting to provide information on which future action to control losses or necessary modifications to existing system may be based.

The essential here is to create a system which enables one to count the number of occurrences of a particular type (including, wherever possible, the "near misses", where the necessary circumstances for a loss came into being, but where, as it happened, no damage was caused), to measure their severity, to classify them both as to cause and effect and to use this information to audit the effectiveness of the property protection programme. Organizational systems as a means of property protection are accepted as normal practice in the accounting field, and a company should be prepared to extend the concept to an audit of its systems for preventing loss by causes other than dishonesty.

4.0 Conclusion

In conclusion, the regular provision of information and the analysis of that information for the light shed upon the company's successes and failures in protecting its property in all its varied forms can be a most useful tool in improving its loss control. It will, of course, be evident that such a system can also provide some valuable information for decisions about the appropriate method of financing a particular risk.

5.0 Summary

In the course of this study this unit focus on the following types of property; types of threats; cross checking and finaly types of protection

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. Discuss various types of protection to security and loss?

UNIT TEN:

THE PROTECTION OF EARNINGS

1.0 Introduction

The survival of any commercial organisation depends upon a continuing stream of earnings, and creation and maintenance of that stream of earnings is a fundamental activity in any business. When potential threats to the organisation are being considered, however, it is very easy for attention to be concentrated on the threads of materials loss or damage, particularly if a possible catastrophe is concerned, and for too little thought to be given to the ways in which the flow of earnings may be interrupted. This is particularly dangerous, since a comparatively small amount of damage may lead to a serious interruption in earnings, and in some circumstances earnings may be lost with no related material loss at all.

If, for example, it is suggested that something in one of the company's products is toxic or may cause cancer, or if there are similar suspicions about the products of other firms in the same industry, it may be necessary to stop production, to withdraw or reformulate the product, even though the suspicions may later be proved to have been unfounded.

2.0 Objectives:

At the end of this unit students will be able to:

- understand importance of protection
- identify earning sources
- examine various threat such as threats to people, reports etc
- evaluate methods of earning protection

3.0 Main Content:

3.1 Importance of protection

Protection of future earnings becomes even more important because risk financing can be of only temporary help in this type of loss. The lost earnings may be replaced by insurance for a limited period, but there must always come a day when no further insurance benefit is payable. When that happens, there may still be a loss of earnings to be faced.

Reliance on insurance as a method of financing earnings loss can also be unwise where presence in the market is of crucial importance to the company. The indemnity period under an insurance policy may be measured in years, but what consolation is that to a company which would suffer an irreparable loss of earnings if its product disappeared from the market for a matter of months only? Customers might be lost to competitors offering similar products, or an alternative

technology may be adopted by leading users as a consequence of the period of absence from the market, which may mean that the market is irretrievably lost.

The emphasis must therefore be on protection to minimize the probability of the loss occurring, and on drawing up contingency plans to ensure that if there should be an occurrence which threatens a serious loss of earnings, a programme of necessary measures to minimize the loss and to safeguard the company's market presence would be ready to put into action at once. In talking of earnings, of course, we do not refer to profit alone, for a stoppage may cause the loss of more than just profit- a lack of turnover may prevent overheads being recovered in full.

Since appearing Security and Loss Prevention Management to the problem of threats to continued earnings is very much a matter of deciding on and implementing the best possible forms of protection against loss, it will be of particular importance that the vital flows of earnings and the potential threats to them are correctly identified.

3.2 Identifying earnings sources

Identification of the main sources of earnings should not be difficult, but care will be necessary to identify any points in the supply, production and distribution chain where the flow of earnings is dependent upon the uninterrupted function of a particular operation which is inadequately protected. Flow charts can be particularly helpful in identifying such points. Protection in this case may either be physical, or consist of alternative methods of carrying out the operations which are either in existence or which can be called on at short notice if required. The range of possible measures is endless, for it will vary with the type of business and the way in which earnings can be interrupted. Sprinklers, stand-by plant or power sources, buffer stocks, provisional arrangements with alternative suppliers, or alternative product formulations, may each be the answer to a specific problem of safeguarding continuing earnings.

3.3 Identifying threats to earnings

Identification of potential threats to earnings a much wider view that is the case with the identification of threats to property. It includes, of course, consideration of many of those threats to property, for earnings may well be dependent upon the continuing existence of certain property and the measures outlined in chapter 11 for the protection of property will also take care of the potential loss of earnings.

Threats to earning capacity must also be identified and they may well be less obvious than major threats to property. They may well involve property but there may be no obvious relationship between the importance of a piece of property as property and its importance to the flow of earnings. A machine or building may be of low value and possibly overlooked when property threats are being considered. At the same time, its importance for the earnings of the business may be enormous.

3.4 Threats to people

The key threat may not be to a machine or a building, but to a person. There is a tendency for most specialists not to transmit to others, or to commit to any form of record, knowledge about their activity, which may be vital to its continuance. This is particularly so where the knowledge consists of how to cope with abnormal situations. The possibility of an interruption in earnings if that knowledge is not there may easily be overlooked. One meets companies, whose only contingency plan is to rely on the ingenuity, organizing skill and contacts of one prominent individual in the company. This is particularly the case with some small but successful companies which have been built up through the entrepreneurial talents and drive of one man. The possibility that he may be among the victims of the incident, which calls for his special knowledge and skill, is not considered.

3.5 Threat to Reports

Wherever possible, therefore, knowledge must be recorded, but this can itself present problems. To be dependent on records means that the records must themselves be protected or duplicated elsewhere. While this may be an excellent protection against threats which are accidental in origin, it may easily increase threats which are deliberately brought about the more information which is available and the more it is duplicated, the greater is the chance that wrongful use may be made of it.

This is particularly the case if computers are sued as the record store. Not only does dependence upon computes tend to concentrate the risk of interruption through lack of access to record, but this dependence may often be accentuated because of the need to rely on a small number of computer-trained individual to provide the link needed to record, amend or obtain information. Computer staff may themselves be among the specialists we have mentioned earlier who are inclined to keep to themselves knowledge which may be vital to the continued earnings of the organisation.

3.6 External Threats

Threats to earnings are not confined to areas within the company's direct control. The continued willingness of customers to purchase the company's products and the continuation of vital supplies to the company are as important to the preservation of earnings as anything that happens on the company's own premises.

Loss, damage or interruption of business suffered by a customer may prevent him purchasing the company's products in his usual quantities or at all, and if a significant proportion of a company's earnings depends upon those sales, the effects of the incident may be more serious for the company than for the customer to whom it happened. Similarly, misfortune may strike at suppliers, and again the company deprived of these supplies may feel the effect of the loss most seriously. Supplies can be of many kinds- raw materials, equipment, components; consumable stores can all be essential for the continued flow of

earnings. Nor must one overlook power and water supplies, in some industries, waste disposal services.

Types of Threat

A wide range of possible threats has been discussed in connection with the protection of property and all these threats must also be regarded as potential causes of loss of earnings. One must, however, also consider a range of threats to earnings, which would not necessarily involve property loss or damage. It is important here not to confine one's consideration to threats, which are insurable. Stoppage for any reason could mean a loss of earnings, and the effect would be the same whether the stoppage were from as cause which might be considered an "insurable" risk or from one in the field of what is conventionally considered "commercial risk".

Interruption of supplies, processes or deliveries must be foreseen as far as possible. Causes such as strikes, occupation of premises by employees, boycott of products and even precautionary evacuation if one's own or neighbouring premises store or sue particularly hazardous materials should all be included in the study.

Method of Protection

Only by meticulous analysis of the range of potential threats can adequate protection of earnings be devised. The protection designed to prevent property loss will minimize earnings loss, provided, of course, that they do not themselves introduce new systems on which the continuance of the business is dependent, and thus introduce new threats to earnings. Modification of methods of operation to eliminate vulnerabilities wherever possible and realistic contingency planning to minimize the effects of those threats which cannot be removed in this way will be the form that most effective earnings protection will take.

Current Trends

The vulnerability of earnings becomes greater as modern trends alter the way business is carried on. The tendency towards increased concentration, for example, poses a growing threat to earnings. Production has increasingly become concentrated in single plants, which may in the extreme case become the sole production source for a whole country, or even a whole continent. The vulnerability, not only of the producing company, but of its customers, and perhaps even of their customers, can only be vastly increased in these circumstances. The economies of scale can only be purchased at the expense of a corresponding increase in risk, which ought to be considered when, say, a single large distribution warehouse is built to replace a number of smaller, scattered ones. The vulnerability factor in the cost-benefit calculation may too often be overlooked.

There is also a tendency for the profitability of a plant to depend upon a very high volume of output, which increases the vulnerability of the earnings from that plant, not by introducing new threats, but by reducing the margin before the

operation of a threat produces an adverse result. As machinery and processes, too, become more specialized, so the possibilities of finding alternatives in the event of interruption are serious diminished.

At the same time that production is becoming concentrated, the power to interrupt production appears to be becoming more widely disseminated. Deliberately caused losses comprise an increasing proportion of the total number posses; action for political ends and in support of social aims is being more accurately directed at vulnerable points in the industrial and commercial world. At the same time, nations, which are sole or major supplies of important raw materials, are discovering and using their power over user nations.

4.0 Conclusion

In conclusion, It is against this background that effective protections against loss of earnings must be evolved. The threat to earnings may be much more varied and more difficult to identify and counter than the threats to property, but their potential to bring disaster upon the company is likely to be greater. They cannot therefore be ignored and a programme of Security and Loss Prevention Managementthat does not make the best attempt possible at meeting threats to earnings can never be anything like complete.

5.0 Summary

This unit focused on the following: importance of protection; earning sources; various threat such as threats to people, reports etc and finally methods of earning protection.

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. List and discuss method of earning protection

UNIT ELEVEN:
THE PROTECTION OF VITAL RECORDS

1.0 Introduction

The more complex a business becomes, the more it depends upon its records. What it is making, or plans to make, what services it is supplying exactly how the work is done, who its suppliers and its existing and prospective customers are, who owes it money and what it owns-all this information and more is necessary for the continuance of the business and has to be recorded. Such records must necessarily be available for day-to-day reference, but unless they are adequately duplicated or protected, the company will run the risk, if a disaster strikes, of losing not only its physical assets, but also the records, which would provide its only means of reconstructing the business.

Some companies recognize this fully-even, like some of the largest US-based international companies, going to the lengths of storing away the records necessary to prove their corporate title in vaults deep underground where they will be safe even in the event of nuclear disaster. All to often, however, vital information is not adequately recorded, or, if it is, is insufficiently protected, not just against fortuitous loss, but against the ever-increasing threat of criminal abstraction or misuse. This latter will be more fully covered in chapter 15, and we will here confine our consideration to accidental loss, without, at this stage, discussing the situation where protections are deliberately avoided or rendered inoperative.

2.0 Objectives:

At the end of this unit students will be able to:

- identify vital records
- analyze problem of record loss
- identify dealing with specific risks
- examine Personal factor

3.0 Main Content:

3.1 Identifying vital Records

The identification of records, which are either valuable to a business, or vital to the continuance of its operations, is a task, which is probably given insufficient attention in most companies, it is essentially a task which calls for a central overview, for every department in a company will have its own ideas as to which records are vital. The tendency will be for each department to identify those records which enable it to its work easily, or in the way it does it at present, rather than those which enable it to function at all. Furthermore, the total of “vital”

documents identified by a department-by-department enquiry will almost certainly be far greater than can economically be protected.

A clear, central view of which operations must continue if the company is to survive and which records are vital to their continuance is essential in the identification stage. A check list is often used, which covers the obvious items such as debtor records and share certificates for example. But there are dangers in relying on a check list which has not been draw up with the company itself specifically in mind. Every company will have a different list of records on which its uninterrupted. Operations depend, on which could only be replaced at great expense if, indeed, they could be replaced at all. In some companies, a loss of records can mean that very many man-hours of work, and the money that is represented by that work, have been wasted. This could be the case with long-term research, for example, or with the development of a complicated computer programme.

The key to identifying records is to ask the question which we have seen is basic to all Security and Loss Prevention Management investigations: “What happens if …? Each type of record should be checked to see if the business could function effectively without it. If not, a check should be made to see whether it is duplicated elsewhere. Where there is such duplication, it is important to distinguish between cases where this is consequence of formal system, and where it happens by change.
As well as considering the records necessary for the day-to-day running of the business, it is wise to think of the possibility of certain records being necessary in special circumstance. With the development of products liability law, quality control records are becoming increasingly important as evidence, yet they may well be inadequately protected even in companies alive to the threat of records loss.

3.2 Problems of records loss

If records are lost or destroyed, it is often very difficult to know exactly what has been lost until a problem arises the solution of which depends upon using, or referring to, a particular record which is then found to be missing. The problems of records loss are much more difficult to foresee than those of the loss of other types of property loss. If, for example, a building burns down, some idea of the extent of the problem can be obtained immediately by looking at the damage. Loss of records, on the other hand, presents an enormous range of possible implications. The true extent of the threat may remain indeterminable for a long time. If production is interrupted by a property loss, then normal activity is suspended while ways of alleviating the situation are decided on and put into effect. If records are lost, however, administrative demands continue, and there may be no such breathing space.
For a service organisation which is heavily dependent upon its records, the threat to them may be its major vulnerability. If such a company’s premises suffer a major fire, it can continue to offer its services almost uninterrupted, except for the

delay involved in finding somewhere for its staff to work, provided the records are intact inside fireproof cabinets or are readily reproducible from elsewhere. Without all these pieces of paper, it may be lost.

3.3 Forms of Protection

It is tempting to see the provision of some form of fire-resistant storage as the answer to the most probable forms of records loss. For some types of records, fore-resistant cabinets can be extremely expensive, particularly for large quantities of plans.

Duplication may prove to be a more satisfactory solution, although one must always remember that if the information is confidential, every extra copy made reduces security. Microfilming may be the answer if the bulk of records is large, or even regular photocopying, with the copies distributed consistently over several dispersed buildings, so that even if a whole building is lost, most of the records will still be available.

Records in sue will need to be stored near their users, but there is no need for the duplicates to be anywhere nearby. When planning a dispersal programme, the Flixborough explosion provides a salutary warning. There, the control room and the office, the obvious places to store important records, were both destroyed.

3.4 Computerized Records

The importance of duplication of information as a means of protection is more often appreciated where systems have been computerized. But it is still necessary to ensure that the duplication is adequate in each particular case. Where mainframe computers are heavily involved in administration work, the centralization of information means that records can often be far more easily protected than they were in the days of manual operations. Large amounts of information are now concentrated in small quantities of magnetic tape or discs.

This, of course, increases the importance to the company of ensuring that these records are properly backed-up with duplicates which are kept up-dated and properly protected; but if this is done and regularly checked then the records protection problem becomes much smaller. The duplication system must be a formal one, although even with computer records, an informal duplication system may exist. One company, which lost 80 percent of its business records through failure to protect data processing information, is reputed to have found that it was in fact able to reinstate most of them over a period of several months from copies of printouts and other documentation found in the homes and cars of employees. No company would want to be in the position of having to rely on such an unreliable and time-consuming way of getting back into business. Protection by proper organisation is simpler, more certain, and probably cheaper.

The introduction of personal computers may, however, reintroduce decentralization of record keeping to individual departments. Systems, which stand-alone and are not linked into a company network present the same problems as paper record maintained by a single department.

Standards of records protection may vary widely, and it will be necessary to ensure that any records on which the company depends which are stored in this way are properly safeguarded.
The hazard to be countered is not only that of fire. Concentration of records means that, not only is the risk of sabotage of records increased, but also that of total loss by such causes as explosion or damage by aircraft. The latter risk illustrates that it is not necessarily enough to think in terms of strong room, fire-resistant storage, or even duplication, if there is insufficient separation between originals and duplicates. When thinking of storage for back-up files, the separation should be measured in miles rather than yards.

3.5 Records in Process

When records reach their final form, protection can be reduced to simple rules. Information exists, however, and is used before it reaches that finasl stage. It may be far more difficult to provide adequate protection for, say, unprocessed that batched of invoices, or the multitude of rough notes which may be the basis of a major research discovery. It may present a real problem to ensure that such fragmentary records, whose true importance it may be impossible to evaluate accurately at the time they are made, are gathered up overnight and protected or duplicated, but anything that can be done to reduce the risk should be done. Even to ensure that they are placed in a locked desk drawer will provide at least, requires staff to spend the period between a warming alarm and an evacuation alarm in locking away the papers on their desks and in closing windows.

3.6 Reliance on Records

The greater the complexity of technology and business becomes, the greater dependence there will have to be on records. Fragmentation of a business operation into a number of separate but interdependent specialist areas makes it impossible for any one group of men to be in possession of all the information necessary for the functioning of the business as a whole. Information has to be passed from one part of the organisation to another, and for efficiency, it tends to take as permanent form. Thus, the information flow takes on a physical form and the company which is dependent upon the passage of information becomes dependent upon the continued existence and availability of the physical records which embody the information.

4.0 Conclusion

In conclusion, Records are kind of property which call for special protection because they are much more likely to irreplaceable than other kinds, and because they may be the key to replacing other property which has been damaged or lost quickly, more accurately or more economically. Records embody the history of a company and chart what it is doing at present, but if they are lost, the company may find that with them it has lost its future.

5.0 Summary

In summary this unit focused on the following: vital records ; problem of record loss; dealing with specific risks; and Personal factor

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. Discuss problems of record loss?

2.Explain form of protection of vital records?

UNIT TWELVE:

THE THREAT OF CRIME

1.0 Introduction

Protection against fortuitous risks may require solutions of great technical and organizational ingenuity. One can at least feel confident, however, that once the problem ahs been solved and a suitable and effective system set up then, as long as the system is kept in working order, it will continue to fulfill its function, because the loss-producing force it is designed to counter will remain the same.
When it comes to protection against deliberate acts, however, this assumption can no longer be made, because the effective force in this case is man-directed and can therefore be modified to overcome the protective system. Indeed, the more elaborate the protections that are set up, the greater may be the challenge to some people to find a way of overcoming them, so that the very existence of the protections may in some cases provoke an attack on them. This emphasizes the need for constant monitoring of all loss-prevention system. But, where they are designed to counter the threat of crime, the monitoring must not only check that the systems are still operating correctly, but also review the need for them to be changed.

Crime is a threat which does not only express itself as theft. It can also use a range of effective forces-fire and explosion being of particular importance-to bring about loss or damage. Threats may be used. Manufacturers and retailers may find themselves faced with extortion based on the actual or alleged contamination or poisoning of goods. Gain is a common motive for loss brought about by criminal means, but it is by no means the only one-revenge, political or social protest, or mere pleasure in destruction, can all result in producing significant losses.

2.0 Objectives:

At the end of this unit students will be able to:

- understand opportunity crime
- analyze organised crime
- protect information
- examine security at work
- discuss computer fraud
- evaluate political crime

3.0 Main Content:

3.1 Opportunity Crime

We can, however, distinguish two types of crime, which we may call “opportunity” crime and “organized” crime. Opportunity crime is generally on a small scale and its existence and extent can be measure of the effectiveness of the protections

employed, since it is relatively easily deterred. Minor shoplifting, pilferage and acts of vandalism all come into this category, and a good protective system is usually a sufficient defence. It is often thought, however, that the cost of effective protection is not warranted by the amount of loss sustained. While this economic trade-off must be borne in mind in setting up any kind of loss control system, it should not be forgotten that if a certain level of loss is considered acceptable, and is built into budgets, then it is certain that level will be attained every year. In many cases, a substantial reduction in the level of tolerated loss could be achieved by relatively simple precautions. In Security and Loss Prevention Management terms, however, losses of this kind are generally of minor importance, because the main emphasis must always be on those losses, which could seriously affect the continued existence of the business. One must nevertheless be conscious of the possibility of a major loss being caused by the accumulation of a large number of small losses.
Opportunity crime may assume major proportions when the motivating force is not gain but a desire to destroy. A disgruntled employee or ex-employee may start a fire, for example, which results in extensive and possibly catastrophic loss. Protective systems must take the extensive of this type of crime into account, and also allow for the fact that the circumstances in which the loss is caused may be very different from those of normal operations on the premises. Conditions may have been modified to increase the extent of the damage and automatic protections, such as sprinklers, may have been deliberately put out of action.

3.2 Organized Crime

A similar pattern can be seen with some forms of organized crime-explosions caused by political extremists, for instance. In general, however, organized crime is likely to be carried out for purposes of gain and is likely to present a more serious risk control problem, even though its frequency may be less.
Organized crime can operate on a very large scale, and may be carried out on lines which make it a criminal counterpart of the orthodox business world. It is, moreover, a business with a growth rate, which is far in advance of most legitimate enterprises. Like them, organized crime will tend to balance the investment in the enterprise, and the return, which can be expected from it, against the risks involved. The organisation may range from one man to a nation-wide conspiracy, but whatever its size, it is likely to be looking for a high return.

Its attention is likely to be directed chiefly to cash and to assets, which can be easily moved and easily disposed of to a ready market. Effective protection against this kind of loss will begin with a thorough analysis of the business to identify those things it owns or uses which may be attractive to the criminal. On this analysis will depend the decisions about appropriate methods of protection, whether these be systems of surveillance, physical checks or protective devices of other kinds

3.3 Protecting Information

It is not only tangible items of value that are targets for organized crime-information and trade secrets of all kinds are increasingly at risk from those who know they can get a price for them. At one time information could be protected very much as if it were cash, but with the increasing use of EDP (electronic data processing) systems for information storage and retrieval, there is less and less chance of general management knowing which are likely to be the most effective methods of protection, and how unauthorized access to data can be prevented.

Wherever important information is involved, it is wise to set up a system of access to that information based on a strict “need to know” principle, so that access to the whole information is restricted to the absolute minimum number of people, with, in general, only the part that is relevant to his needs being available to any one person.

Refraining from advertising the existence of vital information is a sound basic protection. To publicize the dependence of the company on any particular information flow, directly or by implication, is to increase the risk of an organized attempt to obtain it by unauthorized persons. Similarly, to give publicity to the location where what be presumed to be important information is processed, is likely to increase the chance of a malicious attack on it by persons ill-disposed towards the company. There is usually no need, for example, to label a computer facility prominently. The company may be proud of it, but the more it is highlighted, the more direct the invitation to damage it.

3.4 Separation of Risk

In countering all forms of criminal loss, the principle of separation of risk is as important as it is in control of fortuitous loss. Limiting the amount of valuable items held in any one place will increase the time that has to be spent by the criminal and the inconvenience caused to him in bringing about a significant loss, and this may of itself be a deterrent. Even if a loss still occurs, the probability of it reaching large proportions will be greatly reduced.

In the same way, spreading information over several locations or in several unrelated systems will diminish the chances of a catastrophic loss, centralization is often operationally more efficient and economic, but it carries with it the penalty of increased vulnerability, which should be included in the cost-benefit calculation.

3.5 Security

Security system are of two types-those which control people, and those which control objects and it could be argued that the latter are only necessary to the extent that the former fail. Much criminal loss is brought about by, or with the assistance of, persons who are legitimately on the premises, so that security systems must begin with the system for checking the background of new employees, which must be appropriate to the access they will have to key parts of the organisation, valuable materials and vital system. Discreet checking may

be necessary on individual employees, but this must be carried out with extreme care, for the mere knowledge that there is a system for doing so may stir up disaffection which may itself bring about a loss which would not otherwise have occurred.
Physical system, which restrict to particular areas or alarms which warn of the presence of intruders, organizational systems which hold safeguards and systems which check into the way operations are carried out, must be regularly tested for efficiency. It should never be forgotten that all these systems ultimately depend on people, who may be more easily subverted or more fallible than the system itself.

3.6 Computer Fraud

The extensive use of computers has resulted in a number of large-scale frauds in which misuse of the computer has been a prominent ingredient, for the most part, such frauds have not been new in kind, but have rather been the same types of frauds which have long been encountered with manual systems. Computers have, however, often rendered them less easily detectable, for there has been a time lag between the adoption of computerized systems and the adoption to them of traditional audit methods.

The trends towards transferring data without intervening paper work increases the difficulty of an independent check of the data being processed. The establishment of computer networks may make it difficult for the non-expert to be certain who has legitimate access to information, and impossible for him to detect unauthorized access. In many cases, the imbalance of technical expertise between those responsible for the computer systems and those who seek to check what the computer is doing is so great that the expert's word is accepted with very little question. It is, however, unfortunately the case that the intricacy of modern systems acts as a challenge to some types of computer men to see how they can defeat the system, or turn it to their own advantage.\

On-line systems are vulnerable not only to internal manipulation, which should be countered by separation of the various computer functions and good control of access, but also to external interference. This calls for constant vigilance to ensure that, for example, only authorized terminals can gain access to the system. The computer 'hacker' entering the system may bear no ill will to the organisation, and have no intention of harming it, but the effects of such unauthorized entry to the system could be very serious. Even if nothing has apparently been tampered with, the fact that unauthorized entry is possible may cast doubts upon the validity of the information stored. If one unauthorized entry is detected, one can only wonder whether there have been others which have remained undetected. What the hacker can do for the sheer enjoyment of defeating a system designed to exclude him, others may have done for gain, or to cause disruption.

3.7 Political Crime

Political risks add a new dimension to the threat that crime poses. Where damage is caused for political ends, there is likely to be less restraint about how it is brought about, since the aim will be to cause the maximum loss, while there is likely to be less concern for the physical safety of persons on or around the premises. In general, the risk of crime threatens property rather than people, for although injury may be caused incidentally; it is very rarely the intention that this should be so in opportunity crime or in organized crime for gain. When the motives are political, however, the threat to a company may be concentrated in the kidnapping of a top executive, or in a direct threat to the lives of employees by a bomb or of customers by the poisoning of stocks.

Faced with this type of threat, the first essential in loss control is to be aware of the situation in which the business is operating-political Security and Loss Prevention Management is as much about the safety of one's factory or home as it is about a new project in a far distant country. Only if one is aware of the possibility of a politically inspired or a socially inspired threat, and is prepared to take it seriously, can any proper loss control be practiced. Defensive measures should be installed to protect the most vulnerable feature of the property and appropriate surveillance arranged. However, it may well be found that in these cases the best defence will be a properly draw-up and adequately practiced contingency plan. If these are ready, even if the control devices are overwhelmed, the loss may still be restricted to a level which permits the survival of the enterprise.

4.0 Conclusion

In conclusion it has been proved that Prevention Management is as much about the safety of one's factory or home as it is about a new project in a far distant country. Only if one is aware of the possibility of a politically inspired or a socially inspired threat, and is prepared to take it seriously, can any proper loss control be practiced. Defensive measures should be installed to protect the most vulnerable feature of the property and appropriate surveillance arranged. However, it may well be found that in these cases the best defence will be a properly draw-up and adequately practiced contingency plan.

5.0 Summary

In summary, this unit focused on opportunity crime; organised crime;
protect information; security at work; computer fraud; and finally political crime

6.0 Reference

1. Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. Discuss computer fraud in security and loss management?
2. What do you understand by political crime?

UNIT THIRTEEN:
HELTH AND SAFETY AT WORK

1.0 Introduction
Attitudes towards occupational health and safety in the developed, industrialized nations have followed the same pattern of change from a situation where responsibility for avoiding injury at work rested almost entirely with the employee, to one where the onus is now very much upon the employer to provide safe conditions of work.

2.0 Objectives:

At the end of this unit students will be able to:

- understand pattern of legal and accident prevention as par of loss control
- analyze safety review and risk management
- use systems for health and safety
- examine risk management

3.0 Main Content:

3.1 The Pattern of Legislation
In the course of this evolution of attitudes, occupational safety has been the subject of an increasing amount of legislation and has become a specialization of its own, with an extensive literature. So well established has this specialization become that it is not always seen as an agent of loss control within the broader framework of risk management. Yet that is what it is in and it is unfortunate that safety activities are often seen as a way of complying with legislative requirements, rather than as a part of a wider effort to reduce the effect of risk.

3.2 Accident Prevention as part of Loss Control
The prevention of accidents can, however, be looked on in exactly the same lights as any other risk reduction effort-it is a way of protecting the assets of the company, here represented by the value of the skills of those who work for it, against forces which will tend to destroy them and so involve the company in loss. Losses stemming from accidents at work consist of far more than the direct costs incurred in treating and compensating the person injured, and the lost value of his services until he returns to work or is replaced. An accident is an interruption in work and time will be lost not only while the injured employee is treated, but also in discussing the accident, and latter in investigating the accident, negotiating compensation and possibly ins court appearances, if litigation results.

More seriously, an accident may bring to light an unsafe system, or unsafe premises, which may mean that work has to be suspended, either because of legislative compulsion or because workers will not tolerate the conditions, until

the defect has been rectified. If the accident involves the release of a pollutant, or if a worker contracts a disease connected with the working environment, pressure from those living near the premises may lead to suspension of operations, with consequent loss to the company.
There is thus a strong financial, as well as a social and humanitarian incentive for a company to devote a substantial amount of attention to loss control of this kind, and to go beyond simply doing enough to comply with the law.
The accident ratio studies of Heinrich in 1931 and Bird in 1969 have pointed to the correlation between the number of accidents of different degrees of severity. Bird, using a sample of 1.7 million reported accidents, found that for every serious accidents there were ten minor injuries, thirty accidents involving property damage and six hundred “near misses”, where neither damage nor injury was caused.

This information can be useful in deciding loss control priorities. There is an understandable tendency to concentrate efforts upon preventing a repetition of the last serious accident, irrespective of how improbable it may be that the exact circumstances, which caused it, will be repeated. It is surely better to use the much more plentiful evidence of probable threats to health and safety which is to be derived from the much more frequent near misses. Study of that data may suggest ways in which major improvements in safety can be made. If, by acting on that information, the number of near misses can be reduced, that in itself can be expected to reduce the number of more serious accidents.

3.3 Safety reviews and risk management

It is not always appreciated that a review of a company’s activities designed to reduce the possibility of industrial accidents and disease can be a very good starting point for a full Security and Loss Prevention Managementreview. One has only to draw up a generalized list of the possible sources of injury to employees to see that it is, to a very large extent, also a list of some of the main threats to the company itself. Industrial accidents are not something separate from the material or financial losses that a company may suffer. Accidents, which involve damage to property all too often, involve personal injury, or an accident to an employee may lead to consequent damage, and both situations may lead to a loss of earnings for the company. A reduction of any type of loss will thus reduce the possibility of the other occurring.
Let us look at some of the features that a health and safety review would cover, and it will become apparent how loss and damage of all kinds are interlinked.

Fire, explosion and hazardous materials

First, one would review the hazard of fire, which takes its toll of life as well as property. The review would consider the extent and nature of combustible construction materials and contents of premises, the possible sources of ignition, and the devices and construction features which would help or hinder fire-fighting and evacuation of the premises. With this review one would also consider the possibility of explosion, assessing the materials handle, the processes employed

and the protective devices installed, and also the general risk presented by hazardous materials of all kinds, whether they be flammable, corrosive or toxic. How they are stored, handled and used in the various processes would be studied, and also the systems and devices used to prevent the accumulation of harmful vapours.

Water Perils

Next, one might go on to review the dangers connected with the risks of flood and water damage, to ensure that employees would not be put in danger by a possible inrush of water from any source. One would also consider the effect of water on the materials to be found in the premises to ensure that this would not involve a health risk, and check that electrical equipment is not sited in such a position that water could increase the hazard associated with it.

Security

Considerations of security might be thought to be only relevant to an investigation into the risks of material damage or of theft of property or information, but it has important implications for the safety of employees. Attempts to steal cash, valuable items or information may present real risks of injury to those employees in whose custody they are, or who are concerned in keeping unauthorized persons from the premises. Politically or socially inspired protest action or attacks on premises may result in injury to those who work there. A property organized security system must, therefore, include provision for safe guarding people as well as property.

General Safety

The risks we have listed so far all bring with them the possibility of injury, but they are not the source of most industrial accidents or disease. Falls, incorrect lifting, and falls of objects are still the most common sources of injury at work. That is to say,, most accidents come about as a result of minor inadequacies in the way a company is run. This is not to say that the failures of the system that they represent are unimportant, because many of the major risks that could bring about the collapse of the company may require no greater safety features in the way in which a company carries on its-day-to-day business can be extremely revealing about its general attitude to risk.

Such review would look at the standard of housekeeping, the layout of the plant, the standard of stair ways, floors, roofs and scaffolding and means of access to various parts of the premises. It would consider standards of handling and stacking materials and ways in which internal transport operates. The availability of protective equipment and the extent to which its is enforced would be checked, as would the general working environment, to ensure that the premises are adequately lit and ventilated, that the dust and noise levels are not excessive, that there is no overcoming, and that there is no risk from pollutants or radioactivity.

Mechanical and Electrical Safety
The machinery and plant used would be checked for its safety in operation, and for the effectiveness of guards devices. Maintenance standards and systems would be examined, and the extent to which spare pares are stocked or available. This could lead on to a consideration of the whole area of contingency planning, which is of importance to the complete Security and Loss Prevention Management programme of a company in enabling it to reduce the period during which its operations could be interrupted.

Electrical safety could also receive attention, to ensure that installations are sound, damaged equipment is not used, that electrical equipment of all kinds is used responsibly, that the necessary stop and isolation switches are supplied, and that there is adequate provision for emergency lighting.

3.4 Systems
Apart from the hazards related to the premises and specific items of equipment, the safety review would also consider the basic safety of the system employed, which in a wider context can give a good indication of the whole approach of the management of a company. System of all kinds would be checked, including such things as “permit to work” systems, by which successive stages of a hazardous operation may only be carried out when authorized by a designated person, who is responsible for checking that specified precautions have been taken, and laboratory safety codes. Other considerations would include the general attitude to hygiene throughout the company, the system for ensuring that statutory or other regular examinations of items of plant are carried out, emergency alarm and evacuation systems and the system for training employees, both as newcomers to the company and continuously throughout their service.

Above all, the general system of management control would be studied. This would involve such matters as methods of supervision of employees at work, the importance given to and the nature of accident prevention measures, the role of safety committee and the powers they have to cause action to be taken. The system of reporting accidents and near misses and investigating them to minimize the chance of recurrence of an accident of that type would also be looked at, together with the extent which employees at all levels are trained in safety, the efficiency of communication in matters of safety and the general reputation of the company, both as an employer and as a neighbour.

3.5 A chance to introduce risk management
This list of subjects to be covered in a safety review is far from being exhaustive, but it will be clear from the topics we have mentioned that it will inevitably involve most of the aspects of the way in which the company operates, and it would require the addition of comparatively few other main areas of enquiry for it to become a full Security and Loss Prevention Managementaudit. The need to comply with health and safety legislation can thus be used as a way of

introducing Security and Loss Prevention Managementinto a company. In many cases, fulfilling the law will involve a review of practices within the company and this can, as we have seen, be extended conveniently to cover other aspect of risk.

Widening views of safety

The concept of health and safety legislation as something entirely internal to a company is in any case breaking down, as general social and environmental concern moves towards seeing the factory not as a world of its own, but as part of the wider environment in which it is situated. It is increasingly becoming recognized that what goes on within the walls of industrial premises may affect the standard of life, or even the life itself, of those who live or work nearby. This trend is emphasized in such legislation as the Health and Safety at Work etc. act in Britain. The "etc" in the title of the Act is significant, not only because it was the first time the word had been used in the title of legislation, but also because it extends the responsibilities of the employer to include some responsibility towards the public likely to be affected by the way his business is carried out. Health and safety legislation in this case no longer stops at the factory gates, and this widening of the scope of the law should bring with it a trend towards ending the isolation of risk of injury to employees from the other risk which threaten a business.

Increasingly, too, the risk of industrial accidents and disease is moving in its own right into the class of risks, which can put a company out of business. The difficulties of coping with the loss brought about by serious industrial diseases, which take a long time to develop, have been dramatically illustrated by the effects of claims for asbestosis, notably in the USA. There, aided by the steady liberation of statutory limitation periods, the flood of claims has overwhelmed asbestos producers, driving some into bankruptcy. Even at a much less dramatic level, failure to provide adequate safety can bring a business to a halt. The Health and Safety at Work etc. Act contains provisions that prohibition notices may be issued by inspectors to prevent any unsafe activity being carried on, or started. We are in the latter stages of the transition from a time when it was accepted, for example, that fork grinders would die at about 30, because they ground dry, while table cutlery grinders who ground wet might survive until they were 50, to one where industrial accidents and disease will be considered generally unacceptable.

4.0 Conclusion

In conclusion, the importance of adequate loss control to prevent them is thus unlikely to diminish; rather it will become an increasingly vital part of a company's total risk management.

5.0 Summary

In summary, this unit focused on pattern of legal and accident prevention as par of loss control; safety review and risk management; systems for health and safety; and finally risk management

6.0 Reference

1.Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

7.0 Tutor Marked Assignment

1. What do you understand by safety review and risk management?

CHAPTER FOURTEEN

ENVIRONMENTAL POLLUTION

1.0 Introduction

Environmental pollution has, of course, always been a risk, but until comparatively recently its management was largely left to those least equipped to do it-those whose health or enjoyment was affected by it. now it is increasingly becoming a risk to be managed by the person or organisation that causes it and successful elimination or satisfactory limitation of its effects is fast becoming a condition of carrying on any activity involving actual or potential pollution. “The polluter pays” is now a generally accepted principle for improving the environment and this is backed up by increasing severe legislation the governing environmental conditions both for the workforce and for the public as a whole.

No business concern can, however, rely on simply fulfilling the letter of the law to meet all its obligations in the matter of pollution. Public pressure, reflecting the increased, and increasingly vocal, public concern about the environment, tends to move ahead of legislation. The management of environmental risk thus involves foreseeing the likely trend of public concern, as well as merely complying with current legislation. Social Security and Loss Prevention Management of this kind is not easy to achieve, but intelligent anticipation of future trends is often possible. Action taken to eliminate or reduce the risk before it becomes compulsory can often be easier to put into practice and be more effective than waiting for legislation and having to meet standards imposed by others.

One of the difficulties of managing the risk of pollution lies in the variability of the generally acceptable level of risk. Public opinion particularly in these days of rapid world-wide communication, can quickly become convinced, either by the activities of pressure groups, or as a response to particular environmental disasters or near-disasters, that a risk which hitherto has been considered acceptable has crossed the boundary into unacceptability. Asbestos, oil and nuclear power are all, in their different ways, examples of the way in which industries have been called upon to design their methods of operation to take account of a substantially increased degree of public concern about them.

Pressure groups are selective in their activity and the occurrence of disaster has a random element about it, so that the progress of compulsory limitation of the pollution risk is not uniform, although general statutes such as the Health and Safety at Work etc. Act 1974 in the United Kingdom lay down overall rules for the way in which industry must take into account the working conditions of its employees and the living conditions of its neighbours in the way it carries on its activities.

It would be unwise, however, for any industry which caused a pollution risk to any kind to assume that because the spotlights of public attention has not yet fallen upon it, it can safely ignore the trend of opinion, if, as sometimes happens, pollution is accepted because of the employment provided by an industry, proper Security and Loss Prevention Management will take into account the possibility of a changed employment situation, which would alter the factors in the equation. Similarly, the next disaster may affect an industry which has so far escaped public notice and bring to the public consciousness a form of pollution not generally known about before. It may be that this pollution is no worse than many others about which the public has not become aware, but protestations about the unfairness of the world are an ineffective Security and Loss Prevention Management tool and something must of course be done about the risk. If they are wise, those other industries whose turn has yet to come will learn from the experience of others and will be doing something about their own environmental risks. (Adams J. ,1995)

2.0 Objectives:

At the end of this unit students will be able to:

- understand pollution and changing technology
- examine water pollution
- analyse air pollution
- discuss water pollution
- list other form of pollution

3.0 Main Content:

3.1 Pollution and Changing Technology

Throughout his existence Man has modified his environment and the rate at which the adverse effects of the modifications made themselves felt increased as the size of communities became larger. As industrial skills were acquired, so the extent of change necessary to bring about a serious deterioration in the environment grew smaller. Industrial pollution brought about by a change in technology is not a modern phenomenon. Four commissions were set up to investigate the problem of air pollution in London between 1285 and 1310* and it seems probable that the need for them was brought about by a change in technology – in this case the introduction of coal instead of brushwood as a fuel for burning lime for building purposes. The use of coal was banned, but within 20years the prohibition was forgotten and London faced a pollution problem which lasted over 600 years before the same solution could be re-applied.

The modern risk manager can often learn from history. His problems are often restatements of problems which have faced men many times in the past. An incident such as the above is a reminder that the degree of pollution caused by an industry may not constant. It may be increased or reduced in amount, nor altered in type by any change in technology. The consequences of the variations for Security and Loss Prevention Managementshould be among those considered when changes in processes or materials to be used are suggested.

3.2 Types of Pollution

The forms of pollution which have received most attention in the past have been water and air pollution, but the definition of what constitutes pollution is continually being widened. Pollution of the land is now receiving more attention, while other forms of nuisance are coming to be regarded as “pollution”, In this way one speaks of noise pollution or visual pollution and the term is being widened more and more to include anything that detracts from the “quality of life”, however that is defined by society at any time. In its widest form, therefore, the management of the risk of pollution extends to include the management of all threats which arise from the physical presence of a company’s operations falling short of the standards imposed by the society within which it operates.

Air Pollution

In many cases, the major concentration of pollutants will be within the workplace and action to remove them will be necessary to provide a safe working environment. To some extent, therefore, the aims of pollution control will coincide with those of minimizing risks to employees. It is, however, no longer acceptable for pollutant-free air in the workplace to be obtained at the expense of increased pollution for the general public in the immediate vicinity. Indeed, concern about pollution is international and on the larger scale it is becoming less acceptable for one country to entrust its pollution to upper air currents for export as acid rain, for example. The emphasis on controlling air pollution will thus increasingly tend to move towards control by engineering and away from reliance on exhaust ventilation, which removes the pollutant from an immediate area and breathing apparatus, which allows work to continue a polluted atmosphere.

Air pollution can be of several kinds. Some dusts have long been recognized as dangers to health: coal and other silica dusts, cotton, beryllium and others call for special care. The enormous publicity given to the dangers of asbestos fibres in the air both helped to instigate and now reflects serious public concern about a material taken for granted by the man in the street for many years and, ironically, thought of as increasing safety because of its fire-resistant properties. Once, there is public disquiet about a material, action must be taken at once to remove the risk of pollution. Vinyl chloride monomer (VCM) and poly-chlorinated biphenyls (PCBs) are examples of hazardous materials, the dangers of which have suddenly come into the public consciousness in this way. Lead levels in the air, notably from the exhausts of motor vehicles, have given rise to more concern as such traffic has increased. Fumes, both from processes involving metals and

those involving polymers, cause problems. Certain mists, such as chromic acid mist, can also injure health, while gases may affect respiration, or be toxic irritants, or have narcotic effects.
The main Security and Loss Prevention Managementeffort will of course be concerned with reducing the concentration of such pollutants where they arise, but care must be taken to ensure that they are not permitted to build up elsewhere to levels which could present a hazard.

Water Pollution
There is a growing awareness of the menace of water pollution, whether of inland waters or of the seas, and stringent effluent control is increasingly required. But the more this is insisted upon, the greater will the dependence of many companies be on the continued and efficient working of their effluent treatment plant. In some cases, this may become the key dependency on which the continuance of the earnings from the location hand. Loss control effort must obviously be at its maximum in such circumstances, because a breakdown could mean a double threat to the company: an immediate liability for damage caused by the release of harmful effluent, and a continuing loss of earnings until effluent control measures are once more satisfactory (Cerni, J. 1993).

Water pollution, basically, assumes one of the following four forms:
a. suspended solids, such as are found in sewage;
b. highly oxidisable organic waste, which is broken down by bacteria;
c. metal and other ion;
d. soluble organic chemicals

The dimensions of possible disaster arising from water pollution and the public concern about them can be illustrated by two examples of very different kinds of pollution. There was, for instance, the human tragedy caused in Japan to those people whose diet was largely made up of fish which had accumulated high concentrations of mercury as a result of mercury catalyst discharged from a factory producing polyvinyl chloride and acetaldehyde. On the other side of the world, a succession of tanker losses focused attention once again on the possible large-scale damage which may be caused by oil pollution of the seas. The ecological effects of this kind of pollution are unacceptable to a society in which there is increasing concern about the environment and which is no longer prepared to see the ocean used as convenient dustbins.

Land Pollution
To the legacy of the past, in the form of waste heaps, the debris from mines and quarries, industry and the community are still adding pollutants to the ground through the dumping of waste materials. There is, however, mounting concern about the dumping of toxic wastes, and it should clearly form part of the Security and Loss Prevention Managementactivities of any company, which has such wastes to dispose of to satisfy itself that its methods of disposal are safe enough

not only to meet present standards, but to comply with possibly more stringent obligations in the future.
The land around a factory may over the years build up excessive levels of contaminants. Instances have been found of high lead content in milk from cattle grazed on and subjected over the years to a “fall-out” from nearby factories. Pollution claims have arisen after many years when what was previously land used for dumping industrial wastes has later been built over. Growing pressures of land use may well combine with the anti-pollution trend in public thinking to make pollution of the land unacceptable.

Other Forms of Pollution
Noise has increasingly become subject to strict control, as its physiological and psychological effects become more recognised. Here, the best Security and Loss Prevention Management solution is likely to lie in the field of design of machines to limit the noise they emit, rather than in attempt to reduce the intensity or range of the noise produced by external means.
“Pollution” can be extended to include any unwelcome intrusion of man-made activities and the limits of danger to the environment can be drawn so as to include aesthetic as well as material considerations. Security and Loss Prevention Management in relation to the risk of pollution in this sense must be almost entirely social risk management. It will be based on maintaining an awareness of trends in thought, which are likely to affect the general opinion of society, which is ultimately likely to be embodied in legislation. This awareness will be coupled with a continuing realization that business cannot make its own rules in isolation from the community around it.

4.0 Conclusion
In conclusion, Avoidance of pollution may eventually become a condition on which business is allowed to operate at all; and since the ultimate aim of Security and Loss Prevention Management is to enable a company to stay in business, a risk of this magnitude must call for particular care in management.

5.0 Summary
In summary, this unit focused on the following: pollution and changing technology, water pollution, air pollution, water pollution, and other form of pollution.

6.0 Reference

1.Adams J. (1995), Risk. London: UCL Press

2. Beck, U (1992), Risk Society towards a new Modernity, London Sage Publication Boardman, B. (1995), Energy and Environment Programme. Environment Change Unit Report 1994-95. Oxford: University of Oxford.

3. Blowers A. And Leroy (1996), Environment and Society: Shaping the future? In A Blower ands and P. Glasbergen (eds) Prospects for Environment al Change. London: Arnold.

4. BMA (1994), Water: A vital Resource, London: British Medical Education.

5.Blunden J. And Reddish A. (eds.) (1991), Energy Resources and Environment. London: Bodder and Stoughton

6. Cerni, J. (1993), Urban environmental Pollution and child health in Houston USA: the link to economic growth in J holder, P. Lane et-al Perspectives on the environment. Aldershot : Avebury.

7.0 Tutor Marked Assignment

1. Differentiate between water and air pollution?
2. Discuss changing technology and pollution?

UNIT FIFTEEN

ORGANISATION OF RISK MANAGEMENT

1.0 Introduction

The simplicity of the basic principles of Security and Loss Prevention Management and the ease with which it can be broken down into its various stages of risk identification, measurement, control, financing and monitoring can be deceptive. What is easy to describe on paper may be very difficult to introduce into a complex company. Identifying a company's risk may seem a very daunting proposition when these risk are spread out over perhaps hundreds of different locations, when they are linked with and inter-linked between many different complicated processes, when the nature of the operations may also be undergoing constant major or minor change.

If one sets the theory of Security and Loss Prevention Management against such a background- the background it must have if it is translated from the textbook into real life- it immediately becomes apparent that it is not a one-man job. No one man is likely to have the range of knowledge and skills necessary to undertake the management of the whole of a company's vast range of risk himself. Even if such a polymath could be found, he might well have difficult in communicating his ideas to all the many managers, all busy with their own problems, and in persuading them that Security and Loss Prevention Management was something they should be aware of and care about. Indeed, if a superman of a "risk manager" is going to manage the risk, why should they bother?.

As has been pointed out in discussing its various stages, Security and Loss Prevention Management must therefore be a job everyone in the company. No company, however, will reach a state where Security and Loss Prevention Management is generally accepted and practiced unless there is some conscious introduction of its principles. Such an introduction can only be inspired from the top of the company. Proclaimed anywhere else in the organisation, Security and Loss Prevention Management could easily be viewed as merely a piece of empire building by its sponsors, and it runs the risk of being too narrowly defined in terms of the particular specialization of those introducing it.

2.0 Objectives:

At the end of this unit students will be able to:

- understand the security and loss prevention management policy statement
- analyze the risk manager functions
- identify company style
- examine problems in introducing Security and Loss Prevention Management

3.0 Main Content:

3.1 The Security and Loss Prevention Management policy statement

The key to the successful introduction of Security and Loss Prevention Management lies in the commitment of top management to its principles and it is a sound beginning if that commitment is expressed in the form of a policy statement issued by the Board. This should set out clearly what Security and Loss Prevention Management is and he benefits which its introduction should bring to the company. It should go on to spell out the responsibility of each line manager in the company to support the policy and to manage risk within his own area of authority. If this is not done, managers may well approve of the introduction or Security and Loss Prevention Management as an idea, but leave its implementation to others.

In practice, one finds that surprisingly few companies have drawn up such a policy statement. Those that have done so are largely the type of company which has a strongly centralized organization and which makes great use of procedural manuals. A Security and Loss Prevention Management policy statement easily finds a place in such a manual, where it will usually be associated with loss control or insurance buying activities.

It is, however, decentralized companies, which probably have the greatest need for a clear statement of company policy. Without such guidance, standards of risk may fluctuate widely and dangerously from part of the company to another, as each local manager takes his own view of its importance.
Emphasis on the responsibility of everyone to manage risk becomes particularly important if the issue of the policy statement coincides with the appointment of a “risk manager” as part of the general measures to introduce Security and Loss Prevention Management into the company. This is, perhaps, an unfortunate choice of job title, for what, one might think, is the job of a “risk manager” if not to manage risk? It is far better and far more descriptive of his real function in the company to describe him as a Security and Loss Prevention Management adviser, for he is there to advise, help, persuade and encourage others to manage the risks of their particular part of the company, not to manage the company’s risk himself.

A statement that it is responsibility of all to manage risk will achieve little on its own. The policy must be enforced by writing accountability for Security and Loss Prevention Management performance into job descriptions. In most companies it will be necessary for this accountability to be expressed in the same terms as others, such as a financial budget, or a target to be met. This in turn will mean that there must be a mechanism for the direct and indirect costs of loss to be included as a factor in reviewing management performance, since they represent risk not managed.

3.2 The risk manager's function

Obviously managers will need advice, help and training in he management of risk and this will be the key task of the Security and Loss Prevention Management adviser. In some company structures, it will not be possible for the risk manager (if, for the sake of convenience, we can sue the term in common use, despite its misleading nature) to have a purely advisory role and he will be expected to take on some specific executive functions. Most commonly these will be in the field of risk financing, with the placing of insurance and the management of self-insurance schemes as the most important features. These are functions which are most efficient when centralized and it is reasonable that they should come within a risk manager's scope. Most of today's risk manager however, are former insurance managers and the temptation must be there for them to see risk financing as their real job and to relegate the advisory side of their work to a secondary place.

Insurance men are not alone in this tendency to given the specialist part precedence over the general. It is as easy for Security and Loss Prevention Management to be seen as mainly fire prevention or mainly industrial health and safety, for example, if a specialist in those fields becomes the risk manager. To counteract this tendency the risk manager's job specification should emphasize the essentially advisory nature of the work. It is not enough to define the risk manager's role so that he understands it himself. His function must be publicized throughout the company, so that line managers know that his help is available to them and also that they will be expected to make use of that help. Once again, the importance of top management backing for the introduction of Security and Loss Prevention Management can be seen to be essential for its success.

3.3 Company Style

The other prerequisite for effective Security and Loss Prevention Managementis that it should be introduced in a way that fits in with the individual "company style" of the organization. Security and Loss Prevention Managementshould be introduced as part of the overall way in which a company is managed and it is therefore unrealistic to expect it to be successful if it requires a style of action or of thinking unrelated to other aspects of management in the company.

The aims of Security and Loss Prevention Management must be set out in the policy statement in terms, which reflect the company's approach. If it seeks to

emphasise its social responsibility, then Security and Loss Prevention Management should be interpreted in those terms; if it is essentially profit-oriented, then the financial contribution Security and Loss Prevention Management will make through reducing costs can be stressed.

Similarly, the way in which Security and Loss Prevention Management is organized must be in keeping with the company style. If the company is decentralized, then Security and Loss Prevention Management must also be decentralized. A central Security and Loss Prevention Management department seeking to influence the way in which day-to-day Security and Loss Prevention Management should be carried on in otherwise autonomous divisions or subsidiary companies would be unlikely to have any success. Much more probably, it would be seen as an interfering arm of central management, to be viewed with extreme suspicion and given as little co-operation as possible. In such a company, it will probably be more effective to establish a number of separate decentralized Security and Loss Prevention Management advisory functions. A central risk manager will still be needed, but his function may very well be that of a co-ordinator of co-ordinators.
A multinational company will inevitably be decentralized to some extent and the differences in social, economic and business conditions between one country and another will affect Security and Loss Prevention Management as much as any other management function. The board aims of Security and Loss Prevention Management will of course be the same wherever the company operates, but the way they are achieve may very well have to vary from place to place, adopting a local accent and style in each.

3.4 Problems in introducing Security and Loss Prevention Management

No change as far-reaching as the introduction of organized Security and Loss Prevention Management into a company can be expected to be free of problems. Line managers may be required to mange their own risk, but risk does not come in neat, departmentalized packages. It spills across functional and organizational boundaries, so that one risk will involve a number of functions which may have different reporting channels. Co-ordination will therefore be necessary and it is here that a central Security and Loss Prevention Management adviser can be useful. If he is to work effectively, however, he needs good communications, both formal and informal, with all who are directly concerned in identifying and dealing with risk. Such communication may cut across established chains of command and carries with it the risk that the risk manager may be suspected of being an information-gathering spy for the section of central management to which he reports.
Security and Loss Prevention Management in an organized form may be a new thing for the company, but many of its constituent parts will have existed in the company already. The company may well have long established fire prevention specialists, safety officers, security men quality control departments, customer relations officers, legal advisers or insurance department, all of which can be said to be engaged in partial risk management. It is improbable that they will be

working together in any organized way-or the company would be well on the way to practicing Security and Loss Prevention Management already. More usually they will only have any contact when their specializations come into conflict, as with the common clash between the man whose concern is with the security of the premises and the one who is seeking to ensure safe means of escape from them in an emergency.

The introduction into the company of a risk manager who seeks to dictate how each of these separate specialist domains is to be managed is likely to lead to more resentment than co-operation. The solution to his problem, as to that of company-wide direct communication, will lie in a clear definition of the risk manager's function and in an emphasis on his role as a co-ordinator in those areas where risk is already managed and an adviser on Security and Loss Prevention Management techniques where it is not.

There will usually be some psychological problems involved in introducing risk management, which only the Security and Loss Prevention Management adviser himself can solve. Essentially, Security and Loss Prevention Management requires people to consider the possibility of things going wrong in their own sphere of activity, and that is something that few of us like doing, despite the schadenfreude which can make the contemplation of other people's potential disasters a pleasant pastime. Interruption of our normal activities is something most of us would prefer just not to think about. Alternatively, the prospect may leave people unconcerned, either because they are too optimistic about their ability to keep going by improvisation when disaster strikes or because, on the other hand, they are too pessimistic about the chances of doing anything about it. "If it happens", they think, "it happens and that's that". These attitudes lead to inertia and Security and Loss Prevention Management will have to be presented to these people in terms that show either the need for, or the possibility of, risk control. In either case, persuasiveness will be a useful characteristic for the risk manager to have.

Suggesting that things may go wrong can be even more difficult if one is dealing with one of the company's technical experts. He may see his job largely as ensuring that things do not go wrong and may take a suggestion that disaster is possible as casting doubts on his professional competence. The fact that Security and Loss Prevention Management is the co-ordination of well-tried techniques rather than an entirely new one way not help, if Security and Loss Prevention Management is presented in the company as something new and different, yet appears to the specialist to consist of applying procedures he already knows about under another name, the impression of an outsider trying to teach him his job may be strengthened and professional pride prove an even greater barrier to overall risk management. Diplomacy will clearly be another quality of the successful risk manager.

3.5 The risk manager's place in the company structure

Just as the "company style" will determine the way in which Security and Loss Prevention Management is practiced within a company, so it should decide where the Security and Loss Prevention Management function should appear in the company's organisation chart. Many companies include it as part of the central financial function, on the grounds that the effects of risk ultimately affect the company in financial terms. Other companies, who put the emphasis on the loss control aspects of Security and Loss Prevention Management and whose approach to it may have been from safety or loss prevention rather than insurance, may see the Security and Loss Prevention Management function as part of technical management.

Neither of these areas has any sort of prescriptive right to direct Security and Loss Prevention Management in a company. The central Security and Loss Prevention Management adviser may be located anywhere that suits the company, although to be effective he needs to have access to top management in order to obtain the backing he needs to introduce a co-ordinated pattern of risk management. He also needs good communications with all parts of the organisation, and this is often easier if his reporting lines emphasise staff rather than line functions. He needs to be like a spider, with his company as the web. He can be anywhere in it, but his communications should be such that if risk touches the web at any point, the vibrations will reach him at once and he can be quickly on hand to deal with it. but he will not, and cannot, deal with it alone.

4.0 Conclusion

In conclusion, Security and Loss Prevention Management is a co-operative effort involving everyone, and the correct Security and Loss Prevention Management organisation for any company is the one that enables and encourages that effort to deal with its own particular risks to be most effective.

5.0 Summary

In summary, ths unit fiocused on the security and loss prevention management policy statement, the risk manager function, company style, problems in introducing Security and Loss Prevention Management

6.0 Reference

1. Cahill, M. (1994), The New Social Policy. Oxford: Blackwell.

2. Harper G. A. (1954), Motivation and personality. Prentice Hall New York

3. Flixborough: The Human Response. University of Bradford Disaster Research Unit occasional Paper No. 7, 1975

7.0 Tutor Marked Assignment

1.Discuss problems encountered in introducing Security and Loss Prevention Management?
2. what is the position of risk manager in organizational structure?