Products Liability

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Abstract

The Products Liability IQP is a project that helps students understand the engineers responsibilities in a liability lawsuit. For this project three cases have been studied. The information given in these cases was studied and each group determined who they felt was at fault. This project gave the students an opportunity to break down each case and understand the procedural aspects of a liability case.

Chapter 1- An Engineer in the Courtroom

The purpose of reading Engineering In The Courtroom gives us a better understanding of the process to present a case. This book was a learning tool to familiarize us to court terms and courtroom analogy and procedures. It is a foundation for us to have a better understanding of what is going to go on in our exploration of three product liability cases in this project.

1.1

Introduction

An Engineer In The Courtroom by William J. Lux teaches us to understand the rights of a defendant and a plaintiff. We will learn the procedures that take place in the courtroom and in depositions. This book is will make us aware of how to steer clear of litigation, how to understand accidents, how engineers can assist attorneys, and how engineers should conduct themselves in these situations.

1.2

The Nature Of Accidents

This book deals with product liability. When a machine has a mishap and accidents happen the designers of that machine may be held liable. In this chapter Lux explains how to determine the meaning of the word "accident". There are many interpretations of this word. When somebody spills milk we say it is an accident. In this book the definition of an accident is defined as "an occurrence that is unexpected, and an occurrence that causes loss or injury, which can be expressed in some form of economic terms."(Lux, p. 10)

If a machine injures a worker the manufacturer and seller of that machine are likely to be sued. The engineer of that machine has to come in and defend the design and development of the product. In the trial the plaintiff attorney will call experts to explain what was needed to make the machine safer. These experts explain to the court that there was neglect on the part of the company and the engineers' design of the product.

In terms of liabilities and lawsuits, collisions are common actions where there is a party at fault. Common examples are vehicles. There are many different outcomes to accidents dealing with vehicles. A good example is two moving vehicles colliding, which is at fault in this accident. This depends on which vehicle was moving improperly or in the wrong place, time, location, or method of movement. There are many things to determine when a moving vehicle hits a parked vehicle. This is not a clear-cut decision. The moving vehicle is not always the one at fault. Was the parked vehicle illegally parked? In most cases, when a vehicle hits a person, it turns out that the pedestrian wins the case. Not all accidents are clear; they have to be dissected by the attorney to determine who is at fault. There are many examples of accidents in this chapter ranging from slipping and falling to homicide.

1.3

Why Go to Court?

There are many reasons why people go to court. The first is that everyone does not agree with the same ideas. Everyone responds differently to various situations. We have the justice system to determine who is right and wrong through the legal system.

Consider a kitchen knife. One might use it to cut bread; another person might use it to kill someone. If someone is harmed, who is liable -- the inventor or manufacturer of the knife? In this case neither of them are liable. Society has determined that the knife is a tool and improper use of the knife lies with the user of the knife. Although this scenario is outrageous, it is an example of a situation that the court has to deal with. For example a drunken driver kills someone. The victim's lawyer has to look at the following: the drivers negligent, liquor laws, and the person who sold the liquor. If the driver did not have insurance or assets the victim's attorney could go after the manufacturer of the vehicle. Lawyers have to take all aspects of the situation and determine where the fault is and where their client can gain retribution. This is why we have the court system to determine the rights and wrongs of the crime.

1.4

Avoiding Litigation

Litigation is the process of filing a lawsuit. If an accident is going to happen, ensure that there is the least amount of possible damage to the person and property. It is hard for engineers and manufacturers to produce a product that can accidentally do damage. There are ways for engineers to take steps to reduce the damage of an accident.

The first step an engineer can take when designing a product is to protect the user from an accident. They can make the situation safer. For example if a truck rolls over, the designer of the truck should make sure there are roll bars so the operator of the truck will not be crushed. Even though the driver is liable, the producer of the product can still prevent further damage to the operator and protect him or herself from attaining any

liability. Lux gives another example by making sure there are air bags and seatbelts that can be warn to make the operator safe. A second step is to warn the operator of an impending accident is by designing a machine with warning devices. For example, airplanes flying at a low and unsafe altitude should trigger an alarm to the pilot to warn the unsafe flight altitude. Another option engineers can use to improve safety is through education. This would hopefully warn employees by using decals on a machine, instruction manuals, safety manuals, and training lessons. A job of the CEO is to ensure that accidents are prevented and to make sure that his or her employees work in a safe environment.

There are many steps to decrease accidents in the workplace and for engineers to protect their products from causing accidents. There are tests and data to inform engineers of the defect. This data needs to be studied and used to correct existing machines from causing further harm. They can also form a safety team to ensure a quality work environment.

1.5

The Litigation Process

The litigation process consists of many steps. When a person has reason to believe that wrongdoing has occurred, one might seek for damages and determine who is responsible. The majority of lawsuits that are filed do not appear in a courtroom. The majority is settled out of court with insurance companies or between parties.

The first step of the litigation process is the "claim". The claim is the reason why the defendant is said to be responsible for the claims, and therefore is a legitimate

defendant. The claim does have to be in detail for tactical reasons. Before the trail begins the claim should be clear to both sides. The next step is a "response". This follows the claim. The response is the answer to the claim by the defendant. The defendant has a reasonable time to study the claim. In most cases the "response" by the defendant is denying the allegations.

The next step is the "defense". The defendant will list his defense, the reasons why the allegations are false. The tactics that a lawyer is looking for in making a defense to the claim are statute of limitations, expiration, or other legal reasons. The "discovery" is when the defendant and plaintiff do not agree on the matter. This is a sign that the case will not be settled quickly. The interrogators in the litigation process are the two lawyers. They ask sets of questions to find out both sides of the story. The job of the court is to demand the correct answers with some time limit. Another step would be the request for production. Here, the lawyer would demand to see documentation of the machines. This would be evidence in the form of documents; warranties, inventory sleeps, and records of other accidents.

Following the rules of the law, the attorney needs to follow certain procedures; like request for admission. These are types of admit like "Are you the designer and manufacturer of the model or product". There would be a line of question that would look similar to show where the blame lies.

Inspection happens to the machine or parts of the machine involved in the accident. The lawyer has consultants or experts look at the faulty part to determine what went wrong.

The most important and intense part of a case is the deposition. This takes place outside the courtroom with just the parties involved, the witness, the lawyers, and a court

reporter. In a deposition the attorney asks the questions to the parties involved in the case.

All of these steps lead to the trial. The trial is where both sides plea their case in front of the judge and a jury. This is where the lawyers can make opening and closing statements. In between these statements the lawyers question and cross-examine witness'. The job of the judge is to see that the trail is fair. In the post trial, the verdict is given by the jury and in some cases the attorney can ask for an appeal.

1.6

Engineers and Engineering Information

Chapter 6 explains why the engineer's information is important to be understood by the judge and a jury, due to their lack of knowledge. The engineer's information is very important in a trial. For the defense it is important for the engineer to describe the machine and in how it works. The defense needs an engineer that can be clear and precise in explaining how the machine works. The engineer needs to be aware that he is the expert and the jury is expected to have no knowledge in the field.

The plaintiff will take the engineers information as a source of evidence to prove that the liability falls on the defense. For the plaintiff to make a strong case against the engineers explanation, they will need to hire an expert to show that there is wrongdoing in the design and in the way the machine works.

The information that is received by an engineer during a trial is considered evidence. If there is no information, it is important that people do rely on information that they try to recall. Cases are won and lost by unclear information.

1.7

How The Engineer Can Help the Attorney

Chapter 7 further explains how the engineer can help the attorney in a court of law. The engineer helps the attorney through their testimony. The engineer knows the design and development and the process. The engineer also needs to know why the design is made the way it is. With their experience they can explain products, systems, parts, operations of the machine, and the process and methods of engineering. The engineer can explain to the court why the product is successful and give examples of past experiences to back up this claim. He can go through a test analyze and can use different applications of the product. The engineer can evaluate different conditions that the machine can go through without harm being done. Not only does the engineer have to explain the use of the machine, but also the procedure between the operator of the machine and the machine. The engineer can conduct a reenactment of the accident and can alsouse literature to explain specific parts of a machine that could have led up to the accident.

The engineer is very useful in testimony in court or in a deposition. Their job through questioning is to make the material more understandable for the people in the court.

1.8

The Discovery Process

The discovery process is very important for both the plaintiff and for the defenses. In this process is where both can discover any information that will help to win the cases. The discovery process can take place in the deposition or in examination of a witness at the trial.

In the discovery process the plaintiff will interrogates the engineer with at series of questions. For example when was the machine designed? How many of them were made? What kind of testing was done on the model?

In a trial when attorney feels he has come up with the proof to show that the machine was liable for the accident will call this type of evidence "smoking gun". It is an old term were criminal action were the defendant is holding a smoking gun that has been fired at the scene of the crime. For an example a letter from the field serviceman says, "Fix this problem before we kill someone with it."

Attorney can ask for request for production. This is they request for physical thing like operator manuals, parts book and other information that the company has about that machine. Also in the process the attorney may use request for admission. It is a line of questioning that goes like this; admit that your company designed and manufactured the subject machine. This type of questioning is hardly used in a liability case.

1.9

The Deposition

The deposition is a part of the discovery process. What takes place at a deposition is the questioning of the plaintiff and the representative for the defense. A deposition takes place outside the courtroom with a court reporter that records all the questions and answers that take place in the procedure.

There are many reasons for a deposition. The first is to discover information. The second is to establish facts. The third is for the attorney to study the deposition to determine the best witness' and strategies for the trial. The fourth reason is to seek information to impeach the witness if there is an opportunity. The fifth is to pinpoint testimony so it may not be changed at the trial.

There are rules that one should follow while answering questions in a deposition. Listen to the question. Pause before you answer the question. Answer only the question asked. Answer truthfully and completely, to the best of you ability. Don't volunteer any information. Don't argue or advocate.

1.10

The Trial

Chapter 10 discusses the purpose of the trial and what goes on during the trial. The purpose of a trial is when two sides cannot come to an agreement they allow the court to have the final decision.

The trial process starts by selecting a jury. A jury can be six or twelve people. There are alternates chosen. The jury is made up of people who are a pears and their job

is to come up with the decision of who is right and who is wrong. The next step is the opening statement. The plaintiff attorney goes first than the defense. This gives the attorneys the opportunity to tell the jury what the case is about. The plaintiff side will tell them how their client got hurt and why the defense is liable. The defense will explain in their opening statement how their client is not at fault. The plaintiff gets to present their case first. Here, they can present any witness, evidence, or other information to help convince the jury that their client is correct. Also, when the plaintiff's witness is on the stand, the defense gets to cross-examine that witness and vice versa when the defense presents their witness'. Then the defense gets to present their side; trying to prove that their client is not liable by disputing the allegations and presenting their evidence and witness'. After all of this takes place the two attorneys get to have their final arguments. This is where the attorneys will summarize what happened and review to the jury the important evidence that they should remember going into deliberation. The judge will then charge the jury by informing them of being fair and impartial to both parties. Then the jury will deliberate. This is where they go behind closed doors and discuss with each other the outcome of the trial. The verdict and punitive damages are determined and then given by the jury to the court.

Who is the courtroom when this all happens? Most importantly, the judge whose job is to make sure the trial is fair. The court clerk manages the courtroom documents and day-to-day activity. The courtroom reporter records all the proceedings and what takes place in the court. There is a marshal, a deputy or a type of law inform cent. Their job is to protect the court and they're in charge of security. The jury, who sits and views the evidence. Lastly, there is the plaintiff side and the defense side.

1.11

Questions

A big part of being the engineer in a case is answering questions. Depending on how the question is asked, it can be used to obtain answers in various ways.

Specific and General Questions are asked in a polite manner and should be answered in a polite manner. General questions do not look for a certain piece of information however; specific questions look for that certain piece of information. For example, "How is your car running?" would be a general question and "Is your car fixed?" would be a specific question.

Open and Closed Questions are simple questions that can tell the attorney about the witness. Open questions expect detailed or narrative answers, and closed questions expect a short brief answer. An open question would be "What is your work history?" and a closed question would be "Are you still with that company?"

Leading and Non-Leading Questions are used in trial testimony. A leading question asks for a short answer. The questioner is expected to know this answer. "That is the car that hit her, Correct?" is an example of a leading question. A non-leading question leaves the answer completely up to the person being questioned. "Will you describe the path of the vehicle that hit her?" is an example of a non-leading question.

Formal and Casual Questions can sometimes be tricky. A formal question is usually documented and asked in a formal document. The answers should be thought out because they can be used against you later on in the case. A casual question is less

formal and asked in a casual manner. However, casual questions can become very important if they are taken the wrong way.

Rhetorical and Interrogating Questions are used to make the witness look bad and make the attorney look good. A rhetorical question does not expect an answer, but sounds like it should. "Isn't that the truth?" is a rhetorical question. If the witness answers, it may look as if he is arguing, and if he doesn't answer, it seems like he is not paying attention. An interrogating question is genuinely looking for an answer.

Simple and Complex Questions work together and are used sometimes to pry information out of a witness. A good attorney will ask a series of simple questions and throw in a complex question to try to catch the witness off guard.

Probing and Outlining Questions are descriptive questions used to prove a detail to the jury. Probing questions are used to try to get a specific piece of information from the witness. Sometimes these questions can be too leading and may cause an objection. Outlining questions are asked by your attorney and are usually a series of questions that your attorney has previously gone over with you.

When questions are asked, they can be taken in a variety of different ways. First, it depends who the questioner is, outsiders questions should be directed to the attorney. The questions that are asked are important too. Some questions are not appropriate at certain times. Lastly, the way the question is asked is very important. Listen to the question, some words may have different meanings then they seem at first.

When answering a question, emphasis of certain words is very important. A simple sentence can be taken in many different ways depending on where the emphasis of

the sentence is. The most important thing to remember when answering a question is to answer it truthfully.

1.12

Accident Reconstruction

Accident Reconstruction is a very important part of a lawsuit. It is used to determine the most probable scenario of the accident using all of the available information. This is necessary because the witness' story may not agree with the evidence found.

There are many cases of incomplete or conflicting information that may arise. The information may conflict, the condition of the evidence may not be in good condition, necessary evidence may be missing, some of the information may not seem correct, the testimony may change, the evidence may not seem logical, and something just may not seem right. The reconstructionist then needs to look for the information to fill in the blank spaces. He will then have to piece together all of the possible scenarios. In order for the reconstructionist to provide a believable scenario, he must follow some very important rules. The reconstruction analysis must agree with the laws of physics and the rules of engineering, leaving little to no uncertainty. The analysis must also agree with the majority of the available evidence. Making sure the reconstruction is understandable is necessary. There should be no bias views in the reconstruction. It should be explained very clearly and also very patiently. Lastly in order for the reconstruction to be its best, it must be able to endure any questions or attacks. If these

rules are followed, then the reconstruction analysis will be very useful when it comes to winning the case.

1.13

Definitions and Techniques Employed by Attorneys

There are many words used by attorneys in their everyday language that we are not used to hearing. This chapter goes over a wide variety of them. Some of the most important definitions are listed below.

Breach – a failure to perform or a break in a chain of action

Due Process – the proper legal steps in a procedure

Foreseeability – the ability to expect to see something happen in the future

Liability – a legal responsibility to provide such remedies as the court decides

Tort – a wrongdoing committed against a person or other legal entity

In the scenario of being the attorney, there are some important techniques that should be used. Asking that last question may get you into trouble. The witness may not answer your question how you expected. Never argue or fight with the witness. The jury will most likely side with the witness. A long cross-examination may upset the jury. Always ask questions that you already know the answer to. You are not trying to obtain information; you are trying to share the information with the jury. Stop when you have made your point and don't assume anything. Listen to the answers given to you by the witness so you don't get caught off guard. Plan your lawsuit and do not try to fool the judge or the jury.

1.14

War Stories

War stories are stories told by lawyers to each other about different strange situations they have faced. There is a meaning to each story, to be learned by the listener. This chapter discusses many war stories. They were all very interesting, however we felt we had learned some important facts from some specific stories. First of all, if you don't know the answer to a question, simply reply with "I don't know." It is a perfectly good answer, and even though the questioner may get angry, it is better than getting yourself in trouble later. If you bring a briefcase into the courtroom, make sure that all of the information in it pertains to the case; it may look bad to the jury if anything else is found. The litigation process is like a sine curve. You will go through parts that seem real good and then some parts that may seem really bad. Don't get down on yourself, and develop confidence.

A very interesting war story was when an engineering-expert faced his lawyer in a second case. There were 4 choices for the engineering-expert in this situation. He could take both cases, drop both cases, take the first case, or take the second case. This was an important choice because if he took both cases, then he may face conflicts and get himself in trouble. If he took one of the cases then he would have faced the pressure of the client who he is working with. Lastly, he could have turned down both cases, but he was well into the first case at that point. The engineering-expert in this case took both cases and everything did work out with no problems.

1.15

Tips for the Engineer Involved in Litigation

It is not your job to be the attorney; you are there to assist him. Do what you are asked, and don't tell people what to do. Make sure you are always telling the truth. If you don't believe it, then don't do it or say it. Don't be worried by your surroundings. You were hired because you know more than the other people in the courtroom. The best thing you can do is properly answer what is asked when you are asked. Your attorney is in charge, he will make sure you are well prepared. Exchange your thoughts and advice with him and make sure you listen to him. Follow instructions accurately. By not following instructions, the law process may not go as easy as it should. View the legal process for what it is. Do your best work and use your best judgment. It can only make you look good. Give your attorney good advice. Offer your attorney all of your special skills, and use them if it's necessary. Act professional, you not only have to prove you are correct in your analysis, but also prove you are respectable. Watch out for misleading questions, make sure you know exactly what the question is asking. Think about your answer before you speak. Don't try to cover or explain your mistakes. Correct them, the juries and courts like honesty, and covering up a mistake is dishonest. Listen to advice and use it. You're not doing the case by yourself; you have an attorney. Most importantly, tell the truth.

Chapter 2: Videos

Abstract

For this IQP it is very important to observe the nine videos to get better understanding in what goes on in a courtroom. Throughout the nine videos we learned techniques used in presenting a product liability case. In trying a case it is very important that every detail is perfect. In the videos we can observe the right and wrong ways of how to present a cases. Every motion or type of language that an attorney uses is detrimental or beneficial to their case. Visually we have a better picture of what goes on in a court room than what a book can describe.

2.1

Opening Statements

An opening statement is an introduction to the facts of a case made by both the lawyers of the defendant and the prosecutor. They are each given a short period of time to open the case to the jury. The closer the lawyer can get to a personal level with the jury, the better they are. The jury may sympathize more for a lawyer who can make it look like they are just someone who is trying to explain a story.

There are many strategies for an opening statement, however, most lawyers like to use similar ones. While presenting the opening statement, the lawyer should not be trite to keep the jury interested. The opening statement should be kept to the point, going off on a tangent may cause confusion for the jury. A lawyer should explain the situation as a story instead of just listing facts. The opening statement should not leave any loopholes, the lawyer should make sure that they are fully explaining themselves; however, it is a

good idea to keep the jury curious. One very good idea that lawyers have been using today is briefly explaining the point of view of the opposition. The most important part of the opening statement is the liability issue. It is necessary to explain to the jury why or why not the defendant is liable.

2.2

Direct Examination

Direct examination is a very crucial part of the case. This is when each lawyer brings up their witnesses to try to prove their argument. Therefore, direct examination is rehearsed before it is done in front of the jury. This is because the lawyer is going to want to ask only the questions that will help him out in persuading the jury.

During the direct examination, it is important that the lawyer keeps a certain mood because the jury is very observant towards their actions. Anything the lawyer does wrong will count against them. Therefore, the lawyer must use the correct tone of voice when speaking to his witness. It is also important that the lawyer has the correct voice level and correct body language. Any exhibits that are being shown to the jury should be given in a respectable way. The jury isn't going to want to see a pile of exhibits all out of order.

When questioning the victim it is very important that the lawyer does not ask too many emotional questions. It is important to get all of the vital information out of each witness; however, it looks bad if the lawyer upsets the victim. If the lawyer is going to show the jury an injury that the victim endured, it is in his best interest to show it at the

end of the direct examination because the jury tends to remember the last thing they hear or see most.

Interviewing the defendant can be tricky. The lawyer may not always get the answer that he is looking for. It is very important to keep the questions direct. The best thing a lawyer can do when questioning the defendant is to ask questions that have simple "yes" or "no" answers.

2.3

Additional Opening Statements

The additional opening statement is very important in getting on the good side of the jury. The lawyers' demeanor is very important in the courtroom. Everything the lawyer does, says, and every gesture made is seen by the jury. Repetition is used as a tactic to get the jury to remember an important fact. When someone hears something over and over again, they remember it much better. Another way that lawyers get the jury to remember things is by use of visual aids.

Most importantly, when giving an additional opening statement, being concise and well spoken is vital. The jury should not have any confusion and the lawyer should make sure he clears up any misunderstandings that he may have created. There is no guarantee that this will make the lawyer win the case, however, it may help the lawyer.

2.4

Cross Examination

The cross examination is when the opposing lawyer questions one of the other lawyers witnesses. This happens after the direct examination. The lawyer prepares the witness to answer specific questions that the opposing lawyer may ask. This does not mean that the witness will be able to answer everything. Something may be asked by the opposing lawyer that the witness may not be ready for, so the only way to answer the question is truthfully.

To start the cross examination, the opposing lawyer first should get to know the witness. Asking questions about his work and life are perfectly acceptable. Once the opposing lawyer feels comfortable he can go on to ask questions regarding the case. The opposing lawyer must also set the mood of the questioning. Again, it is important to have the correct tone of voice, voice level, and body language.

During the cross-examination is when the opposing lawyer tries to pry information out of the witness. The lawyer needs to get as much information out of the witness that will build their side of the case. If not, the lawyer should try to make the witness' prior statements to their own lawyer look incorrect to the jury. Here the opposing lawyer can get into some trouble because if he digs too deep he may give out extra information that may benefit the witness' lawyer. He has to remember that he is also in front of the jury too and cannot act disrespectable to the witness.

2.5

Cross Examination of Non-Medical Experts

Almost every case involving product liability will involve an expert witness. An expert witness can be engineers, doctors, economists, or anybody who knows the necessary profession. Most likely these expert witnesses have been in court before doing this and sometimes even with the same lawyer.

When the questioning begins, the lawyer should get the jury to know the witness. It is important for the jury to understand that the witness knows what he is talking about. The lawyer then gets into the case and uses the witness to prove certain facts to the jury about the case. When the opposing lawyer gets up to cross examine the witness, they should try to attack the witness. The jury has a positive attitude towards the witness since they're an expert, so the opposing lawyer should show the jury that the expert is not as good as they think. If the opposing lawyer notices a conflict of interest between the lawyer and the witness, the lawyer may try to indirectly show this to the jury. If the lawyer sees that the witness has not put too much work in the case, he should also show this to the jury.

Most of the time these expert witnesses have been in court before. This helps them out because they will be used to getting the tougher questions from the opposing lawyer.

2.6

The Deposition

The deposition is a very important part of a trial. A deposition takes place outside the courtroom. This is where both parties and parties that are involved get together with a stenographer to give their side of the story. All parties are under oath. There is no judge present when this goes on.

A lawyer benefits from a deposition by getting to hear the other side tell their version of what happened. The lawyer will then take the deposition and study it to see if the other side made any mistakes. An example would be giving up any unknown information or changing their story at the trial.

If one is giving a deposition there are some important things to remember.

- Always tell the truth because you are under oath
- If the witness does not know an answer then it is ok to admit that he or she does not know the answer
- The witness should never give more detail to an answer than needed
- The witness should never volunteer any information
- Once the witness gives the deposition it is on the record
- If the witness gives up to much information that the other party may not have known about, the opposition can gain an edge
- Listen to the questions carefully
- A witness should not be afraid to ask a lawyer to explain the question again or to repeat the question.

2.7

The Conclusion

The conclusion comes at the end of the trial. It is a prepared statement by the lawyers. This is the last time the lawyers will be heard from in the trial. Its is a very important part of a lawyer's case because he or she gets a last chance to leave the jury with the important facts. The lawyer needs to reiterate about the damage that has been done and go over important evidence. The jury has a very important job. The lawyer needs to explain to the jury that they are making a decision that is going to affect somebody's future.

The lawyer needs to present the conclusion in a fashion that would have a lasting impression on the jury while they are trying to make a decision. It could be one point in the lawyer's delivery that changes a juror's decision in favor or against the lawyer's case.

2.8

Summation

Another part of the closing of the trial is the summation. The summation is a prepared statement by the lawyer. The lawyer is trying to accomplish three things.

- Making a point that the case is worthy of going to trial
- A review of some of the main testimony and evidence
- To make the jury understand that product liability cases are very important because they can prevent the liability from happening in the future.

The summation is a prepared statement, so it would be in the best interest of the lawyer to give it in a style that he or she feels comfortable in. It is important for a lawyer

to feel out the jury. In the summation he or she does not want to say anything that would offend or weaken his case to a juror. During the summation the attorney needs to capture the audience, which is the jury, for the last time. The attorney wants to make sure that the last words have an impact on the jury and have an influence during the deliberation.

2.9

60 Minutes II

The T.V show 60 Minutes II was about a case that involved General Motors and the way they developed and manufactured the Mustang sports car. There was a defect in the car that involved the gas tank. The placement of the gas tank was placed in a vulnerable area of the car. It ended up being cheaper for Ford to place the gas tank under the trunk despite its lack of safety. When the Mustang was involved in a rear end car accident the car could catch on fire. Burning deaths in Mustangs were higher than any other car.

Ford was sued over seventy times. Every case never went to trial. Ford chose to settle out of court. By not going to court Ford was admitting its guilt. They would rather make a profit and sell unsafe cars than go back and fix the problem. Ford kept making these cars for five more years.

Chapter 3: Products Liability In a Nut Shell

Product Liability In A Nutshell is going to give us great detail in what goes on in a product liability case. It is going to familiarize us with terminology that deals with product liability cases. These terms that we are going to learn are the terms that we have to utilize in the three cases. By reading this book we now have a better understanding how to break down a product liability case and determine who is at fault.

3.1

What is a product?

The definition of a product is usually tangible personal property. In the case of product liability the definition of a product is extended beyond tangible goods, as it can also be intangible. For an example of an intangible product would be electricity. The electricity could have been delivered faulty by the electric company.

What is a defect?

In product liability cases when a product hurts a person and causes injury one has to find a defect with the product or service of the supplier. There are three types of product defects.

- Manufacturing or production flaws
- Design defects
- Defective warnings or instructions

What is Sale?

A "sale" is defined by the Unif.Comm.Code as the "passing of title from the seller to the buyer for a price." (P.31)

3.2

Negligence

Negligence can happen in many ways while handling a product. This can happen when the product is being inspected, processed, packaged, designed or even marketed. It can also occur when the owner mishandles or misuses the product. Negligence also may be letting minors use a product.

Statutory Violations

Statutory violation may be considered as evidence of negligence. A statue or regulations may express the cause of action whether the statue be civil or penal in nature. For example the Lemon Law, one might know what is wrong with the car but still sale it any ways.

Reckless Misconduct

By forgoing warning for a product that may cause damage to a person one can be considered reckless. Another way one can be considered reckless though intagable way. For example a physiatrist giving the wrong advice. "Reckless misconduct can justify recovery of damages for solely emotional distress, which would not otherwise be recoverable"(45)

Strict Liability

It is the responsibility of the manufacturer who is in the best position to reduce the liability of a product. As long as the product is on the market the manufacturer is responsible. If that product harms a consumer they can sue the manufacturer for strict liability.

Overlapping Bases of Liability

The plaintiff is entitled to plead and prove as many counts and casues of action they would like. In product liability there are resemblances in product liability statutes that attempt to combine the law in this area. Some courts have discovered one or more of the theories overlap so the plaintiffs pleading are restricted in this regard. The court does this to consolidate the law for a less confusing process for the jury when they have to deliberate.

Damages

Damages in a product liability cases are based on personal losses that the plaintiff suffered. Damages no matter tort or warranty have to be foreseeable. In collecting damages some states have enacted statues placing a cap or limit on the amount of damages that can be recovered in a lawsuit.

3.3

Plaintiffs

When a plaintiff is trying to collect for personal injury they may use any available theory. A plaintiff does not have to be the consumer that purchased the product or even the user of that product; a plaintiff can just be a bystander. For example a bystander could be a nonsmoker that is affected by second had smoke.

Seller of New Products

A seller of a final product can sue the manufacturer of a defective part that resulted in a malfunction in the final product. The only way a supplier is not held liable is if he or she it has no control of how the part is being used in the final product. For example if the part was being used improperly in the final product, and the product malfunctioned the supplier is not at fault.

Defendant Used-Products Sellers

The Jurisdiction is divided on whether strict liability can be imposed on the seller of a used product. A retailer should not be strictly liable unless it has an action over it can force its suppliers to "correct or prevent the manufacturer of dangerously defective products".

Defendant Successor Corporation of Products Seller

It becomes an issue were the liability is held when a company purchases another company. It is said that when company is purchased the liability is purchased.

Defendant Lessors, Bailors, & Licensors of Products

The defendant Lessors and Bailors case was a landmark case that deals with strict liability. What the case came down to the court saying, there is "no good reason" for restricting warranties to sales. A company leasing a vehicle to a customer holds the same liability as if the company sold the vehicle to the customer.

Defendant Employer Suppliers of Product

A number of states by statue of common law permit a tort action by an employee against his/her employer, outside the exclusivity provisions of workers compensations where the employer engages in premeditated misconduct causing injury to the employee.

Defendant Providers of Service

There is a distinct break down of when natural defects occur and when they are man made when it comes down to strict liability. When an employee fails at his or her job purposely they can personally be held reliable.

Defendant Real Estate Suppliers

The leading cases applying strict liability against the mass builder-vendor of new homes is because of defective construction which causes personal injuries Whether the builder is large or small, the purchaser relies upon his or her superior knowledge and skill of the builder and the contractor impliedly represent that it is qualified to erect a habitable dwelling.

3.4

Factors Affecting Choice of Remedies, Jurisdiction and Procedure

In chapter four the author discuss about one remedy than another. For example, disclaimers, limitations of remedies and notice of breach are often associated with warranty litigation, and results solely economic loses. There are areas that need unifying theories like conflict of laws questions, disclaimers and statutes of limitations.

Reliance

Reliance is proof of that is expressly required as a condition to recovery for conscious misrepresentation, negligent misrepresentation and innocent tortuous misrepresentation resulting in personal injury. The underlying basis at least in the case of misrepresentation, is that the misrepresentation creates special expectations regarding product use over and above those presumed to be held by the ordinary consumer.

Disclaimers & Limitations of Remedies

The major thrust of strict tort products liability is to provide compensation to the user or consumer who suffer "physical harm" to himself or to his property from an unreasonably dangerous defective product.

Recovery of Solely Economic Loss

Economic loss is typically defined as a loss value loss, of use, cost of replacement, lost profits, and damage to business reputation, where no sudden, physical

accident is involved. Two things can take place in this case first; a court may require a plaintiff's physical damages to be substantial before a tort action can be brought before the court. The second thing that might happen is that the court may not determine from the cases what constitutes an accident.

Notice of Breach

By the definition of the Uniform Commercial Code

"where a contract has been accepted: the buyer must within a reasonable time after he/she discovers or should have discovered any breach notify the seller of breach or be barred form any remedy." (P.150)

Wrongful Death

The majority of courts allow a wrongful death action to be brought in warranty as well as in tort. A wrongful death action is typically a creature of statute rather than a common law cause of action.

Procedural Consideration

A statue may provide the basis for a cause of action either expressly or by implication. The Supreme Court established the four part test which is shown below:

- Plaintiff was not part the class for whose special benefit the statue was passed.
- There was no apparent Congressional intent to provide a private cause of action .

- Such a cause of action would not further the underlying purposes of the legislative scheme.
- The cause of action was one traditionally relegated of state law.

There is a clause in the United States Constitution that requires a defendant to have minimum contacts with a forum before it can be subjected to the personal jurisdiction of that forum.

Class actions suit is a mean of taking mass tort litigation towards one product. A example for mass litigation would be people being harmed by toxic waste or nuclear landfills. There are four types of class actions that may be certified on motion of either plaintiff or defendant

- Where there is a risk or inconsistent or varying adjudication.
- Where adjudication of some claims will as a practical matter be dispositive of the claims of others not a party to the litigation.
- Where the defendant has acted or refused to act on grounds generally applicable to a class, making final injunctive or declaratory relief appropriate.
- Where questions of fact or law common to the members of the class predominate over questions affecting only individual members.

Statutory Compliance

Several states provide by statutes that compliance with applicable governmental statues or regulations creates a presumption that a product is not defective or unreasonable dangerous, or presumption that the defendant exercised due care.

Contract Specifications Defense

Manufactures whose product is in accordance with nongovernment purchasers are not strictly liable for a defect in design unless the danger is clear. In the case of government contracts, manufactures are immune from liability for injuries caused by a defectively designed product. The court set out four rules necessary to establish the defense for Government Contractors.

- The approval of the design by the United States must involve a "discretionary function" as that term is used in the Federal Tort Claims.
- The United States must have "approved reasonably precise specifications".
- The product must have "conformed to those specifications".
- The product must have "warned the United States about the danger in the use of the equipment that was known to the supplier but not the United States".

Statutes of Limitations

In dealing with product liability there are two or more statutes of limitations that can apply to a cause of action. The first approach is to allow the plantiff to rely on a warranty statue for a warranty claim and a tort or personal injury statute for tort claims. The second is to look at the general idea of the action and rely only the tort or personal injury statute even to a claim based on breach of warranty.

Statutory Retrenchments

States have enacted statute to cut back on consumer rights in the area of product liability. Federal legislation has not passed statues concerning this problem. Retrenchments will generally be upheld as Constitution, it isn't known if less litigation will decrease the insurance rates or the amount of litigation and damages recovered.

3.5

Production Defects

Design defects are distinct from manufacturing or production flaws. The definition of manufacturing defects appears to indicate that manufacturers can set their own standard.

Design Defects

When deciding a defect design cases the court usually use a risk utility analysis. The test is simply a detailed version of Judge Learned Hand's negligence calculus. There are variations on the definition of design defectiveness for strict liability. The court says "In a negligence case, the inquiry focuses on the reasonableness of the manufacturer's choice of design in light of the knowledge available at the time of manufacture. Under strict liability, however, knowledge of the danger in fact as revealed by the accident and the testimony at trial is imputed to the manufacturer."(193)

3.6

Warnings & Instruction

A warning is distinguished from an instruction in that instructions are calculated primarily to secure the efficient use of a product, while warnings are designed to insure safe use. To be more precise a warning must describe the nature and extent of the danger involved.

Misrepresentations

Misrepresentations can happen in many ways. It can happen through negligence, strict tort and strict warranty. A misrepresentation can toll the statue of limitation and it can prevent a disclaimer of liability from being effective.

3.7

Cause-In-Fact

For proving cause- in- fact the plaintiff must show that the defendant's product was defective and that the defect caused injury. The plaintiff must also show that the defect was already there when the product left the defendants control.

Proximate cause & Foreseeability

The concept of foresseeability is use to describe occurrences that can reasonably be anticipated, while proximate cause is used to describe occurrences that are the "direct", "natural" or "probable" results of another event.

Plaintiff Misconduct, & Comparative Fault

There are three types of plaintiff misconduct contributory negligence, assumption of the risk, and misuse including alteration of the product.

Subsequent Remedial Measures

The rule is held to exclude evidence of remedial measures only if taken by the defendant after the plaintiff's injury. Also to exclude evidence of such measures taken before the injury.

Miscellaneous Problems of Proof

Evidence of unsafe and of prior accidents with similar products is admissible for a variety of purposes, including proof of notice of the alleged defect by the defect by the defendant, the magnitude of the danger, the foreseeability of user conduct the defendant ability to correct the defect and causation.

Expert testimony may not be permitted to testify, however if the subject matter of his/her testimony concerns a matter of common knowledge, and the expert cannot testify if he/she lacks the requisite qualifications of an expert in the field.

Chapter 4: Kenneth J. Bartow vs. Extec Screen Machine

Kenneth J. Bartow is an employee at the O'Conner Brothers sand and gravel company. While working for O'Conner Brothers, Bartow was required to work with the crusher machines and do minor maintenance on them. If a machine got plugged or jammed with stones, Bartow would fix it. On a Friday morning at the O'Conner Brothers site in Ashley Falls Bartow was required to tighten the screen on an Extec crusher machine. He somehow climbed up to the top of the machine and as he tightened the screen he fell off. When Bartow hit the ground he had injured his spine and shoulder.

Kenneth Bartow had a fairly strong knowledge of heavy machinery. He learned this from his family while growing up. Throughout his past, Bartow had worked as a mechanic, carpenter, and a heavy machine operator. In 1980, while working for the Mass Turnpike Authority, he was lifting a disc brake off a FWD Tandem truck and injured his back. Bartow had surgery on his back and the pain did not go away for about 4 years. He had to work for companies that required less heavy labor until he could get back to feeling better. Bartow began working for a company called O'Connor Brothers, that dealt with making sand and gravel using heavy machinery. Bartow became very familiar with these machines, and taught himself how to use each one of them. To change the screens on some of the machines, he often had to climb on top of them. When it was time for a new Screen Machine, Jack Gilfoil was the sales representative. O'Connor Brothers let Bartow help decide on whether they purchased this machine or not. Bartow liked this machine and eventually O'Connor Brothers purchased it.

When it was time to change parts on the machine Bartow asked several times for the owner's manual but never received one. Gilfoil was there to change the screen for the first time and had taught Bartow how to do the basics with the machine. O'Connor Brothers faced some problems with the Extec Screen Machine. For example, the side conveyor belts fell off every once in a while. They then went on to discuss the accident in detail.

Bartow claimed he had fallen from the top of the 18-20 foot high screen machine shown below while tightening the screen by pushing on a ratchet with his foot sometime between 7:45 and 8:00. Due to this accident Bartow is receiving minimal workman's compensation and disability payment.

Figure 1: Extec Screen Machine

There are 3 possibilities of who is at fault in this case. Extec Screen & Crushers LTD, Extec of America, and Extec of North America may be at fault because they did not make a safe enough machine. O'Conner Brothers may be at fault because they did not

provide their employees with sufficient safety precautions. Finally Kenneth Bartow may be at fault because of the poor judgments that he made.

After examining the liability of the designers of the Extec Screen & Crushers, it is evident that they failed to provide the proper safety features for their machine. There is a lack of safety instructions in the manual they provided. For example, in the picture on page 17 in the manual, there is no guardrail safety harness and the Extec company logo is clearly displayed. The way that we can determine the company is not held liable is by noting the machine is manufactured and designed outside of the United States. However, Extec Screen & Crusher LTD is under the Laws of England and duly under State of Pennsylvania.

There are many facts that we have to take in to account as to whether O'Connor Brothers failed to provide any safety measures for their employees, which makes them liable for the damage done to Kenneth Bartow. If we look at the Lexis Law Publishing Code of Federal Regulations we see that the criteria to protect in work place states:

- Fall Protection
    - Additional performance requires for personal climbing equipment, line mans body belt, and safety straps are provided in subpart V of this part
    - Safety buckles
    - A buckle means any device that holds the body in
    - Toe board means a low protective barrier that will prevent the fall of materials & equipment to lower levels & provide protection from falls for personnel

- Employees shall ensure employee on top containers are protected from fall hazard

- Fall Protection system

- Arrests/ constraints with stand 5000 pounds
- Full body harness
- Training for proper hook up of safety harness

- Personal Protection Equipment
  - Protected shield & barriers
  - Training awareness courses

- Congressional statements of findings & declaration of purpose
  - Regulations for company to follow for employee safety
  - Training
  - Overall equipment safety

The Lexis Law Publishing Code of Federal Regulations gives a clear idea how the O'Connor Brothers failed to provide proper safety measures to Kenneth Bartow. These facts above lead us to believe that the O'Conner Brothers could be held liable for not providing the right regulations and safety procedures to keep there employees safe.

By O'Connor Brothers failing to provide safety and proper procedures on changing parts such as the ones stated in the Lexis Law Publishing Code of Federal Regulations, Bartow could sue under the cause of " Defendant Employer Suppliers of Product." This states that a number of states, by statue of common law permit a tort action by an employee against his/her employer, outside the exclusivity provisions of workers compensations where the employer engages in premeditated misconduct causing injury to the employee. By this statement it could be conceived that the O'Conner Brothers knew that they were in violation and endangering their employees by not giving them any safety protection. They did not even offer training on how to operate the equipment or even how to change parts of the equipment. If this is the case, Bartow

should be entitled to more than workers compensation. However, Workman's Compensation Insurance protects the company against an employee suing a company.

The first thing that comes to our attention is that Kenneth Bartow has shown poor judgment in previous jobs that have led him in being injured. For example, in a prior job at the Massachusetts Turnpike Authority Bartow hurt his back lifting a piece of equipment. In this case, Bartow was working for the O'Conner Brothers company while changing a screen on top of an Extec Screen & Crushers LTD. machine. The screen on this machine had to be changed, so Bartow used the ladder that he built to get to the top of the machine. There was a complication in changing the screen so he attempted to use his foot as a tool to press on the ratchet in order to loosen a bolt. As Bartow pressed on the ratchet with his foot, he lost his balance and fell off of the Extec crusher machine. He was not wearing any safety equipment or taking any safety precautions. There is a question as to what type of judgment he used when he was on top of the machine which was 18 feet off the ground.

The next question that we ask is, Where was Bartow standing before he fell off the screen machine. There are 2 possibilities. Bartow may have been on the platform loosening the bolt or he may have been on the ladder climbing to the top of the machine. We calculated below that if Bartow was on the platform on the screen machine and fell off, he would have landed approximately 12 feet from the screen machine. If Bartow had fallen from the ladder that he had built, he would have landed approximately 9 feet from the screen machine. It was stated by Harold D. Green, who found Bartow after the accident had happened, that Bartow was approximately 8 feet from the screen machine.

This proves to us that Bartow was not standing on the platform when he had fallen off of the machine.

Figure 2: Ladder on Screen Machine

Figure 3: Platform of Screen Machine

We calculated the distances of the fall using the following equations and information. We knew that the platform was 12.4 feet from the ground and we needed to find out how far from the machine Bartow landed in the horizontal direction. We first had to solve for the time that Bartow was in the air.

T = (2*(h/g)^(1/2)) ; where g is gravity (32feet / sec) and h is the distance from the ground.

$\therefore$ T = ((2 * 12.4 / 32)^(1/2)) = .88s

We then had to determine how far he had fallen.

D = h/T

$\therefore$ 12.4 / .88 = 14.09 feet per second

14.09 feet per second for .88 seconds

$\therefore$ 14.09 * .88 = 12 feet

If Bartow had fallen from the ladder, we know that he was 9 feet from the ground. Using the same equation from above we find that Bartow was in the air for .75 seconds.

T = ((2 * 9 / 32)^(1/2)) = .75s

We then had to determine how far he had fallen.

D = h/T

$\therefore$ 9 / .75 = 12 feet per second

12 feet per second for .75 seconds

$\therefore$ 12 * .75 = 9 feet

Using the time of .75 seconds that Bartow was airborne, we had to figure how far he had landed from the machine.

We believe that Kenneth Bartow brought the accident on to himself by using poor judgment. To reiterate, here are some of the facts that led us to this determination.

- Bartow climbed on top of the machine
- Bartow loosened the bolt by pressing on a ratchet with his foot
- Bartow built his own ladder to get himself to the top of the machine

Even though Kenneth Bartow had a voice in what machine the company purchased, it is not his responsibility, as employee, to set the safety standards in the work place. This responsibility belongs to the Chief Executive Officer or owner of the company because they have the perspective of the overall company. If Bartow makes this decision, he may jeopardize the safety of the company or one of his co-workers. He does not have the knowledge of how his decisions may affect the other workers.

After examining all three sides that dealt with the misfortune of Kenneth Bartow, we believe that Kenneth J. Bartow is held liable. Since O'Connor Brothers is covered by Workman's Compensation Insurance and the case is Kenneth J. Bartow against Extec, Kenneth Bartow is held liable. Extec had not done anything wrong, they met the required standards and the standards were not perfect.

Chapter 4: Perkins vs. Rodgers

On Friday September 3, 1999, Eric J. Rodgers had stopped by Elisha's Restaurant in Milford New Hampshire with a friend and his father for a couple of drinks after work. Rodgers had 4 or 5 beers that day and left the restaurant a little before 7:00PM. At this approximate time, Bruce S. Perkins was pulling out of a driveway on Amherst Street on his black Harley Davidson Motorcycle. He pulled up behind a silver Dodge Neon driven by Steven R. Neill. As Rodgers left Elisha's Restaurant, Perkins made his way onto Nashua Street in the eastbound direction. As Rodgers made a left hand turn out of the restaurant parking, lot Perkins skidded into Rodgers car creating this motor vehicle accident. Figure 3 below shows the view of Perkins as he approached Elisha's Restaurant.

Figure 3: Perkins Approach to Elisha's

Elisha's Restaurant is located at 437 Nashua Street in Milford New Hampshire. The speed limit in front of the restaurant is a mere 25 miles per hour. Nashua Street is a 2 lane road with telephone poles on the east bound side of the road.

Bruce S. Perkins was born on December 9, 1958 and at the time of the accident he was riding his Black 1996 Harley Davidson Motorcycle licensed JAMIN of New Hampshire. Prior to this motor vehicle accident, Perkins had been in several other accidents:

- Perkins was driving his car when he was rear-ended by a motorcyclist performing a "wheelie" stunt
- Perkins rear-ended another car on a rainy night at a traffic light
- Perkins hit a car at a light after an on ramp
- Perkins also hit a moose one time while driving
- Perkins drove off the road while watching a bear in his rear view mirror

Eric J. Rodgers was born on August 25, 1967. He was driving a gold 1999 Mercury licensed R&A of New Hampshire at the time of the accident. Rodgers graduated from Bishop Gueretin High School in 1985 and the University of New Hampshire school of communications in 1990. His background contained no record of alcohol problems and his Mercury had only 6000 miles and was considered in good shape. At the time of the accident Rodgers did not have any sort of corrective vision.

Steven R. Neill witnessed this accident from the rear view mirror of his Silver Dodge Neon. While his wife, Beth, stayed in the car with their son, Steve approached the scene of the accident and tried to assist until help arrived. He stated that he had heard the motorcycle "rev" its engine and speed out of the driveway behind him. As he passed

Elisha's Restaurant he watched in his rear view mirror as he noted that a gold 1999 Mercury, driven by Eric Rodgers, was impatiently waiting to exit the parking lot. The Mercury then pulled out of the parking lot to make a left turn across the lane where the motorcycle was approaching. The motorcycle began to skid, hit the Mercury, and entered a 180-degree spin across the road. He talked to Perkins, the motorcycle driver and noted to the police that he had smelt alcohol on his breath after asking if he was taking any kind of medication. Neill also noted to the police that Perkins was doing an excessive speed of at least 65 miles per hour on the road that was marked 25 miles per hour. Neill also stated that Perkins should have been able to maneuver around the car.

At the scene of the accident, Officer Frye stated that the Harley Davidson was facing westerly in the eastbound lane and the Mercury was facing southerly in the west bound lane. The skid mark from the motorcycle appeared to be 103.6' long which proved that Perkins was not traveling at 25 miles per hour. The calculated speed of the Harley Davidson was 46.8 miles per hour with a 103.6' skid mark. This is 21 miles per hour over the posted speed limit. This value was calculated using a coefficient of drag of 0.7, which is used for clean dry roads, and the measured skid mark distances of 103.6 feet and 57 feet.

Speed (mph) = $5.5 * \sqrt{0.7} *$ skid distance

$\therefore$ @103.6 feet $\quad 5.5 * \sqrt{0.7} * 103.6 = 46.8$

$\therefore$ @ 57 feet $\quad 5.5 * \sqrt{0.7} * 57 = 34.7$

When Eric Rodgers, the defendant, was asked to tell his story he stated that he got out of work somewhere between 5:00pm and 5:15pm. He drove to Elisha's Restaurant to meet his father and a friend to have a few drinks. Around 7:00pm Eric left the restaurant

to go home after drinking 4 or 5 beers. As he approached the exit to make a left turn onto Nashua Street he looked right, left, and then right again. He then stated that there were telephone poles slightly obstructing his view of traffic. As he entered the street he saw the motorcycle as a blur the instant before the vehicles hit. Upon impact, Rodgers car swung around on the road and the air bags were inflated. After the accident Rodgers got his car fixed for $15,000 and he had several pulled muscles down his spine and neck.

Bruce S. Perkins, the plaintiff, explained to Dennis T. Ducharme that as he pulled out of the driveway he let a car pass before he entered the street. He then started behind them as he approached Elisha's Restaurant. From a distance he saw the Mercury driving towards the exit of the restaurant. He then saw the car inch, stop and inch a little more right before it entered Nashua Street. Perkins stated that he tried to break and his brakes locked up. As he was about to enter oncoming traffic Perkins said that he tried to avoid it by making a hard right. As he did this he hit the rear of Rodgers car and was sent spinning across the street. After the vehicles stopped, Rodgers apologized to Perkins for cutting him off. Perkins was charged with Driving While Intoxicated which was later dropped and he was also charged with under plus 25 miles per hour, however he did not know that the speed limit was 25 miles per hour at that point. After a couple days Perkins came back to the scene to measure the skid mark from his motorcycle and it measured to be about 57 feet. If the skid mark actually was this long, Perkins was still going over the speed limit. The calculated speed for the motorcycle with a 53' skid mark is 34.7 miles per hour.

After reading all of the available material on the case and reading up on some extra information we had to make a decision on whether Bruce S. Perkins is at fault or if

Eric J. Rodgers is at fault. We felt that since both of the men had been drinking prior to the accident, alcohol is definitely a factor. We cannot determine exactly how much each person had to drink, but we can assume that they were both somewhat impaired. Even though Rodgers weighs approximately 250lbs, we can say that 4 or 5 drinks is still a lot of alcohol for an hour and a half. This was determined because if he got out of work at 5:15PM, he was most likely served his first beverage at least 15 minutes later, at approximately 5:30PM. This would give him only an hour and a half to consume his 4 or 5 drinks. After calculating the Blood Alcohol Content of Eric Rodgers, we determined that his BAC was 0.0495%. In the state of New Hampshire this is a legal limit. Perkins admitted that he had 2 or 3 drinks before he had driven his motorcycle. After the accident he was charged with DWI and Steve Neill stated that Perkins seemed to be intoxicated and should have been able to maneuver around the car. Therefore in making our decision we had to take into account that both drivers were partially impaired. However, since Perkins was operating a motorcycle, the alcohol may have affected his ability to operate his vehicle more since a motorcycle relies mainly on balance.

Another major factor was that Perkins was not doing the acceptable speed limit. The fact that he measured the skid mark to be over 45 feet shorter than the police did could have been due to possible rainfall, or just the skid mark naturally disappearing on its own over time. Therefore we need to take the information that has been provided to us from the police at the time of the accident. Having a skid mark 103.6' long shows that he was traveling well over the posted speed limit of 25 miles per hour. Since he was traveling at such a fast rate he did not have the time to react to the car pulling out in front

of him. His excessive speed combined with the impaired reaction time may be a major cause of this accident.

Finally we need to take into account that Eric Rodgers had an obstructed view. From the pictures in the case we can see that the position of the telephone poles can obstruct the view. This is because of the curve of the street. However, the view was not drastically obstructed for seeing a car, but it may be obstructed for seeing the motorcycle, especially if it was traveling at a fast rate. As shown below, we can see how the school bus is partially obstructed.

Figure 4: Obstructed View

Our final decision on this case is in favor of the Defendant, Eric J. Rodgers. We feel that Bruce S. Perkins was traveling on Nashua Street in a dangerous way. He was moving too fast and was not prepared to stop. If Perkins was not impaired, he may have realized that he was approaching Elisha's well over the speed limit and he also may have been able to maneuver around Rodgers car.

Vermont Yankee Nuclear Power

Vermont Yankee Nuclear Power is a company located in Vernon, Vermont. They lie on the Connecticut River and use its water as a heat removal system. The amount of water passing through the heat removal system is regulated by two 11' x 13' hydraulically operated sluice gates. On February 27, 1998 Vermont Yankee purchased 2 new gates to replace the nearly 25 year old ARMCO gates that they were currently using. They signed a contract with Cianbro Corporation that said Cianbro was responsible for the design, manufacture, and installation of the gates. Cianbro then appointed Rodney Hunt Corporation to design and manufacture the gates. On May 28, 1998 the gates were installed and tested during Vermont Yankee's refueling outage. The diagram below references all of the parts described in this case.

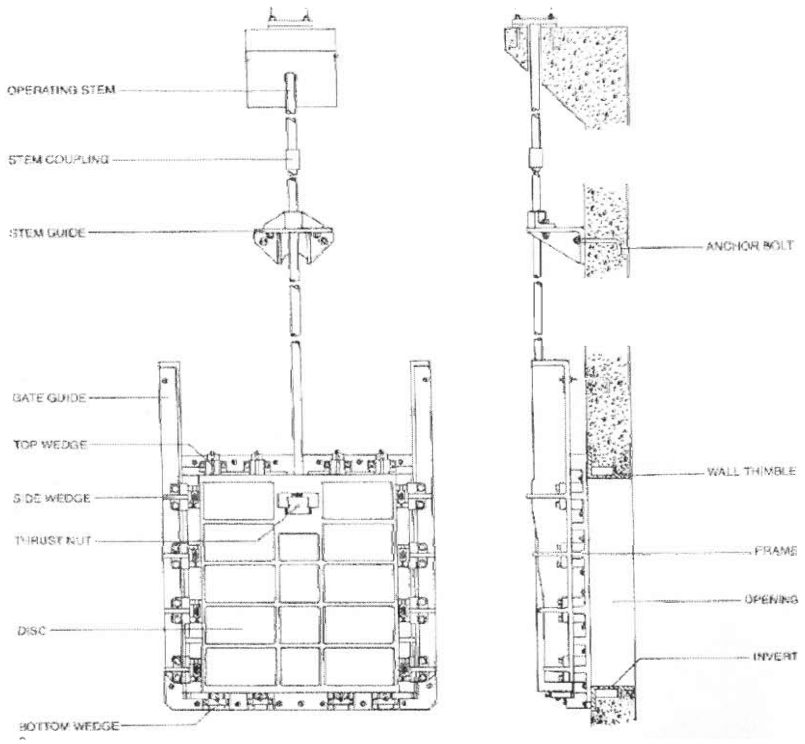

Figure 5: Sluice Gate Diagram

The sluice gates were operated just 42 times in 1998 and only 3 times in 1999. Less than a year after the gates were installed, in April of 1999, the gates were declared inoperable by Rodney Hunt Corporation. They did not open or close properly. On May 17, 1999 the North Gate was declared degraded and would be used only for emergency use. At this point the North Gate had bolts missing and its tongue liner was gone and the South Gate had severely damaged tongue liners and damaged and missing bolts.

Cianbro Corporation is a company that installs and designs heavy commercial and industrial equipment. There are various reasons that Cianbro may be held liable for this lawsuit. First of all they installed the gates for Vermont Yankee. Since the walls may not have been in perfect condition, Vermont Yankee may feel that it is the job of Cianbro to make sure that the new gates fit in place correctly.

Rodney Hunt Corporation was appointed to build and manufacture the sluice gates that were to be installed at Vermont Yankee. Every gate that Rodney Hunt made had to pass both the EBASCO specification and their own standards. This is important because the old gates that lasted for almost 25 years had to pass the same EBASCO specification. Some of the specifications that are important in this case are:

- Liberal safety factors shall be used in the design of all equipment
- All work shall be performed in accordance with the best modern practice for the manufacture of high-grade material
- All parts shall have accurately machined mounting and bearing surfaces so that they can be assembled without fitting, chipping or re-machining
- All parts shall conform accurately to the design dimensions and shall be free of all defects in workmanship or material that will impair their service

- All attaching boltholes shall be accurately drilled to the layout as indicated on the drawings

One major problem that Rodney Hunt faced in this case is they had replaced the 410 screws with 304 screws. This is a major factor in the case because the screws used in the gates failed. However, the screws that were used were tested and passed pressure tests for the pressure that was supposed to be used with the sluice gates. This is shown below where we can see that the sheer force needed to break the 410 stainless steel screws was over 8,000 lbs. The 410 screws are superior to the 304 screws in both tensile and yield strength. Conversely, the 304 screws distribute the load more effectively due to the fact that they have a 30% more elongation value. Nevertheless, the only way that the screws could have failed is if too much pressure had been used.

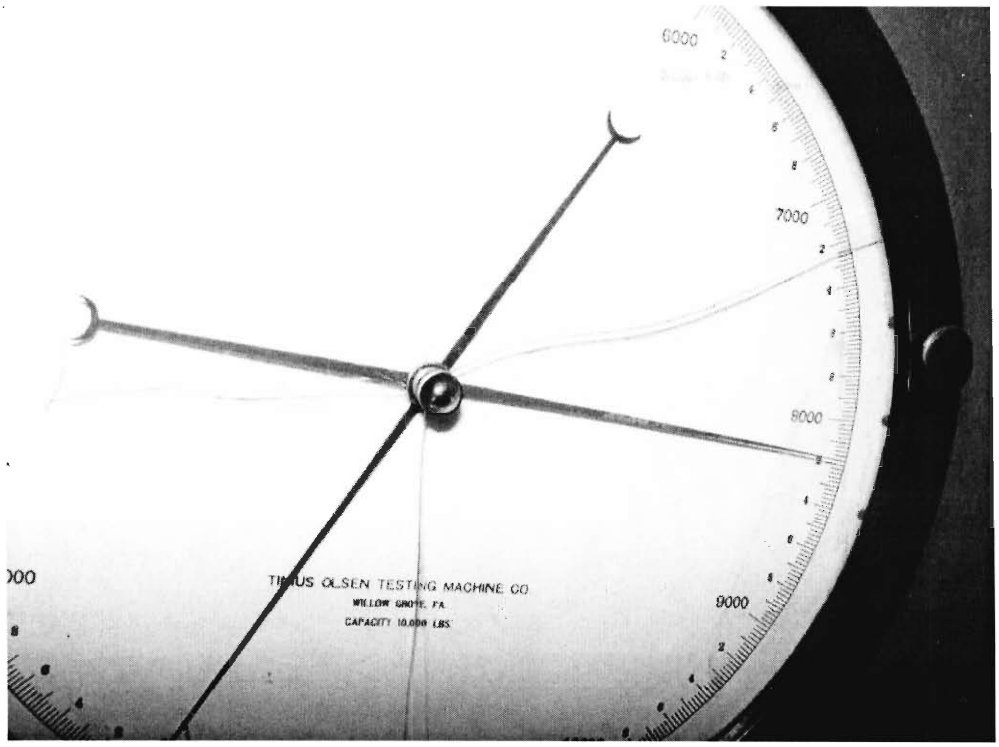

Figure 6: Pressure Tests

The EBASCO standards stated that the gates installed must meet a safety factor of 5. This was stated by Brian Richardson, Ken Willens, and Bob Oliver and tested by Paul Gallo. When Gallo calculated the safety factor he had to take into account the coefficient of friction of bronze on bronze, the number of 410 stainless steel screws used, and the yield strengths of the screws. Gallo determined that the load on the gate is approximately be 62, 414 psi using a coefficient of friction of wet bronze on bronze is 0.2. However, according to the American Water Works C 501 sluice gate standards, the coefficient of wet bronze on bronze should be between 0.35 and 0.4. When Bob Oliver calculated this, the tongue liner's had 147,233 psi. For operation this number had to be multiplied by the coefficient of friction.

147,233 * 0.35 = 51,531psi

He then had to figure out how much shear stress was applied to each screw.

51,531 / 54 screws = 954 pounds

When Gallo continued his calculations, he stated that the yield strength of 410 stainless steel screws is 120,000 psi and 104,000 for the 304 screws. This concludes that the if the gate was used under normal operation, the screws would not have been overloaded.

There are many reasons why we feel that Vermont Yankee Nuclear Power is at fault in this case.

- Vermont Yankee only wanted to replace the sluice gates; they never asked Cianbro to check for wall thimble distortion.
- After the gates were installed, when they realized that there was a problem, Vermont Yankee took it upon themselves to increase the hydraulic pressure to operate the gates.

- Vermont Yankee knew about the high vibration environment caused by the turbulent flow and failed to notify Cianbro.
- The warranty claim that Vermont Yankee had made was denied by Cianbro for various reasons.
    - Failure to communicate pre-existent adverse conditions
    - Improper operation practices
    - Failure to communicate operational problems in a timely fashion

Vermont Yankee only wanted to replace the sluice gate. When Cianbro came to install the new gates they had told Vermont Yankee that the wall thimbles should be replaced. At that point they were nearly 25 years old. The concrete walls did not seem to be perfectly upright and the wall thimbles were in poor shape. However, Vermont Yankee never requested that Cianbro checked the status of the existing, 25 year old, wall thimbles. Figure 7 shows a diagram of the wall thimbles that Rodney Hunt typically shipped for their Sluice Gates. Since the walls were not completely upright, there would be added pressure at some points on the sluice gates. This pressure helped create friction between the wall and the sluice gate causing the gates to not operate properly. This led to the improper operation of the sluice gates.

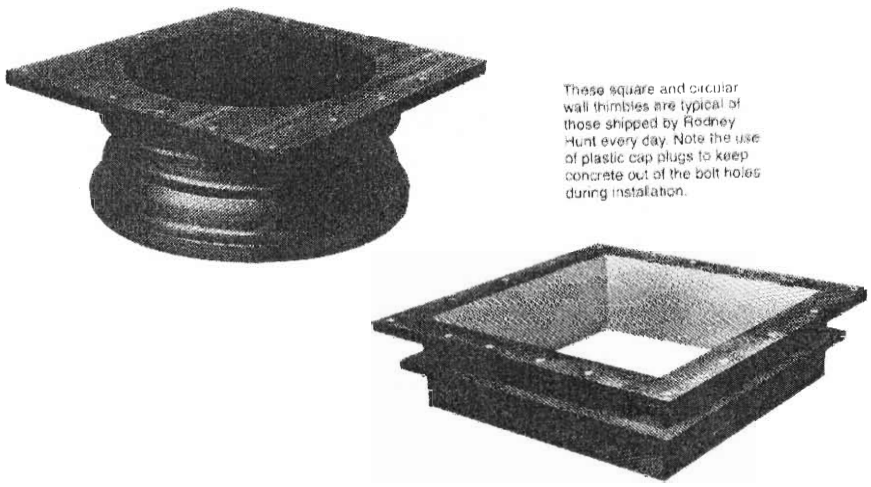

Figure 7: Wall Thimbles

When the gates did not operate properly Vermont Yankee decided that they would increase the hydraulic pressure to force the gates to open. By doing this, the gates faced a greater amount of friction than they were supposed to handle. This friction may have caused the bolts to shear and come out. It also may have caused the tongue liners to deteriorate at a much faster rate. If Vermont Yankee never increased the pressure, they may have been able to fix the minor problem with the wall before the gates were completely inoperable. Once the gates were at this point, Vermont Yankee had to do something to regulate the water flow to the cooling system. They built a temporary concrete cofferdam and then eventually installed new gates.

Vermont Yankee Nuclear Power was denied warranty for 3 reasons. They failed to communicate pre-existent adverse conditions. When Cianbro came to survey and install the new sluice gates, they were never notified that the old ARMCO gates had significant damage due to the high vibration environment. This vibration was caused from the excessive turbulent flow from the Connecticut River. The vibration was also the main cause of the poor condition of the existing wall thimbles.

The second reason Vermont Yankee was denied their warranty claim was they used improper operation practices. We feel that this is a very important factor in this case.

- The operating procedures were changed by Vermont Yankee without consent or approval of any Cianbro technician
- The sluice gates were operated with all system protective devices in a disabled state
- The sluice gates were not monitored during operation
- Operating records were not maintained to show a sequence of events that led to the gates failure

These improper operation practices allowed Cianbro to state that they have no responsibility of the sluice gates.

The final reason that Vermont Yankee was denied of their warranty claim was because they failed to notify Cianbro of the operation problem in a timely manor. It took 10 months for Vermont Yankee to notify Cianbro that there was an operational problem with the sluice gates. Since it took this long Cianbro felt that they were no longer responsible for what had happened. If they were notified when it happened, Cianbro may have been able to fix the problem before it got worse, and it did get worse. Eventually the HPU became inoperable and again Vermont Yankee failed to notify Cianbro in a timely fashion.

The liability in this case is based on breach of warranty and in tort of negligent design, manufacture and installation of the Gates. After reading all of the available information and researching various materials to help us understand this situation we

came to a decision that Vermont Yankee Nuclear Power Corporation is at fault. If they had fixed or replaced the original wall thimbles the new sluice gates would have opened and closed without any problems. Since they did not replace this, they decided that it would be best to increase the hydraulic pressure in the gates. If Vermont Yankee had asked Cianbro to help fix the problem then the gates would not have needed to be replaced.