PRODUCTS LIABILITY

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by

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Abstract

The goal of this Products Liability IQP is to learn the basic concepts of products liability law. First, in order to gain a fundamental understanding of the topic, we watched nine videos and read a book pertaining to the topic. Using this as a foundation to work from, we analyzed four liability cases, three of which were product liability cases, and one of which was an accident reconstruction. This experience expanded our knowledge of safety standards, the responsibility of management, and engineering analysis techniques.

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Video Summaries

Opening Statement 1

The set of videos begins with the opening statement, perhaps the single most important aspect of a court case. The opening statement has the ability to immediately influence the opinion of the jury and is important because it helps the lawyer to establish a relationship with the members of the jury. The opening statement can also prove to the jury that the lawyer is honest and trustworthy; in short, it establishes the credibility of the lawyer. More important even than establishing a relationship with the jury, the opening statement is the lawyer's opportunity to make a connection between the jury and the victim. A large part of a lawyer's job is getting the jury to relate to the victim. Doing this will often make the rest of the case easier for the lawyer, because he will have already obtained the juries full attention and sympathy.

Lawyers in today's world realize the importance of an opening statement, but this was not always the case. Opening statements were at one time merely a tool used to explain the case to the jury. They were very straightforward, but also very boring. The manner in which lawyers carried themselves during the opening statement was hesitant and unsure. Needless to say, this was not very effective in gaining either the respect of the jurors or their attention. The opening statement is a lawyer's opportunity to make a first impression on the jury, and first impressions can make lasting impressions, which is another reason why the opening statement is so important.

The opening statement is the portion of the case where the lawyer tells the jury the basic outline of the case, such as the time and place of the incident. The major people involved in the case must be introduced, and the lawyer should provide a general idea or

theme for the jury to follow through the rest of the case. By providing a theme it helps the lawyer to convince the jury to believe his version of the events.

Over the course of the opening statement, it is the lawyer's job to cover all the strong aspects of his case, while at the same time downplaying the points that the opposition is likely to make. If valid explanations can be provided for the strong points in the opposition's case, that may convince the jury not to believe the arguments of the opposition even before the arguments are made. Another technique used by lawyers in the opening statement in order to gain the trust of the jury is to expose the weak link in their own arguments, thus proving that they really are honest people. Also, a lawyer may be able to put things into perspective for the jury by providing ways in which the incident could be prevented in the future. Therefore, a simple outline of steps to be taken to prevent future incidents is another important part of an opening statement.

After explaining to the jury about the case and about the victim, it is up to the lawyer to explain in simple terms why his client is not liable. Using complicated words is an easy way to lose the attention of the jury, thereby diminishing the effectiveness of the opening statement. The lawyer must also explain the injuries or damages suffered by his client so that the jury fully understands exactly what the case is addressing. Once this has been done, the lawyer must bring the case back around to the beginning in order to relate everything back to the central theme of his case.

Opening Statement 2

The function of this video was to continue the discussion of the opening statement and further examine its importance. The video uses examples of opening statements in order to show the different ways to give an opening statement. Once again it stresses the

importance of establishing a relationship with the jury. The lawyer can do this by stressing certain ideas and facts by changing his voice patterns and properly emphasizing important ideas. Hand movements, physical presence, and courtroom location all contribute to the image that the lawyer presents to the jury.

In the first opening statement, the lawyer was very vague when discussing the case. There was no in depth discussion of the injuries sustained, because the lawyer wanted to save that for a later time. The lawyer then spent some time discussing the victim's character, in order to help the jury identify with the victim and start developing an interest in the case. That was followed by a summary of the events which took place leading up to and directly following the accident. This was done briefly, but very efficiently. The final aspect of the opening statement was a discussion of the damages which his client was suing for.

The second opening statement took a different approach to the story. Although the basic steps were the same, the manner in which the issues were addressed was different. The lawyer used very descriptive words and used the tone of his voice in order to grab the jury's attention and to set an appropriate mood for the trial. The lawyer gave a brief but informative description of the events that took place before and after the accident. Next he discussed the injuries received during the accident. The lawyer was very good at impressing upon the jury the seriousness of the injuries sustained and the likelihood that the injuries will affect the rest of the victim's life. He finished up the opening statement by explaining to the jury why his client deserves what he is asking for.

The Deposition

A deposition is a testimony given by a witness, while under oath, that is written down or recorded by a court stenographer outside of the courtroom. Depositions will often take place in a conference room or any other convenient location outside of the courtroom. The deposition is then considered valid evidence that can be presented at a trial.

The main purpose of a deposition is to establish facts and determine the importance of those facts. The manner in which a question is phrased is often a cause for argument later on in the court proceedings. A lawyer will use a deposition in order to prove his case, but if a deposition is damaging to his case, a lawyer will try to use the deposition in order to try to find ways to discredit or disprove the witness before the witness can testify in trial.

If the instance should ever arise when you are the one giving a deposition, it is very important that you be honest. Listen carefully to all of the questions posed by the lawyer so that there is no misunderstanding that can be used by the opposition later. Be clear and concise with your answers, so that you can avoid giving any additional information to the opposition. Also, take time before your answer so that you can properly frame your response. An answer of "I don't know" is perfectly acceptable.

Direct Examination

The direct examination portion of a trial consists mainly of the lawyers questioning the witnesses in order to support the argument that they are trying to make. Witnesses are often prepped or coached prior to taking the witness stand so that they do

not surprise the lawyer with any of the answers. This is another part of the case where it is important for the lawyer to grab the attention of the jury. This is the lawyer's chance to establish that his version of the truth is the real truth. To do this, the lawyer must obtain all the pertinent information from the witness. Once this has been done, then it s time for the next witness. This should all be carried out in a quick, smooth, professional manner for two reasons. One, if the lawyer is fumbling around trying to introduce evidence or looking down at a note pad trying to find the question he wants to ask, it can make him look unprofessional and foolish in the eyes of the jury, thereby reducing the impact his words may have. Two, the lawyer could end up losing the interest of the jury, which has already been discussed as a problem to be avoided.

When dealing with liability cases, it is very common for there to be one or more expert witnesses called to give their opinion on the case. They may provide accident reenactments, information concerning potential monetary damages, or just expert testimony in any number of fields in which the jury does not have common knowledge. The use of expert witnesses is very important to a liability case, so it is important that the jury understand that this person is qualified to be testifying on the particular subject. The first thing a lawyer must do when an expert witness is called is establish his credentials. The jury must be convinced that there is solid reasoning behind the testimony being given, especially if the case happens to involve large sums of money.

When it comes time for the lawyer to begin questioning the defendant, it is important for him to ask simple questions that will allow him to fully control the flow of the examination. By asking mainly yes and no type questions, the lawyer does not give the defendant an opportunity to give explanations or qualify answers. This will allow the

lawyer to get only the answers he wants and avoid the ones he doesn't want. This will make it easier for the lawyer to prove his version of the events.

There is a very different method of questioning that should be used when questioning the victim. The victim has the ability to set the mood for the courtroom, and this can be done by prominently displaying the effects of the damages or injuries on the victim. One of the last things a jury should see during direct examination is the injuries of the victim, so that they can make a lasting impression and stay with the jury through the rest of the trial.

Cross Examination

Cross examination is the part of the trial where a lawyer gets to question the opposition's witnesses. One of the major cross examination techniques, especially in cases where expert witnesses are being cross examined is to attack the witness' credibility. One way to do this is to make the jury aware that the witness is only testifying because he is being paid to do so. This may make it seem to the jury like the witness does not have honorable intentions and is only saying what his employer wants him to say. Another way to attack an expert's credibility is to give the jury an idea of the number of times the person has acted as a witness. Any faults in the expert's research or handling of the case should be brought to question. If the lawyer can poke holes in the testimony that the witness gave previously, then that witness will lose most of his credibility.

Once the witness has been introduced, the line of questioning should focus on asking yes and no questions. This allows the lawyer to control the testimony in order to

make his point. If open-ended questions are asked, it gives the expert the opportunity to give is opinion, which will usually be in favor of whoever is paying him. Therefore, it is extremely important for a lawyer to control the line of questioning. A successful cross examination must be under the complete control of the lawyer to be effective. If the wrong questions are asked, the lawyer might only end up solidifying the witness' earlier testimony and proving the case for the opposition.

Cross Examination of Non-Medical Experts

Expert witnesses are very common in cases involving product liability. These experts will often include doctors, economists, inspectors, engineers, and others. Experts will often have previous experience testifying in a courtroom setting, and therefore they may be adept at making their case. This means that the cross examination of these witnesses is very important to the opposing side. In order to give an effective cross examination of an expert witness, the lawyer must once again control the line of questioning, but he must also create a positive image of himself in the process. Hesitation or uncertainty on the part of the lawyer can have a very negative effect on the cross examination. Maintaining eye contact with the witness, keeping a good pace with the questioning, and creating a powerful courtroom presence are all important parts of the cross examination.

Once again the major point of the cross examination is to attack he witness' credibility. Finding discrepancies between the witness' answer on the stand and in a written deposition can severely damage the effectiveness of the witness for the opposition. If the professionalism of the witness can be brought into question, it can be

very easy to discredit him. Any flaw in the methods or processes used to research the case can be used against the witness in order to diminish the impact of his testimony. If a lawyer can use the expert to help prove his own case, then the cross examination has been successful.

Summation

The summation is the final portion of the trial during which both sides give a summary of the principal points of the case. By this point in the trial, the jury has seen a lot of the lawyer, and vice versa. By now the jury should feel comfortable with the lawyer and a certain level of respect and trust should have developed over the course of the trial. At this time, it is important for the lawyer to maintain the interest of the jury. The things which are said and the manner in which they are said must keep the attention of the jury.

In the case depicted in the video, the lawyer employs several good techniques in argumentation. The lawyer in the video avoids giving any factual information to summarize the case. At this point in the trial, it is probably unnecessary to continue any further discussion into the case, it has already been covered thoroughly enough that anything further would simply bore the jury. Another thing he does is try to convince the jury of the validity of product liability. In his final summation, he states "If the evidence that is presented to you shows that the defendant is responsible would you be willing to award my client the money he deserves?" At this point he is selling the idea of product liability to the jury in order to make the upcoming decision easier and more comfortable for them.

The lawyer avoids using any visual aids in his final summation; instead he was able to present all the important aspects of the case, as well as specific amounts of money without the aid of notes, charts or graphs. He also tries to show that what he is doing is not out of his or his client's greed; the money that he is asking for is justified and to prove it, he even gives an example of something that he is not asking money for. The lawyer is very good at keeping the jury's interest as he explains how the injuries his client suffered will affect the rest of his life.

Summation 2

This video deals with the closing argument. The closing argument represents the final opportunity for the lawyers to persuade the jury that their arguments were the right ones. Since this is the end of the trial, the jury has already seen and heard all of the evidence and testimony. This fact gives lawyers much more leeway in giving their closing statements. They are really given a chance to use their persuasive skills in an unrestricted manner. The closing statement is a good chance for the lawyer to tie together all the evidence and explain to the jury how all the gathered evidence and testimony leads to a favorable verdict for their client.

Many techniques are employed during closing arguments in order to make a particular case. One trait that it is important for a lawyer to have during the closing argument is the ability to tell a good story. A good way to present the closing argument is to tell it as a story, while at the same time providing a detailed description of your side's evidence. By telling a good story and providing the jury with detailed descriptions, the jury will be able to visualize your version of the events, which may then make it more believable to them. Also, when a lawyer is discussing something intimate or close to the

minds of the jury, he will often move closer to the jury, in order to impress upon them that he too feels the same way.

Another good technique to use other than storytelling is alienation. Alienation means taking an act that the jury finds familiar and putting it in another context. That means the lawyer will try to remove the juries familiarity with the event in order to show it in a different light. This can often be an important part of a closing statement.

The closing statement, especially from a product liability standpoint, includes the pain and suffering visited upon the plaintiff. The extent of the disfigurement or pain suffered can be a very persuasive point to the jury. In the case in the video, the victim was a young woman who was burned severely in an explosion. In this case, the lawyer chose to contrast the woman's disfigurement with the beautiful world she lived in. By describing this contrast and pointing out the hardships this woman will suffer as a result of her disfigurement, the lawyer is trying to create sympathy for the victim.

The most important thing to realize about a closing argument is that the same techniques will not work in all cases. Just because the closing statement worked in this case, doesn't mean that a similar one will work in a different case. It is the job of the lawyer to feel out the jury and see what they respond most strongly to. At the same time, it is important to take into accounts the particular aspects of each case when determining a strategy for the closing argument. If the disfigurement suffered by the victim is minimal and unlikely to provoke much sympathy from the jury, then it is important to focus on other aspects of the case. As a lawyer, the important thing is to focus on the major aspects of the case and make a closing argument which fits the particular trial.

60 Minutes: A Classic Cover Up?

On July 15, Harold Gielow was driving a 1966 Ford Mustang during a rain storm. While driving, he lost control of the car, which hydroplaned across the center line into the other lane, where it was hit by another car in the rear. At this point, the Mustang exploded into flames. The incident was witnessed by a professional fire fighter, Craig Jackson, who was driving behind Gielow and narrowly missed hitting the vehicle himself. As a firefighter, Jackson had been witness to many car fires, but at the time he was surprised at the size of the explosion which accompanied the accident.

Harold Gielow ended up burning to death in his Mustang. The police report stated that he was driving at an unsafe speed for the conditions on the road, and Ford made the statement that Gielow had probably panicked and died on impact, not the result of the fire which followed. The coroner's report, however, indicated that Gielow had in fact survived the accident and was burned to death in the ensuing fire.

These facts troubled the Gielow family, who made their own inquiries into the accident. During their investigation, they learned that there was a problem with 1964 to 1970 Ford Mustangs. Apparently, fires that began in the trunks of the classic Mustangs sometimes spread into the passenger compartments. This is a very dangerous defect. With up to 1.5 million Mustangs on the road today, there is a very high risk of a deadly fie following an accident involving the trunk. The cause of this is the proximity of the gas tank to the floor of the trunk. This proximity can cause car fires to erupt due to even minor rear end accidents.

This was not the only case of a death in a fire caused by the classic Mustang defect. More than 70 other cases have resulted in lawsuits that Ford mainly chose to

settle out of court. Through all this, Ford representatives still refuse to appear on 60 Minutes in order to explain the situation. Ford instead claims that all the fires were a result of the crashes occurring at high speeds, not because of a faulty design. The former president of Ford, Lee Iacocca, agreed to address the matter on camera and defended the Mustang by saying that safety was not as big of an issue in the sixties as it is today. Fuel tank safety was almost never brought up in those days.

However, even some of Ford's own safety engineers agree that there was a problem with the fuel tanks. During this time period, Ford was the only major American car manufacturer to use the type of fuel tank which is the root cause of all the fires. The design was finally abandoned in 1971, but one of the safety engineers, Peter Bertelson, says that he is positive that company executives had been made aware of the problem as early as 1966 and chose to do nothing. On top of that, a lawyer for the Gielow family discovered film of an old Mustang crash test which resulted in gas spewing over the passenger compartment, including the test dummy's head. This obviously could have resulted in deadly blaze had the fuel ignited. Although the family of Harold Gielow has not sued Ford yet, they have begun a safety campaign to keep classic Mustangs off the road.

Book Summaries

Introduction:

The purpose of this book is to provide background knowledge for an engineer in the legal system. From this an engineer can learn how to avoid problems in court and what to expect from the opposition, while defending or prosecuting, making the engineer a valued tool in any case.

Chapter 2: The Nature of Accidents

An accident can be defined as any unplanned event which a loss or injury is the result, and can be justified in and economic means.

Examples of Accidents;

Collisions: Two objects making contact while trying to move.

Causes:

-Two moving machines or vehicles.

-A vehicle or machine hitting a fixed object.

-A vehicle hitting a person.

-A person running into another person.

Slip and fall: Person falls making contact with the surface they were on.

Causes:

-Loss of traction between the foot and the surface.

-Tripping.

-Physical malfunction of the person.

-Unexpected change in surface level.

-Loss of step support.

-Loss of balance and/or support of the body.

-Fall from ladder or step

Loss of Control: Poor operation of machinery.

-Inadvertent motion

Hit by Falling Object: Operator or machine is hit by falling object.

-Hit by rolling object

Suffocation: When a person is deprived of oxygen.

-Drowning

Electrocution: Contact with electric power.

Poisoning: Contact or ingestion of substances that can cause bodily harm or sickness.

Shock and Vibration: The effect of sudden changes of force acting on or against the human body for any period of time.

Entanglement: When operator gets something caught in a machine, such as body parts, clothes, or equipment.

Cuts and Abrasions: Result from partial involvement with machines, touching a surface or an edge just briefly.

Fire: Combustion of any kind.

-Chemical burns

-Explosion

-Radiation

-Burns from contact with hot surfaces

Mechanical Failure: A machine failing which results in injury to someone.

Struck by Moving Projectile: Being hit by anything that has become airborne.

-Firearms and other such devises

-War

Natural or Environmental Factors: Broad classification for accidents caused by natural and environmental events.

-Heat

-Cold

-Lack of water

-Animal attacks

Homicide: The killing of a person.

-Suicide

-Legal intervention

Other Accidents: Accidents that do not fit in any of the above categories.

Chapter 3: **Why Go to Court**

Many problems that we experience every day simply cannot be settled on our own. An outside view must be used to come to a conclusion. For the process to occur a person must have experienced a problem caused by someone else's carelessness. A suit must then be brought against the person who seems to be at fault. If a settlement cannot be reached between the two parties a judge must then oversee the case and make a final judgment on the matters brought before him. This process allows for the most honest environment and keeps manufacturers from taking advantage of the less knowledgeable party.

Chapter 4: Avoiding Litigation

Often the cheapest way and surely the safest way to avoid litigation is to design a product that avoids accidents. During the testing phase of the product hazardous problems should be addressed and warnings should be applied to visible areas. There are six guidelines while in the production stages of a product. .

Avoid the Accident

There can be no litigation process if the accident never happens. If the operator follows the instructions and is not operating under hazardous conditions, then the accident will be avoided.

Protect from the Accident

Necessary protection from any moving parts such as shields and other safe guards can be used to make a product safer without changing the entire design.

Make the Accident Safe

If the working environment is made safe then when an accident does occur, injury will, consequently not occur.

Warn of an Impending Accident

Include a flashing light or an alarm to warn the operator that the machine has encountered a problem, and failure is imminent.

Warn of the Possibility of an Accident

To warn the operator that an accident is a probability in certain circumstances is a must, either on the machine, in visible places, or in the operator's manual.

Protect the Operator from the Accidents if it Should Happen

This includes things such as hard hats, roll bars, and shields.

- A Balanced Product – Dr. O'Toole's concepts of the general objectives for designing a product.
  - Specifications – Measurements that can be taken on a product such as power, size, weight, etc.
  - Performance – The amount of work and the speed at which the machine completes it.
  - Reliability – The dependability of the product and how often the machine fails.
  - Serviceability – How much routine schedule service and unexpected service will affect the operator.
  - Costs – The amount of money needed to build the machine. This is very important to the user and the designer. The cost has to be affordable, yet enough so the designer can make a quality product.
  - Safety – How safe is the product and what, if any, hazards does it present.

Chapter 5: The Litigation Process

Litigation begins when one party decides to sue another party. This is due to the prosecuting party feeling as though there loss has been caused by the opposing parties neglect. There are four different parts to the litigation process which are as follows.

The Claim-

The start of a lawsuit begins with the filing of a claim in a "Complaint" and the request of the plaintiff to the court for trial. The claim begins with a very unclear definition of what happened in the hope that further examination of the claim will result in his favor, a lawsuit. If the judge feels that there is not enough evidence and the claim is fuzzy or unclear he may through the case away.

The Response and Defenses-

The defendant must then review the claims presented by the prosecution. If the defense agrees with the claim then an agreement can be reached without ever having to see a judge. However if the defense does not agree with the claim they can then present a list of reasons as to why they disagree. Claims that relate to machine defects an engineer may have to be brought into review the case as another witness.

The Discovery Process-

This part of the process includes each party learning about the other parties case. In terms of the defendant, he would examine the accident and causes for the accident while the prosecution would review the machine. There are five methods for gathering information all of whish are very important to ever case. These are: -Interrogatories

-Request for Production

-Requests for Admissions

-Inspections

-Depositions

The Trial-

During the trial both parties are allowed to present there evidence and witnesses to the judge and/or jury. The trail procedure consists of opening statements, presentation of the evidence and witnesses, and closing statements, the jury charge, jury deliberation, and then the final verdict.

Chapter 6: Engineers and Engineering Information

The information used and gathered by engineers is rarely known and considered by a judge unless brought to light by and engineer. This information can often play a large part in the success or failure of many cases. An engineer can testify as a fact witness, who can only state the facts, or as an expert, who is allowed to include there opinion on the case. The engineer is mainly there to assist the court on the understanding of the scientific matters.

Chapter 7: How an Engineer Can Help the Attorney

When an engineer and an attorney can see eye to eye and understand each other and where they are coming from, this is when they will work best together. While the engineer is concerned with the scientific facts of the case the attorney is much more interested and in the legal matters pertaining to the case. The engineer must supply the

attorney with a very broad idea of the issues such as the process and design aspects of a product.

Engineers also know how and why a product may have been designed as it was. He can also explain how a machine works and how it was designed and tested. With the knowledge an engineer has he can reconstruct an accident for the jury and help them understand the technical parts by presenting examples and sources. The engineer can also help the attorney examine evidence and witnesses, while providing him with some insight as to what the opposition's case may entail.

In this chapter the author gives his definitions and rules of common use to guide attorneys.

Chapter 8: The Discovery Process

Gaining information about the case at hand is an important part of winning a case. Each party must learn about the opposing parties' side and what they most probably will present for evidence. By law each party is allowed access to all information concerning the case. Some techniques for gaining this information are interrogatories, requests for production, requests for admission, and the deposition. An attorney is the most important person when it comes to handling the discovery process. He is the one with the knowledge about how the law regulates the gathering and questioning of witnesses. Sometimes rather then go through the whole interrogatory process an attorney may simply decide to request documents that in the end contain the same information making the process slightly quicker and easier.

Chapter 9: The Deposition

The deposition is one of the most important parts of the pre-trial process. This is the attorney's chance to ask the witnesses questions before the trial ever begins. Although the questioning process is not as formal as it is in the court room it is still taken very seriously. Being one of the most important parts in the discovery of information, the attorney must take every opportunity to listen to what the opposing witnesses have to say to learn about the conflicting parties' angle on the case.

While conducting the questioning the attorney must listen for the witnesses importance and try to figure out a way to impeach the witness, if the information gained is found to be harmful to the case. Some rules to be followed during the deposition are as follows:

-Listen to the question.

-Pause before you answer the question.

-Answer only the question asked.

-Answer truthfully and completely, to the best of your ability.

-Don't volunteer.

-Don't argue or advocate.

Chapter 10: The Trial

When the parties cannot reach an agreement they will proceed to the trial. This is the most important part of the litigation process. All evidence is submitted to be

presented before the court and each side is ready to defend their position infront of judge and/or a jury. All previous steps have been completed and are also submitted before the court as evidence.

-Picking a Jury

-Opening Statements

-Plaintiff Presents his Case

-Defense Presents his Case

-Final Arguments

-The Charge to the Jury

-Jury Deliberation

-The Verdict

During the trial process an engineer should always dress in a suit and tie and conduct himself in a dignified respectable manner.

Chapter 11: Questions

This is the most important part of and attorney's job. If an attorney can question well and lead is witness to the conclusion he wants, he will be successful. Questions can range from being general or specific, open or closed, leading or non-leading, formal or casual, polite or serious and simple or complex. An attorney can also lead a witness to the wanted conclusion by emphasizing different words and phrases. It is important for the attorney get the witness to answer questions and get them on a pattern. It is also important for the engineer as a witness to answer all questions truthfully and give all facts and information known.

Chapter 12: Accident Reconstruction

Once all information from both sides has been gathered and all witnesses have been heard, an accident reconstructionist may be called in to reconstruct the accident based on the data gathered from witnesses, etc. and on his own expert opinion. Using science, testimonies, evidence, and personal recollection the reconstructionist can destroy one of the party's cases.

Chapter 13: Definitions and Techniques Employed by Attorneys

Adverse Witness: Someone who is called in to testify by the opposing attorney.

Answer: Used interchangeably with the term "Response".

Appearance: This means that someone has appeared somewhere in the litigation process of a certain case.

Arbitration/Mediation: Two alternate dispute resolution methods. Mediation involves a mediator who tries to bring the two parties to a compromise.

Arbitration involves an arbitrator who hears the entire case and makes a decision that both groups agreed to adhere to.

Balance of the Evidence: The information before the jury when they deliberate on the case.

Bar: Three meanings; location of legal activity, grouping of attorneys in a certain area of jurisdiction, and to prevent or keep out.

Bench: The location, person and authority of the judge in the courtroom. Basically where the judge sits.

Breach: The failure to perform or a break in a chain of action.

Burden of Proof: The respective responsibilities of the parties in a lawsuit to prove or disprove the claims in question in the trial.

Care: The responsibility to conduct ones product according to accepted levels of performance.

Charge: When the judge instructs the jury as to how it must proceed in deliberation.

Complaint: The formal name for the list of claims and requests for the court intervention.

Due Process: The proper legal steps in a procedure.

Duty: What someone is supposed to do.

Evidence: Information that tends to prove or disprove matters of disputed fact.

Exhibit: Evidence offered and admitted at trial.

Expert Witness: A person who has the ability to assist the court and the jury in understanding the technical aspects of a matter because of their background.

Facts: Matters that truly exist.

Forensic: An engineer who applies engineering principles to the resolution of investigations.

Foreseeability: The ability of a matter, situation, condition, or action to be expected sometime in the future.

Hearsay: The admissibility of something a witness says, meaning a witness can only discuss what they have experienced through their own five physical senses.

Hostile Witness: A witness that demonstrates a hostile attitude towards either attorney.

Hypothetical Question: A question that a witness must respond to, by making his own personal opinion to answer.

Impeach: To show the testimony of the witness to be untrue or unbelievable.

Inadmissible: Information or evidence that is outside the rules of litigation and will not be of any concern in the particular case at bar.

Judicial Discretion: The power of a judge to make judgment on gray areas that arise during the trial which have little precedence.

Lay Witness: A witness for the facts.

Liability: Legal responsibility to pay or provide such remedies as the court decides.

Litigation: The total process of filing a lawsuit, pursuing the discovery and trial.

Mistrial: If the judge determines that a fair and proper resolution can on longer be reached a mistrial is called.

Negligence: The failure to use the ordinary amount of care that would be expected from a reasonably prudent person under the same or similar circumstances.

Oath: to swear to "tell the truth, the whole truth, and nothing but the truth".

Punitive Damages: exemplary damages, over and above the damages intended to make the plaintiff whole, that arises in special cases and under certain circumstances.

Red Herring: A method of diversion or interruption.

Side Bar: Conferences held when the judge wishes to hear the reasons for and against the objection from both parties, which is away from the hearing of the jury.

Summons: The formal legal document notifying the defendant that an action has been filed against him/her.

Tort: A legal wrong committed or perceived to be committed against a person or other legal entity, a products liability case is a tort.

Techniques That Should be Used by Attorneys

- Never ask one question too many
- Don't fight or argue with the witness
- Keep cross-examination short
- Know the answer before you ask the question
- Tell a story – paint a picture for the court and jury
- When you have made your point – STOP
- Don't assume anything
- Listen to the answers
- Plan, plan, plan
- Don't try to fool the jury or the judge

Chapter 14: War Stories

Each story included offers some advice to the listener and some insight into the trial process. Many of the stories may be much exaggerated, however each is true and holds some sort of significance. Many of the stories can be humorous and entertaining but always has something to teach to the reader in the end.

Chapter 15: Tips for the Engineer Involved in Litigation

-Don't forget that you are assisting the attorney. Do not try to run the game.

-Always be truthful. Don't do or say what you do not believe.

-Don't be frightened by the legal process.

-A good attorney will prepare you for your deposition. Listen to his direction.

-Follow instructions precisely and accurately.

-Know that the legal process is flawed but still and excellent and effective way for people and companies to get a good measure of equity in a dispute.

-As a professional always do your best work and use your best judgment.

-Be yourself, but do so in a professional way.

-Beware of traps and trick questions.

-Think. Even if you already know the answer, think. Then answer.

-If you make an error, correct it.

-Listen to advice, and use all of it that applies to your situation.

Case 1

Introduction

On Friday, January 24, 1997, Timothy Sandsbury, an employee of Millipore Corporation at their warehouse in Burlington, was attempting to clear a paper jam in an Autopad Cushioning System often referred to as the Padpak machine. The machine model was AF/EC/AP/EDS serial number 25076961. While trying to clear the paper jam from the machine, Mr. Sandsbury suffered an injury which resulted in the loss of three of his fingers from his left hand.

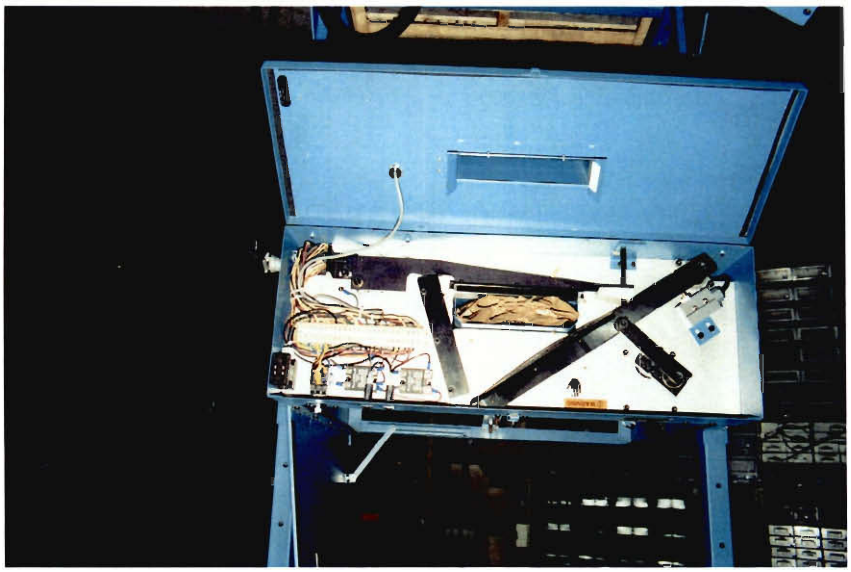
Lawsuit

Mr. Sandsbury is suing Alles Corporation, the company which distributes the Padpak machine, and Ranpak Corporation, the company which manufactures the Padpak machine. The accident left the plaintiff with emotional pain and suffering, and permanent scarring and disfigurement. The plaintiff is suing for medical expenses, as well as additional damages due to the disfigurement and emotional suffering. This includes the pain he underwent during the long surgeries he suffered following the accident, as well as the pain he suffered following the surgeries while he was in recovery. The emotional damage is due to the fact that the plaintiff now finds himself "hideously disfigured." The plaintiff also experienced residual difficulties in his type of work, which is mainly manual labor. The total medical bills came to approximately $26,500 according to the Statement of Damages he filed. The lawsuit includes negligence, breach of warranty, and strict liability against both Alles Corporation and Ranpak Corporation. The total lawsuit is valued at $350,000 by the plaintiff's lawyers.

Accident Description

According to the investigation report from Millipore Corporation, on the day of the accident at approximately 1:40 pm, the plaintiff, who was a second shift material handler, cut the tips of his index, middle, and ring fingers while attempting to clear a paper jam on the Autopad cushioning system. Two other employees were at this time conducting a safety audit of the Burlington Distribution Center where the plaintiff worked. They noticed a large amount of debris surrounding the machine in question and made inquiries concerning that fact. When the lead shift employee was asked, he explained that the machine had not been operating properly and that he would attend to it. The plaintiff was at this time waiting for his shift to begin and volunteered to demonstrate how to fix the problem with the machine.

What follows is the account of the actual accident as given by the Millipore Corporation accident report. Mr. Sandsbury, the plaintiff, in demonstrating how to fix the problem, first switched the mode control on the Padpak machine to the Electronic Delivery System (EDS) mode. He then attempted to activate the machine using the two hand controls located on the machine. When this did not cause the cutting blades to move, the plaintiff reached his hand into the machine, under the cutting guard which was protecting the machine blade, and proceeded to try to clear any paper that might be jammed in the blades. While the plaintiff still had his left hand inserted in the machine, the cutting blades cycled, which resulted in the severing of the three fingers on his left hand at the first joint.



Cutting Blade

Liability Factors

There are many factors that must be considered when determining liability in this case. The first aspect of the case which should be discussed is the plaintiff himself and his work experience and training. Timothy Sandsbury had been employed at Millipore Corporation for a fairly long period of time and had become familiar with a specific type of machine which was used for the same purpose as the machine which caused the accident, cutting paper for packing. In fact, the machine which the plaintiff had experience with was merely an older version of the current machine.

The night before the plaintiff's accident, a jam occurred while a different employee was operating the machine. Mr. Sandsbury then proceeded to clear the jam in the same manner he did when the accident occurred. In his past experiences with similar types of machines, there was usually an emergency stop button, and when this was pressed jams could be cleared from the machines with no problem. As far as he knew,

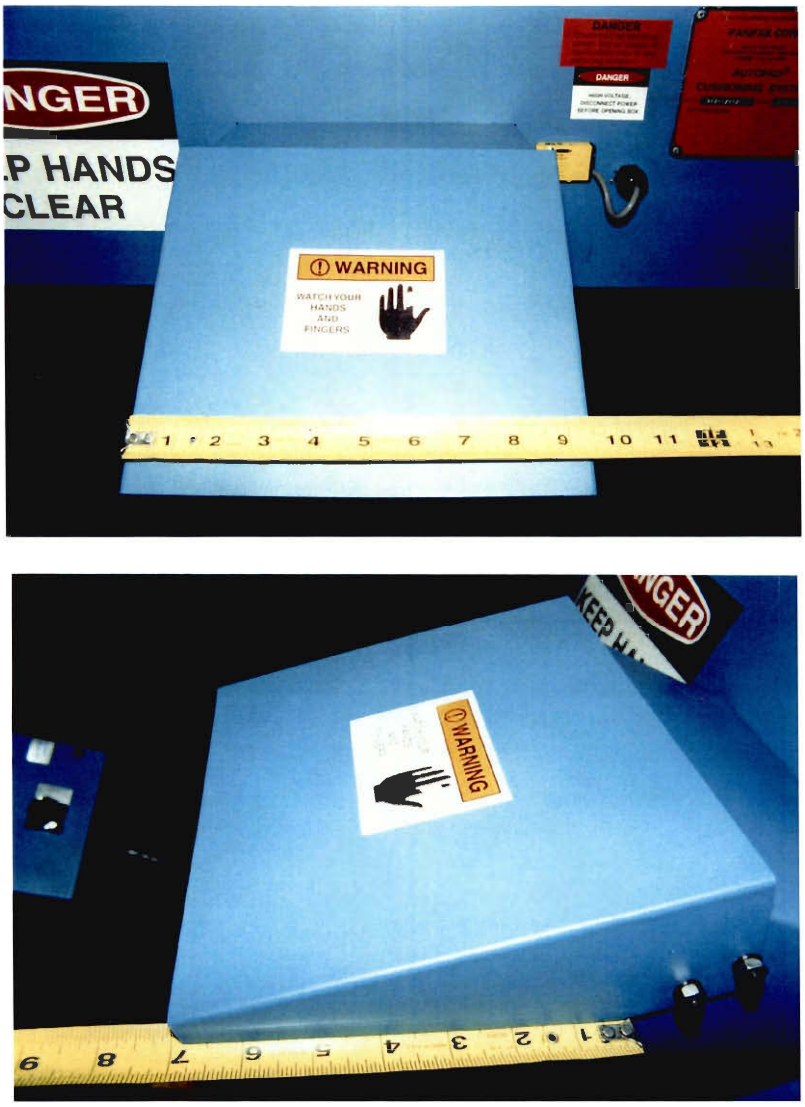
the cutting blades could not activate unless the two green buttons on the control box were depressed. Therefore, when Mr. Sandsbury tried to stop the machine and clear the debris from the cutting blade, he did not believe that there was any unreasonable danger in inserting his hand near the cutting blade while the two buttons were not being depressed.

Machine Control Board

This is the first aspect of the case which can be used to determine liability. The plaintiff was not given any instruction in the safe operation of the machine in question. He had never been presented with the operator's manual provided by Ranpak and had never received any training whatsoever regarding the machine operation. His experience had been with an older version of the machine and he was therefore unfamiliar with the proper way to clear paper jams, since the technique he had used had worked on other machines. The fact that the machine had different features than the older machines is a

key fact when deciding whether or not Mr. Sandsbury was qualified to operate the machine in question.

Another aspect of the case in question is the posting of warning signs on the machine itself and the warnings given in the operator's manual, as well as the instructions on how to properly clear a jam from the machine. The machine was designed to cut paper into a particular shape and form so that it can be used for packing. The paper is fed in through one end and exits through the other end, which is partially guarded with a cutting guard. Directly on the machine, there are warning labels which stated "DANGER KEEP HANDS CLEAR" and "WATCH YOUR HANDS AND FINGERS" next to picture with a hand with a bandaged finger. Therefore, there was some warning to the operator of the machine that it was dangerous to place their hands anywhere near the openings to the machine. The cutting guard was also in place, but it was obviously deficient in its design. If the operator of the machine was still able to reach the working area of the blades despite the cutting guard, then the guard was either improperly or poorly placed and it was not an appropriate size to guard against injury. This is a serious design flaw and should have been anticipated by the company when designing safety features for the machine.



Cutting Guard

There were many warnings associated with safety on the machine and in the user's manual. "DANGER Disconnect all electrical power and air supply prior to any servicing or repair." This was a fairly prominent warning on the machine, however, the plug for the machine was not located near the machine. The plug was placed in a very inconspicuous location, making it difficult to find and therefore inconvenient for purposes of servicing the machine. "Out of sight out of mind" is a common quote which

applies very well to a situation. It is unlikely that an employee who is untrained on the machine would go looking for the plug in order to unplug it. This creates a serious safety issue when troubleshooting the machine.

Conclusion

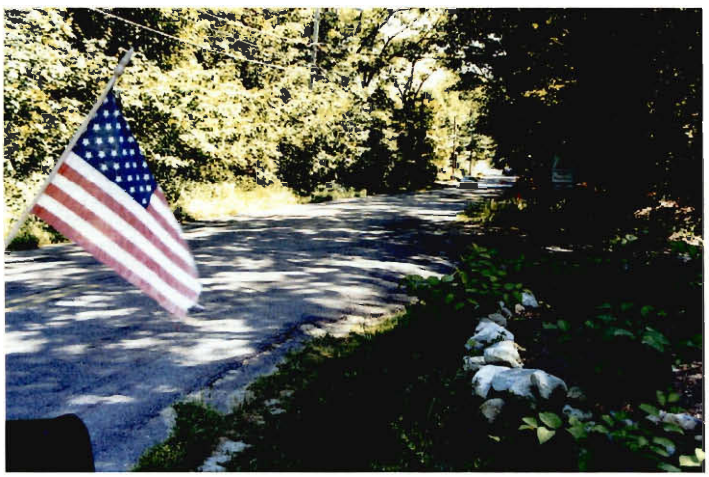
The accident report which was prepared seemed to point to a malfunctioning clutch mechanism as the main factor contributing to the accident. The spring that was meant to prevent the cutters from cycling was worn or under designed, when compared to springs serving similar purposes in different machines. This one factor alone, however, should not have been enough to cause the accident at hand. The injuries sustained by Timothy Sandsbury could have been avoided had he been properly trained to use the machine. According to "Use of Human Factors in a Product Liability Case," many manufacturers neglect to take into account the ability and knowledge of the machine user. This appears to have been the case here. Therefore, liability for this case can be placed at the feet of the manufacturer. While there were many warnings placed both on the machine and in the user manual, it is the manufacturer's responsibility to ensure that their machines are used properly and as intended. There is also the fact that the guard protecting the blade was insufficient to prevent Mr. Sandsbury from inserting his hand into the machine. To ensure that the machines that they manufacture are safe for use and properly guarded is a responsibility of the manufacturer and distributor as well.

Case 2

Introduction

A collision between a motorcycle and a truck occurred at 3:20 pm on December 21, 1999. The truck was making a left turn onto Dudley Oxford Road in Dudley, MA, cutting across the lane that the motorcycle was traveling in. The truck driver suffered no serious injuries. The motorcycle operator, who was wearing a safety helmet at the time of the accident, did receive serious injuries. Neither operator tested positive for drug or alcohol us during the accident. Fatigue did not appear to be a contributing factor to the accident.

The motorcycle had been traveling south, while the truck was in the opposite lane traveling north. The truck proceeded to make a left hand turn onto Marsh Road, which caused him to cut across the path of the motorcycle operator. The motorcycle operator applied the brakes, but was unable to stop before skidding into the right side of the truck, causing damage to the truck's door. The truck came to a stop on Marsh Road, while the motorcycle slid to a stop nearby. The motorcycle was a black and red Honda MC and the truck was a 1990 red Chevrolet.



Accident Scene

Accident Scene Description

The road on which the accident occurred is a two lane paved road with no lane division. The road conditions at the time of the accident were favorable, since the road was dry and undamaged by the effects of weather erosion. The speed limit in the area is 40 mph, but it is unposted. Each lane is approximately ten feet wide. In order to develop an accident report, a drag sled was used to calculate the coefficient of friction for the road. The calculated value for the coefficient of friction was .7. The only visible skid mark was from the motorcycle and reached a distance of 43.497 feet. After impact with the truck, the motorcycle continued to travel 11.47 feet. There were front and rear tire scuffs at impact from the motorcycle. There were no evident skid marks from the truck. When the vehicles were inspected after the crash, there were no pre-impact defects apparent. The damage to the truck was located on the right side near the door. The motorcycle received damage to the front fork assembly and light damage to its right side.

Damage to Left Side of Truck

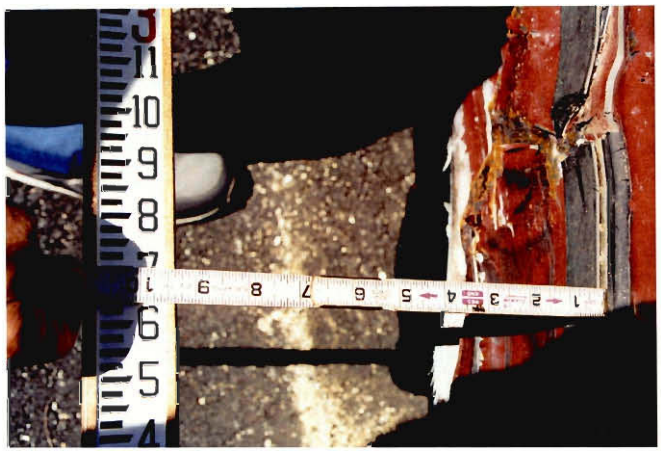
Accident Reconstruction

The police reconstruction of the accident showed the approach angle of the motorcycle to be 0 degrees. The departure angle of the motorcycle was 205 degrees. The truck's approach angle was 208 degrees and its departure angle was 220 degrees. The weight of the motorcycle was given as 650 pounds, while the weight of the truck was given as 2500 pounds. The motorcycle braking coefficient was estimated at .4 before impact, and the coefficient of friction used for the slide after impact was .7, based on the experimental data obtained from the drag sled. The coefficient of friction used for the truck after the impact was .7, based on the point of rest of the truck, which was estimated by police to be 15 feet. These values were then used by the police force in order to calculate the approach speeds for both the truck and the motorcycle. The values determined by the police were 25.57 mph and 27.86 mph, respectively. Based on the data obtained from this accident reconstruction, police determined that neither of the

vehicles was traveling at an unsafe speed, and the collision was likely caused by an error on the part of the truck driver. The official statement was that he failed to use care in turning and he failed to yield to the right of way of oncoming traffic.

Analysis

Based on the visual evidence obtained from photographs of the damage to the truck, it seems unreasonable to assume that the motorcycle was traveling no faster than 28 mph. This contradicts the findings in the police reconstruction, and therefore may help to show that the motorcycle operator may have been at fault, rather than the truck driver. Based on the fact that there were no skid marks from the truck and the fact that driver was in the middle of making a left hand turn, it is likely that the calculated approach speed for the truck is accurate. In order to more clearly understand the damage done to the truck, one must take into account that the collision did not take place at a ninety degree angle. The approach angle for the motorcycle with respect to the truck was 28 degrees, which makes the amount of damage experienced more impressive still. The truck door was dented as much as ten inches in some places, which is far more damage than would be expected from a crash at such an angle and low speed. All of this points to the possibility that the police reconstruction predicts an approach speed for the motorcycle at a value far lower than the true value.



Excessive Truck Damage

More evidence which contradicts the findings in the police report can be found by analyzing the skid marks at the accident scene. When applying the brakes on a motorcycle, standard convention is that the rider should use both the front and the rear brakes to stop, by first applying the front brake and then the rear brake immediately afterwards. The front brake is the more effective one in this type of situation and more pressure should have been applied to this one rather than the back one. However, since there were skid marks evident for the rear tire only, it is obvious that the rider did not utilize the front brake at all. Also, when stopping distances for motorcycles were researched, it was found that the motorcycle was probably traveling greatly in excess of the speed calculated by the police. The skid mark was nearly 44 feet long and occurred under good road and weather conditions, therefore the motorcycle should have come to a stop or at least slowed enough to swerve by the time impact occurred with the truck if he had been traveling at only 27.86 mph.

Another factor which may have affected the calculations of the police is that they may have used incorrect values for the weight of the truck. Upon investigation, the

weight of the truck used by the police was lower than the listed weight in the owner's manual of the truck. This factor was taken into account in the calculations provided. Another assumption on the part of the police which had an effect on the accident reconstruction was the "estimated point of rest" of the truck. Since this is merely an estimate, every calculation made by the police is subject to dispute.

Conclusions

There were many problems with the police report for this case. The calculations that were used involved vehicle weights of vastly different values. The difference in the magnitude of the weights of the vehicles should be the first indication that the equations used by the police were inappropriate for the situation. Also, the values the police used for the weight of one of the vehicles may have been incorrect. The actual weight of the truck was probably not the value used by the police. In the calculations section of this case, a range of truck weights were used in order to illustrate the impact that this would have on the calculations. As can be seen from the slope of the graph generated, the weight of the truck can have a large impact on the calculated approach speed of the motorcycle. The departure speeds calculated by the police were based on the "estimated point of rest" of the truck, which is precisely that, an estimate. These two facts alone should be enough to disregard the police report as valid evidence, but there are other factors as well. The extensive damage to the truck during a collision with a much smaller vehicle, approaching at an angle no less, also points to a motorcycle approach speed much higher than that calculated by the police. Also, the length of the skid mark under good driving conditions contradicts the low speed calculated by the police. Based on

statistics, the motorcycle should have been able to stop had it been going at the speed calculated by the police. For example, for a motorcycle traveling at 30 mph, the braking distance is approximately 45 feet, which means that if the motorcycle operator had been going 27.86 mph, the motorcycle would be nearly stopped and therefore the damage to the truck would be nearly nonexistent.

Based on these findings and calculations, it seems obvious that the motorcycle was traveling in excess of the police calculated speed and was likely traveling far in excess of the unposted legal speed limit of 40 mph. Therefore, the truck driver Mr. Mirabella should not be held responsible for the accident.

Calculations

PoliceCalculations

	Motorcycle	Truck
Vehicle Weight	$W1 := 650 \cdot lb$	$W2 := 2500 \cdot lb$
Departure Speeds	$S3 := 9.8 \cdot mph$	$S4 := 17 \cdot mph$
Approach Angle	$A1 := 0 \cdot deg$	$A2 := 208 \cdot deg$
Departure Angle	$A3 := 205 \cdot deg$	$A4 := 220 \cdot deg$

Approach Speed Truck

$$S2 := \frac{(W1 \cdot S3 \cdot \sin(A3))}{W2 \cdot \sin(A2)} + \frac{(S4 \cdot \sin(A4))}{\sin(A2)} \qquad S2 = 25.57 mph$$

Approach Speed Motorcycle

$$S1 := \left[\frac{(S3 \cdot \cos(A3))}{\cos(A1)}\right] + \frac{(W2 \cdot S4 \cdot \cos(A4))}{W1 \cdot \cos(A1)} - \frac{(W2 \cdot S2 \cdot \cos(A2))}{W1 \cdot \cos(A1)}$$

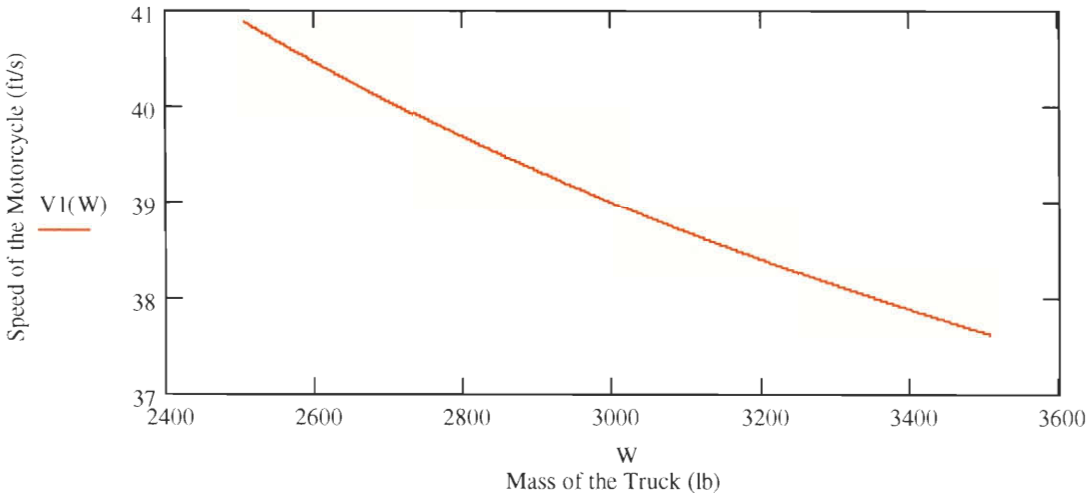
$$S1 = 40.867 \frac{ft}{sec}$$

$$S1 = 27.864 mph$$

$$W := 2500 lb .. 3500 lb$$

$$V2(W) := \left[\left[\frac{(W1 \cdot S3 \cdot \sin(A3))}{W \cdot \sin(A2)}\right] + \left[\frac{(S4 \cdot \sin(A4))}{\sin(A2)}\right]\right]$$

$$V1(W) := \left[\frac{(S3 \cdot \cos(A3))}{\cos(A1)} + \frac{(W2 \cdot S4 \cdot \cos(A4))}{W1 \cdot \cos(A1)}\right] - \frac{W2 \cdot \left[\left[\frac{(W1 \cdot S3 \cdot \sin(A3))}{W \cdot \sin(A2)}\right] + \left[\frac{(S4 \cdot \sin(A4))}{\sin(A2)}\right]\right] \cdot \cos(A2)}{W1 \cdot \cos(A1)}$$



Case 3

Introduction

Dominic Lapenta was working on his house at 9:23 am on December 29, 2001. The house was under construction at 66 Deerwood Road in Tolland Connecticut. Two of his friends were helping him put up trusses above the master bedroom. He was using a fork lift while one friend was on the roof and the other was holding the tag line. While lifting the truss onto the roof, the forklift tipped over. Mr. Lapenta jumped from the driver's seat to avoid injury, but was struck by the fork lift boom, suffering serious injuries. He was removed to Hartford Hospital where he was treated.

Accident Scene

Description of the Case

The fork lift, known as a lull, was a rental machine from J&M Equipment. The purpose of the machine was to assist with moving trusses to the roof of the house under construction. Mr. Lapenta originally received a defective lull from the company and was forced to return it for another one. The new lull was smaller than the first and did not have stabilizing arms, which Mr. Lapenta found disturbing. When Mr. Lapenta was operating the lull on the day of the accident, he was in a stationary position and was lifting only one truss. He was, however, positioned at an area with a gradual downward slope, which is in the same direction that the lull tipped over. The boom was properly extended and in an upright position. As he began to move the boom forward, he could feel the machine begin to tip, so he then tried to counteract this by moving the boom back. At this point, he realized he could not prevent the lull from tipping over, so he decided to jump out of the machine. He was struck by the boom while he was on the ground. At the time of the accident, he was not wearing a seatbelt. He is also not a professional home builder, but he does have experience and general knowledge of the trade.

There are two warnings located on the dash, one of which explicitly states "CAUTION: Please fasten seatbelt." This is stated again in a Safe Operations Checklist near the handle to the door of the cab. There is also a large warning upon entering the machine which states the possibility of the machine tipping over, resulting in death or serious injury. The operator should "...operate on firm, level ground."

Slope of 10 degrees

Also, there is a warning that states the operator should be properly trained to use the machine, and that the machine should not be used before first reading the Owner/Operator Manual.

The accident was witnessed by both friends who were assisting him. Peter Chamberlin was located on the ground and was holding the tag line in order to prevent the truss from swinging back and forth during the lifting process. He noticed when they were lifting the second truss that the lull was beginning to tip over, at which point he yelled to the lull operator, Lapenta. The other witness was Kevin LaPointe, who was on the roof at the time. He stated that they were lifting the second truss to the roof, with Chamberlin holding the tag line and Lapenta operating the lull. He noticed that the lull was going to tip over onto its left side. He moved to the edge of the roof to see Lapenta lying underneath the lull. Lapenta suffered two broken legs, a collapsed lung, and an injured back.

Lapenta maintains that the accident was the fault of the company that rented him the machine, because he was not properly trained to use the machine and therefore should not have been allowed to rent it from the company. He stated that the company was irresponsible in renting him the equipment and not providing him with any warnings or literature regarding safe use of the machine, despite the numerous warnings on the body of the machine itself.

Analysis

It is apparent from the description of the case that Mr. Lapenta disregarded the multiple warnings posted on the machine. The simplest warning, which was stated twice in obvious locations, was completely ignored. Had he been wearing his seatbelt at the time of the accident, he would have remained in the cab of the lull and probably would have sustained minor injuries at most. The other warning which had the most significance to the case was to operate the machine on firm, level ground; Mr. Lapenta was operating it on a slope of nearly 10 degrees. Since the lull tipped over in the direction of the incline, it can be assumed that operating the lull on a slope was the main factor which contributed to the lull tipping over.

Machine Not Level

Conclusion

"Level machine before raising the boom. Lower boom before traveling. Operate on firm, level surface." None of these precautions, which were listed directly on the lull, were followed by Lapenta. "Please Fasten Seatbelt." This was another warning which Lapenta chose to ignore. The manner in which Mr. Lapenta operated the machine was completely unsafe. He took none of the recommended safety precautions, and his injuries were the result of this. There was no malfunction of the machine, and the warnings provided on the lull were sufficiently clear that he should never have operated the machine in the manner that he did. It was his fault that the lift tipped over in the first place, and it was his fault that he was not wearing his seatbelt, so it is his fault that he sustained the injuries that he did.

Machine Tip-Over Warning

Fasten Seatbelt Warning

Case 4

Introduction

On June 2, 1999, nineteen year old Jeremiah Johnson died after becoming entangled in the rotor mechanism of a PTO-powered agricultural feed bagging machine. Immediately before the incident Johnson was attempting to clear bridged/clogged material in the intake throat, while on top of the PTO/tractor driven Ag-Bagger Model G-580 bagging machine. It was then when he fell into the open throat of the machine where the rotor mechanism was, which is responsible of pushing and packing the chopped hay material backward in a large elongated plastic bag that brought him to his death. The incident occurred sometime between 9:00 and 9:20 p.m. as Mr. Johnson worked on the Grafton County Farm in North Haverhill, New Hampshire.

Bagging Machine

Background

Johnson worked on the farm and was housed as an inmate. Different comments were made on behalf of Johnson. He was described as an "average" inmate, other specific evaluation comments were "Have had no problem with this inmate," "good attitude, good worker," and "good worker, quiet, average inmate." There were no other details to his occupational history or experience/education with equipment and machinery, besides that he previously worked for a farmer in the Meriden/Cornish area (Charles Stone). Johnson had had approximately 7.6 hours with several extended "breaks" on the day of his death.

Accident Description

The day Johnson died; he was working on the "farm crew" on the Grafton County Farm with another inmate named "Mr. Tinker," who was said to have an "excellent relationship" with Johnson. Johnson had been working on the farm for a month or slightly longer, and Tinker had worked in the county farm operation since the fall of 1998. There was a mass of hay that had plugged the throat of the bagger, so Johnson then tried to clear the throat by climbing onto the Ag-Bagger machine, straddling the hopper, facing the tractor, and by using a fence post. The bagger that was under power was driven by a PTO at the rear of and hitched to a John Deere 2840 tractor. When Tinker

went to shut the machine down he heard Johnson yell, then he shut down the machine and after he did, Johnson was out of site. Johnson was said to be healthy and well-nourished at the time of his death. The final cause of death was described as "multiple, blunt impact injuries."

The bagging chopped hay that Johnson was engaged in had been mown on 5/30/1999. The bagging of that hay began the next day which included bagging 25-30 "loads" of hay. The bagging process that day had been interrupted by rain, and was continued two days later (6/2/1999), which was the day of his death. It also rained that day from 2:00 to 2:15 p.m., and there was additional rain later in the evening at approximately 7 to 8 p.m. The hay during the entire bagging process the day of his death, and the day before was wet. The day before (6/1/1999), the bagger had plugged, and Mr. Kimball, who was the farm manager, showed Tinker how to "clear" the plug using a fencepost, and Johnson was "probably" there during that unplugging demonstration.

The incident occurred sometime between 9:00 and 9:20 p.m. Sunset times for Manchester, New Hampshire on 6/2/99 indicate that "official sunset" occurred at 8:17 p.m. and "moonrise" was at 11:03 p.m. The lighting that was supplied by either working lights of the tractor or other artificial sources is unknown. The condition of the surfaces of the machine, including the area where Johnson climbed is not described.

The information about the safety management of Johnson or other inmates on the farm regarding training supplied, oversight/supervision, is not available. Johnson's responsibilities in the hay bagging operation only included running the hay chopper. Tinker drove the silage truck and operated the bagging machine. Johnson was most likely assisting Tinker because it was the last load of the day. There was no information

about Johnson's specific experience or education, safety training, review of operator's manual by the staff, or education for emergency response procedures. The only troubleshooting training provided to Johnson was when Kimball showed Tinker how to unplug the hopper. Kimball would unplug the machine which was under power at the time by using a fencepost, and adding drier material, so the machine would catch and clear the plug. And Johnson was "probably" there.

Liability Factors

The Department of Labor reports, the bagger had a "missing drive guard," which was removed on 5/31/1999, although it is not clear which guard was removed. From the pictures, the condition of the bagging machine is difficult to determine, the paint seam to be a bit faded, and the majority of the warning decals are intact except the one that shows safety recommendations and procedures of the PTO driveline. The throat is not guarded above or below the "dump point" (where the conveyor drops the material into the point of rotor operation), and the throat is clearly large enough to fit an adult entering either head, or feet first.

Conveyor Mechanism

Rotor Mechanism

A warning sign near the rear of the throat mentions nine things that aren't supposed to be done, one of which is; climbing or riding during operation or transportation. Another warning sign warns to keep shields in place. There was one sign that had a picture of an entangled body. In the manual (of a JR-700) says "STOP THE MACHINE TO ADJUST, LUBRICATE, OR SERVICE." All decals on the machine are either "Warning" or "Caution" not "Danger." In the manual there were no safety implications or consequences of bagging wet silage, including the potential for the machine to plug. Also there were no procedures related to clearing plugged material.

Warning Label

Warning Label

Jeremiah Johnson, a healthy young man, and an inmate, could be eager to work and please, especially in a county operated work farm, where working or not working doesn't appear to be an option or by choice. His tasks enforced by Mr. Kimball should have been clearly defined and safe operational procedures. It is unacceptable to demonstrate, encourage, or support unsafe actions if you are managing or supervising any person. Johnson shouldn't have been allowed to make bagged silage because of the wet conditions, and definitely not required to do so. Bagging was postponed 2 days before the incident and with the rain that day, it should have been deemed unsafe. Not only could the hay being wet make it unsafe, but also the machine being wet, and possibly being slippery.

Conclusion

Mr. Kimball should have informed Johnson about the appropriate moisture content of the material: he should have showed him a safe procedure to follow in the event of a plug. He should have informed him to shut down the machine before servicing

it. Where Kimball's demonstration, where he unplugged the machine was unsafe. He unplugged the rotating machine with the PTO engaged and the rotor running under full power. By demonstrating, he encouraged unsafe behaviors which played a major contribution to the death of Mr. Johnson.

Not all of the fault can be put on the management of the staff and Kimball, but also the bagger manufacturer. A way to prevent this death would have been to have a mechanical barrier to keep a person from entering the throat area of the bagger. Psychical barriers are the most efficient way to keep a person out of a dangerous area, but the correct warning labels are also necessary. The safety signs were inadequate, and did not comply with ASAE and other standards. They did not show the degree of danger; they did not have the word "Danger" at all. The signs they had that did warn people of the rotor entanglement were not of the appropriate format.

There was also an inadequate operator's manual, in terms of describing specific, safe operational procedures, including what to do in the case of material bridging and clogging the rotor area of the machine. Bridging/plugging is considered common by people knowledgeable in bagger design and operation. If a machine that someone designs knows that it will plug up, and they have to attach warnings and danger signs, they should make a design where the person fixing the problem, shouldn't have to climb on top of the machine, and have the chance to fall into something like the throat that Johnson fell into bringing him to his death. This incident should be at the fault of the manual with the bagger manufacturer's, and Mr. Kimball and the management of the Grafton County Farm.