The meeting was held in the Conference Room, Suite 200, 2175 K Street, N.W., Washington, D.C., at 9:30 a.m.

PRESENT:

ANDREA KIDD TAYLOR, Acting Chairperson
GERALD V. POJE, Board Member
ISIDORE ROSENTHAL, Board Member
C-O-N-T-E-N-T-S

Presentation by Chris Warner, General Counsel ..... 5
Investigations and Safety Programs Update,
    Bill Hoyle .................................. 14
Sonat Exploration Co, Presentation of Findings ... 16
Morton International, Inc. Discussion ............... 33
Tosco Avon Refinery Update .......................... 45
Incident Selection Criteria and Investigation
    Protocol ..................................... 50
CSB Hiring Plan .................................. 60
CSB Five-year Strategic Plan ........................ 64
Board Member Updates ................................ 76
Next Board Meeting .................................. 81
Public Comment
    Glenn Callahan, Esq. .......................... 82
    Keith Jarrett .................................. 89
    Paul Orum ................................... 95
    James Nash ................................. 99
(9:32 a.m.)

CHAIRPERSON TAYLOR: Good morning. This is the meeting of U.S. Chemical Safety Board, public meeting, September 15th, 2000.

I'm Andrea Taylor. I will be chairing the meeting.

I'd like to let the other board members introduce themselves.

DR. POJE: Good morning. I'm Gerry Poje, Board member responsible for personnel matters for the Chemical Safety Board.

DR. ROSENTHAL: Irv Rosenthal. I'm the Board member responsible for reviewing expenditures.

CHAIRPERSON TAYLOR: And to our immediate right, your left.

MR. WARNER: Chris Warner. I'm General Counsel and the Chief Operating Officer.

CHAIRPERSON TAYLOR: Okay. Are there any additional opening statements the board would like to make?

DR. POJE: I just want to say that it's been since April that we've had a public review of board matters. We've had two public meetings that have occurred in the intervening time, but this is the first
time we're returning to matters of a larger overview of board and board activities.

There's been a tremendous amount of work that's gone on since April in the reorganization and development of our board. You're going to hear much of those matters today, and I'm delighted to be here to help give some context to that as well.

CHAIRPERSON TAYLOR: Irv.

DR. ROSENTHAL: I'm glad to see many old friends here and am looking forward to getting your inputs on some of the investigatory matters we're going to be discussing and the other issues. Your inputs and help as we've been trying to put our affairs in order have been very, very helpful.

Thank you.

CHAIRPERSON TAYLOR: I'd like to personally thank the staff, our staff. We've really worked very hard, and since our last meeting you will see that there is a lot of progression that has been made here at the board.

So for all of the staff in the room and those that are still upstairs, I'd just like to say thank you for all of your hard work, your diligence, and hopefully it will continue.

And we are continuing to grow, and you will
see more products produced, more work being done, and more accomplishments being made.

With saying that, I'd like to also now have Chris say a few words, if you would. Comments?

MR. WARNER: I also would like to welcome you here. If you can't hear us in the back, just wave. We're trying to do this without microphones at the moment. We do have a mic over here for the longer presentations.

And just a couple of administrative issues here. The air conditioning, we do have the fans going. The air conditioning is being fixed. It's being fixed this whole week, but it should be on very shortly before it really gets hot, but if anybody would like just to take off their coats right now, this is -- please feel free to do it if it gets a little hot.

This is a Sunshine Act meeting. It is open to the public. We welcome your participation and comments. At the end we have a public comment period, and I'm glad to see we do have sunshine for you. I was a little worried about the rain today.

I would like to just take a few minutes to bring you up to speed. The change in the administration took place in February. In the last six or seven months, we have undergone a fair amount of
change, and just to give you sort of a very brief overview, we have really looked at this organization from its very core, fundamental mission.

We have come out and talked with you all on the strategic plan. We have defined a mission and our vision. We'll be sending that strategic plan up to Congress on the 29th of September. We'll be talking a little more about it today at this meeting.

We've undertaken a review of the staff. We've reorganized various positions, but we go back to the very fundamentals. We are developing position descriptions and performance standards and all of the other policies and procedures that people from the larger, more established agencies that have lived for hundreds of years have and really don't think about, but we are really new.

I think I was talking to somebody earlier today, and things we take for granted for just meeting rooms. We have gone out and we have rented space. We're renovating space, and we're moving ahead. GSA for some people just has the space rented. GSA looked at us and said, "Well, go ahead and rent it yourself."

So there are a variety of things that we face that other agencies don't that take a lot of time and effort. So we are turning things around. We are
moving ahead.

Just to touch on, we have committed in February to some very key, critical issues. Perhaps foremost of that is a hiring plan, a nonreliance on contractors using them on very selected issues, but getting the expertise within the house, that takes time.

We have a very good plan. It is being implemented. We have reviewed over 600 to 700 resumes thus far. We have new people coming on board. Bill Hoyle will talk more about that process in a little bit.

The major investigations, we had a presentation of findings in New Jersey in July on the Morton. The Morton report is out. It has been well received, and we'll talk a little bit more there.

The Tosco report is moving ahead and we'll have a short presentation on that, as well as the Sonat investigation. So we're moving ahead.

We also have a further refinement of our selection criteria, and we'll be developing further refinements to the protocol. All of these are works in progress. Over years you will be developing and refining selection and protocol and things like that, but we are making great strides and moving ahead on
those issues.

We also are building and training a team to go out on a new investigation, and that takes time and a lot of planning and energy. When you hire people, they have a great amount of expertise, but then you have to put them into a cohesive group, and that is what we're doing at this moment to be ready to go out for a new investigation.

We have new hires. We have Mark Asfaw who is taking over our Internet and computer needs, who has incredible background in that, and several investigators that Bill Hoyle will be talking about shortly.

So we're very excited about the caliber of personnel we're attracting and our ability to move forward and meet our deadlines.

We also have had great success in using and having details from other agencies. Beverly Brock assisted us from Department of Interior. She is a Deputy Field Director. She assisted us on this strategic planning mission. She has now gone back and is working, again, for another agency in Interior.

Dave Parks was also from the Solicitor's Office at the Department of the Interior. He has been assisting the investigators in resolving a host of
legal issues that confront any investigative team.

Some of you have been to the NTSB meeting last April. You have a sense of the myriad of legal issues that are unresolved after many, many years, and Dave is helping us do those and has gone out with the investigative team out to California to work with them.

And we also have an ongoing detail from the Agency for Toxic Substances and Disease Registry. Shira Flax, I don't know if Shira's -- Shira's back there, and we welcome here, and she is a great addition to our staff here.

We have also take a very close look at our budget and how we spend money. We've redirected an awful lot of money out of certain categories, out of the information technology area into our core mission of investigations. We are interacting with agencies from EPA, OSHA, ATSDR and TSP, which we'll talk about a little bit more.

The board has met with Jim Hall at the NTSB. We have another major meetings with EPA coming up this fall. So we are going about our business in a very efficient manner, I believe, and getting set for the types of issues we might face on the new investigations.

We also have a couple of personnel issues
that we're dealing with. We have some departures and some new additions.

In small agencies, departures are always a cause of concern because other people take up that business, but we look at them as a part of the normal turnover that any agency experiences, and we look at them as opportunities not only for new people to move in or move up, but to strengthen our outreach to other agencies where these people go.

Armando Santiago, who is here today, was one of our investigators. He is working with EPA now. That just strengthens our assistance with EPA.

We have Maureen Wood, who was part of our external relations staff, and she is now over with the European Community doing the same type of --

   DR. POJE: She's working in the ISP (phonetic) Program, a major research center for the European Community in an area that works explicitly on chemical accident prevention activities. So Maureen is one of the skilled individuals who is fluent in Italian. She held dual citizenship with Ireland and the United States and was a prime candidate because of her skill sets to assume a major role in the European Community.

   So we miss her dearly, but the links across
the water are now stronger than they've ever been
between our institutions.

MR. WARNER: And just to bring you up to
speed on a couple of the key changes in the staff, my
Deputy, Paul-Noel Chretien, has moved on to his former
employer which offered him a job that he couldn't
refuse. We wish him well. He was a great asset to us.
I wish I could tell you who his employer is, but I'm
prohibited from telling you who the employer is, not
because of Paul-Noel, but just because of the business
he's in.

I also have -- but stepping up into the
Deputy Solicitor's spot is Ray Porfiri, who is in the
back. He has -- just raise your hand there, Ray. He
has done just an incredible job for us and is really
one of the cornerstones of our legal advice here, and
he will do an excellent job in that position.

Anna Johnson will be my assistant. Anna
unfortunately had to go to a funeral this morning. She
was here earlier.

Bea Robinson is taking over the budget
issues, and Faye Gibbins, who has done just an
incredible job here from the rental space
administration and everything else, has really saved my
job here in keeping things moving.
But it's part of the process we're going through. After the public comment period I'd welcome you all to talk individually, come up, visit our offices up on the fourth floor where we can talk in a more formal congenial manner if you would like after that point.

And then I'd like to, if I could, just take one minute. We do have, just for the board and for the audience to understand some of the pressures and the jobs and the roles that we fulfill, I'd like to at each board meeting perhaps highlight an individual, and I could take any one of ten or 12 individuals to highlight here. So I do not mean any disrespect to anybody I haven't picked. I'm just going to pick one person here.

Don Holmstrom. Don, if I could just read you his bio for a second, he's a program analyst in the Investigation Safety Programs, and prior to CSB, he worked for Diamond Shamrock and a variety of other corporations. He has 18 years as a chief operator in Commerce City, Colorado oil refinery. He has extensive experience in oil refining operations, process safety management, occupational health and safety and incident investigations in the oil refining, gas pipeline, and waste water industries.
He graduated from Stanford in '74 and has a law degree from the University of Colorado School of law.

Don is part of the investigation safety programs group. He is the lead investigator now on the Tosco incident. He also plays a dual role in helping with the investigation, with the recommendations.

He serves as Bill Hoyle's deputy. He is also the EEO Director. He's been on the hiring committee reviewing, as you can imagine, a number of resumes and phone interviews and actual interviews. He is intimately involved in the protocol in development of strategic planning, the training of the new investigators, as well as a host of administrative contractual issues.

So you can imagine the variety of days that he has and nights. He works incredibly hard. So for Don I don't know.

CHAIRPERSON TAYLOR: He is in the back.

MR. WARNER: He's in the way back. Don, we are very glad you're here and give you great praise for the work you've done.

DR. POJE: And with all of that, he's also a very good father to his two daughters.

(Laughter.)
MR. WARNER: So with that I'll turn it back to Gerry.

DR. POJE: To Andrea.

CHAIRPERSON TAYLOR: Okay. Andrea. Sorry about that.

MR. WARNER: Oh, sorry.

CHAIRPERSON TAYLOR: That's okay.

DR. ROSENTHAL: You look the same.

CHAIRPERSON TAYLOR: Right.

(Laughter.)

CHAIRPERSON TAYLOR: Thanks, Irv.

On that note, again, you see why I said thank you staff for all of your hard work and diligence, and we will continue in that vein.

Having said that, I'd like to call Bill Hoyle who is Director of Investigations and Safety Programs.

MR. HOYLE: Good morning. Is this working?

PARTICIPANT: Yes.

MR. HOYLE: Well, you can hear me, but I don't know if you can see me back there.

Thank you.

We're going to have a variety of presentations from the investigation and safety program this morning, and so we'll have a number of the
staff members presenting their piece. So we're going to start off with Pat Conlon, who's our lead investigator on our Sonat investigation.

This investigation is coming to a close soon, and we wanted to share the key findings of that investigation at this time. I understand handouts may be available.

CHAIRPERSON TAYLOR: Oh, yes. I'm sorry. They're on the table here.

MR. HOYLE: Yeah, there's a variety of handouts on the table to the far side of the room if you don't have one.

DR. ROSENTHAL: Yeah, I think it's important because some of you will not be able to see the overheads, and you can either refer to those or get up and move over here and take a look.

MR. HOYLE: Right, but the overheads that will be shown on the wall on this end of the room are available in hard copy on the side table so that you can follow along.

So we'll start the investigation series of presentations with Pat Conlon.

CHAIRPERSON TAYLOR: Pat, before you start, can you say who you are after you get that done?

MR. CONLON: Good morning. My name is Pat
Conlon, and I'm the lead investigator on the Sonat accident. I've been with the board staff for a little over two years.

Today I'll be presenting a summary report with our findings on the Sonat investigation. The report is nearing completion, and we expect to get it to the board very soon.

The incident occurred -- those who have the handouts, we did move the first two slide around. So this is actually slide three or four in the handout.

The incident occurred on March 4th, 1998, in a rural area of west central Louisiana near the town of Pitkin. Sonat was starting up new oil and gas separation equipment which involved the purging of vessels in a pipeline with natural gas.

Purging was performed to remove the air in the vessels or pipelines to reduce the explosion hazards associated with flammable gas and air mixtures. During the pipeline purge an oil and gas separator over pressurized, leading to the catastrophic failure of the vessel. Four operators were killed, and the facility sustained significant damage.

This is an aerial photograph of the Sonat Temple 22-1 common point separation facility. The facility was built to separate well fluid into its
components, crude oil, natural gas, and water.

Now, the term "common point" refers to the fact that this facility was capable of handling product from multiple wells through a single separation train.

The separation train involved in the incident was referred to as the bulk train. The first separator, the first stage separator is located here, a vertical vessel. The flow from here would be through these pipes, pipe rack, pipes in the pipe racks here.

These are oil coolers. This is a second stage separator that continues the separation process. These are gas compressors. The pipe rack continues up here. These are more gas compressors.

The third stage separator, which was actually involved in the vessel failure, was similar to this vessel. This was for their test train third stage separator. The bulk train separator, third stage separator, was located in this area here.

This is a closer view of the incidence scene. The vessel, again, was located right in this area. Storage tanks, the first four tanks here were designated for water, the remaining 12 for crude oil.

The valves that we'll be talking about that were critical to the incident were located in this area right here.
The workers were found after the incident, two within the berm and two out here near this backhoe.

This is a block flow diagram of the separation process. Basically the well fluid flows into the first stage separator. The first separation occurs here. Gas flows out the top of the separator into a gas cooler, gas scrubber, gas meter, and on through a gas sales pipeline to a gas processing plant.

The water comes out the bottom of the separator, is filtered and is reinjected into the ground to a disposal well. The oil which still has water and gas associated with it flows to a cooler to lower the temperature, and then into the second stage separator.

The second stage separator functions similar to the first, only a lower pressure. The first stage separator operates around 900 psig, the second stage at approximately 225 psig. Again, gas goes out the top. It is compressed up to the pressure of the first stage gas and into the gas sales system.

Water at a lower pressure has to be stored in tanks and then is disposed of, trucked off site for disposal.

Then the oil still with gas content flows into the third stage separator. This was the one
involved in the incident. Gas flows from the top of the separator to a compressor, then into the second stage separator gas compressor and into the sales system, and the crude oil flows into storage tanks and then is trucked off site by tank trucks to refineries for sale.

This is a schematic of the third stage separator. Basically the oil-gas mixture comes in from the second stage separator and flows through the oil inlet line into the separator. The oil cascades down to the bottom. Gas collects at the top, flows through the gas outlet line to the compressor. This line has a manual block valve.

Oil flows through the oil outlet line to the storage tanks. This line also has a manual block valve, and the bypass line here, basically there is an automatic control valve located here that is operated. If the oil level in the tank gets too high, this liquid level control sensor will activate this valve, open it, and allow the flow from the second stage separator to go directly into the storage tanks.

On each side of it is a manual block valve that's in place for maintenance to the valve or, as was performed earlier on this day of the incident, can be closed to allow a purge of this vessel to remove the
oxygen.

Just to clarify some terminology, Sonat referred to the failed vessel as a vapor recovery tower or storage tank. During our investigation, the CSB staff determined that the vessel actually fit the definition of an oil and gas separator for the following reasons.

The separator had a single inlet line for the oil-gas mixture from the second stage separator, but two separate outlet lines, one for gas and one for oil.

The separator was not designed for permanent oil storage. There were 12 oil storage tanks at the facility, each much larger in capacity. The separator was positioned upstream of the storage tanks in series with the first and second stage separators.

As a result of this determination, CSB refers to the vessel as a third stage separator.

I've provided an incident time line here in a summary form. Early in the afternoon of March 4th, the personnel purged the separation vessels using well fluid. Later that afternoon they realigned the valves to purge the pipeline between the facility and the well. The pipeline was eight inches in diameter and approximately two miles long.
The valves were aligned to allow the purged air to flow through the bypass line into the two water storage tanks and out a tank roof hatch to the atmosphere. This process bypassed the separation vessels which were already purged.

This diagram highlights the equipment directly involved in the incident, the third stage separator, the bypass valves, 11, 12, and 13, the oil and gas outlet valves, 14 and 15, and the water storage tanks. Valves 11, 12, and 13 located in this red box needed to be open to prevent the purged gas from pressurizing the third stage separator up through the oil inlet line. The third stage separator's gas and oil outlet valves, 14 and 15, needed to be closed because there was no blocked valves on the inlet line. The inlet line had no blocked valve to isolate the separator from the pipeline purge.

Valves 16, 17 and roof hatch 21, these valves here into the tank, they then flowed into a second water tank and then out this hatch was the plan to allow the purged gases to vent to atmosphere.

Valve 12 was a pneumatic valve as I described earlier. The gas supplied to this valve was disconnected early in the morning, placing it in the open position.
Valves 11 and 13 had been closed, these two on each side of the automatic valve, and valve 15 had been opened to purge the third stage separator earlier in the afternoon. These three valves here needed to be closed for this final purge for the pipeline.

The next few slides provides an incident time line. These are approximate times. The pipeline purge was initiated at 5:10 p.m. using well fluids from the 24-1 well.

The supervisor initiated monitoring of the oxygen content in the pipeline at 5:15 p.m. This was performed at a valve near the pipeline header connection.

At 5:35 p.m., the flow control valve at the well was adjusted, increasing the pressure into the pipeline for the third and final time.

The pressure reading downstream of the well and the flow control valve was reported as 800 psig at 6:00 p.m. At 6:10 p.m., the final oxygen reading was taken by the supervisor indicating that the purge was nearly completed. This reading was approximately three percent oxygen.

At 6:15 p.m., the bulk train third stage separator failed. Natural gas was released and ignited, producing a large fireball. Four operators
were in the vicinity of the vessel when it failed, died instantly due to massive trauma. The tanks and piping that sustained damage leaked oil and gas which ignited. Fire continued to burn for approximately three hours until it was extinguished by local emergency responders.

This photo taken a few days after the incident shows three of the workers' vehicles in the foreground, in this here, and the crude oil storage tanks in the background. Actually these were the water storage tanks. Several of the crude oil tanks also were involved in the fire.

At approximately 10:05 p.m., Sonat supervisors and Louisiana State Police investigated the incident site and discovered two bypass valves for the failed third stage separator in the closed position which should have been in the open position.

This diagram compares the planned valve alignment with the as found valve alignment after the incident. This drawing here was the plan. Basically these two valves needed to be open. After the incident these two valves were found in the closed position.

As you can see, all of the outlets from the third stage separator were in the closed position, and the purged gases over pressurized the vessel.
Our findings. Finding number one, the third stage separator that failed could not be isolated from an adjacent bypass line because there was no inlet valve. Two valves on the bypass line and all other outlet valves were closed, allowing high pressure purge gases to over pressurize and rupture the separator.

Finding number two, the third stage separator was only rated for atmospheric pressure service, zero psig. The purged gas stream to which the separator was exposed to had a pressure potentially as high as 800 psig.

The third stage separator was not equipped with any pressure relief devices, as specified by API Specification 12(j) for oil and gas separators, which states all separators regardless of size or pressure shall be provided with pressure protective devices, a vessel that falls within the scope of this specification.

Finding number four, why the bypass valves were closed or when they were closed could not be conclusively established.

Number five, management did not perform effective engineering design reviews or hazard analysis prior to or during the construction of the facility.

Workers at the facility were not provided
with any operating procedures addressing the proper alignment of valves for purging operations.

Finding number seven, Sonat operated similar third stage separators that lacked pressure relief systems at other oil and gas production facilities for over a year prior to the incident.

This concludes my presentation on the Sonat investigation, if the board members have any questions.

CHAIRPERSON TAYLOR: Thanks. Thank you, Pat.

Are there any questions? Irv.

DR. ROSENTHAL: What did Sonat do? Have they rebuilt that facility?

MR. CONLON: They did rebuild the facility. It's --

DR. ROSENTHAL: And how did they rebuild it?

MR. CONLON: There's only -- they eliminated one of the production trains. They contracted an engineering firm that basically did hazard analysis of all of their facilities, developed drawings, engineering drawings for their facilities, and they also installed pressure relief devices on all of their third stage separators.

DR. ROSENTHAL: Oh, you mean they didn't --
did they have drawings beforehand?

MR. CONLON: No, they did not.

DR. ROSENTHAL: So the third stage separator, what they did now -- did they call it a third stage separator?

MR. CONLON: I don't believe that they agree with that determination.

DR. ROSENTHAL: But it's a unit that is in there in place of what we call the third stage separator, is now equipped with an isolation valve?

MR. CONLON: I believe an isolation valve. They've taken out the outlet valve and installed pressure relief device.

DR. ROSENTHAL: Okay. Thank you.

MR. CONLON: They also did sell the property to another oil and gas production company.

CHAIRPERSON TAYLOR: Gerry.

DR. POJE: Pat, I'd like to get back to your key findings number four. I can understand why the bypass valves were closed is impossible to gather because of the loss of life in the incident, but the question of when they were closed is something that perhaps could have a little bit more engineering analysis around it.

How did the team seek to understand the
possibilities associated with the wind question, given some ability to analyze the size of the vessel, the potential pressures that were associated with the well field pressure itself, and the failure likelihood of the vessel itself?

MR. CONLON: We did attempt to determine as exactly as possible the time of the valve closure. We conducted two studies through the services of Oak Ridge National Laboratory. The first study was to determine the failure pressure of the vessel. This study was basically performed to enable us to complete the second study, which was a time to failure analysis.

We did get a number from the vessel failure study. One of the problems we had, there were two or three or even four different estimates from external groups and our second engineer that the failure pressure ranged anywhere from 135 to up to 400 pounds per square inch. So that created one problem.

In the time to failure analysis, the problem there we knew the time the purge started and the time of the incident, and we thought if we could calculate how long it would take to pressurize the vessel to failure we could make some determination of when the valve was closed.

Unfortunately there was not very much
pressure data particularly from the facility. The only
gauge was at the wellhead and did not reflect
accurately the pressures at the facility. Without this
information the study basically had to make too many
assumptions, and we felt that the determination really
could not stand up to scrutiny, and so we decided that
we could not confirm the time of the valve closure.

DR. POJE: Okay. Thank you for that.

I would like to then look at the fifth
finding that management did not perform effective
engineering design reviews or hazard analyses prior to
or during the construction of the facilities. How did
you evaluate those, and what did you determine was
lacking?

MR. CONLON: Sonat did contract an
ingen engineering firm to assist in the design and
construction of the facility in conjunction with their
engineering staff. However, we felt that an effective
engineering review required some basic information,
primarily engineering drawings. They did not have any
PNIDs for this process prior to the incident, and we
felt that that was a significant component necessary to
do an effective design review.

Those drawings were developed after the
fact.
They also could not provide any meeting minutes or documentation associated with a hazard analysis from these pre-incident design review discussions or efforts, and so we felt that an improvement in their process to a more effective program would be necessary.

CHAIRPERSON TAYLOR: Pat, was there any environmental or community impact from this incident?

MR. CONLON: The facility was basically located in a woodland area. It was owned by a wood products company surrounding the entire facility. There were no residential areas nearby.

There was oil spillage and also fire fighting water and foam that was used on fire that were in the immediate area of the incident. The majority of that was contained within the spill containment berm, and Sonat had that removed after the incident.

DR. POJE: Okay, and could you emphasize once again the facility as designed, was it to have permanent staff associated with it?

MR. CONLON: Basically once the facility is up and running, which may take up to a month or six weeks to get it on line or at least to a point where they do not need daily coverage, the operators basically rotate from facility to facility, take
measurements, gauge the tanks, check on the equipment.

So --

CHAIRPERSON TAYLOR: About how many?

MR. CONLON: At the time of this incident, because it was a new process, there were two operators assigned to the facility, and the incident occurred near shift change. Two of the victims were actually coming on for the night shift. So there were four victims at the facility at that time, plus two survivors, a supervisor and another contract operator.

DR. POJE: And production supervisor operating at the wellhead?

MR. CONLON: Yes, there was a production supervisor who was at the wellhead in radio contact with the construction supervisor, who was at the facility supervising the purge.

DR. ROSENTHAL: Did the OSHA process safety standard apply to this facility?

MR. CONLON: OSHA originally cited Sonat for several PSM violations. However, these were -- in the settlement agreement, these were general duty violations. OSHA has issued several interpretative letters on the subject of PSM applicability to the oil and gas industry. They rescinded several of those interpretive letters in the past year, and in April, I
believe, they stated that they are conducting a feasibility analysis before going forward with enforcing PSM at oil and gas facilities.

CHAIRPERSON TAYLOR: Pat, did you work with any other consultants in investigating this incident?

MR. CONLON: Yes, the team worked with one was through Oak Ridge National Laboratory, a Ph.D. in engineering or petroleum engineering who was the prime contractor on the time to failure analysis. We had a local engineer retired from a major oil company who worked on the initial process analysis, and then we also had engineers from Berwanger, Incorporated to look at the pressure relief issues, and they also reviewed the findings of the investigation.

DR. POJE: Who else has been on the team from CSB?

MR. CONLON: Basically John Murphy, one of the new investigators, has been helping particularly in the process safety management issues for the past two months. Dan Horowitz has been involved in the process, also a new employee, and the safety programs group, Bill Hoyle, Don Holstrom have been involved for quite some time.

CHAIRPERSON TAYLOR: One last question?

DR. ROSENTHAL: Yeah, one last question.
Was this a unique installation with Sonat?

MR. CONLON: Yes. Basically that term "common point separation facility," this was the first facility of that type that was constructed. Prior to that each well would have its own separation train. This facility was designed -- the bulk train had larger vessels, which allowed them to flow to wells simultaneously in the same vessels, and they had discontinued that process.

DR. ROSENTHAL: Were there other what we call third stage separators employed in other installations by Sonat?

MR. CONLON: Yes. I believe they purchased maybe eight or ten of the vessels, third stage separators. I believe they had five or six of those in operation at the time of this incident at wells nearby in the same geographical area.

DR. ROSENTHAL: Have we determined that these had all been subsequently retrofitted with pressure relief?

MR. CONLON: Based on the letter that they had sent us well over a year ago, that is the case.

CHAIRPERSON TAYLOR: Any other questions?

DR. POJE: No. Thank you, Pat.

CHAIRPERSON TAYLOR: Thank you, Pat.
MR. CONLON: Thank you.

CHAIRPERSON TAYLOR: You are going to introduce yourself?

MR. HELLER: I am. Hi. My name is Dave Heller. I'm an investigator here. I was the lead investigator on the Morton case, and what I would like to do is give you a little summary of where we are with Morton and our status and what our next steps are.

Basically the Morton report is complete. It has been placed on our Web site on August 24th.

Really the first thing that came out of that was the public review of findings on July 18th up in Patterson, New Jersey, in the City Hall complex, and that was a long day for us, but it was a very productive day for us.

For folks that aren't really that familiar with Morton, let me give you just a quick summary of the Morton case. It was an incident that happened on April 18th in 1998. It was an explosion and a fire in a batch manufacturing facility where Morton was making a dye called Automate Yellow Dye 96, and it was a runaway reaction in a 2,000 gallon vessel.

It released flammable material that ignited. Nine employees were injured. Two were
injured very seriously. Everyone has since recovered.

Material was released to the surrounding community, and there was quite a bit of damage to the plant.

So, again, the report is done. It's on our Web site, and our next steps on the report are to produce an HTML version, which right now we're on the PDF version, and the hard copy has gone to the Government Printing Office, and that should be within a few weeks we should have hard copies available also.

Let me just give you, again, a little summary of where we were with Morton for folks who aren't too familiar with it.

Again, the root causes out of the Morton case were that there was neither a preliminary hazards assessment done during the design phase in 1990 or a process hazards analysis in 1995 that addressed the reactive hazards of the process, and because of that, there were a lot of shortcomings in the Morton process.

The kettle cooling system couldn't control the exothermic reaction. The kettle was not equipped with safety equipment, such as a quench system or a reactor dump system to stop the process and avoid this runaway situation.

The rupture disks were too small to safely vent the reaction. They weren't sized for a potential
foreseeable runaway reaction.

Morton converted its production from a semi-batch process which is inherently a safer process in that you have one material in the kettle. You're added the second material to it over time, and by being able to control the flow of that second kettle you can turn off that flow and basically interrupt that reaction.

Morton switched from this safer process, the semi-batch, to a batch process where they put all of the chemicals in the reactor in the beginning and proceeded to let the reaction take its course, with the larger amounts of material in the kettle and a much greater potential for things going wrong.

Morton had operating procedures, but they did not cover the safety consequences of deviations from normal limits. They did not give the operators any information on steps they could take to void or recover from such an accident, and the cause of the problems with knowing what was going on and the problems with the operating procedures, the operators did not have the proper training really to respond properly to the incident or even to know when they should leave the area and evacuate.

Another root cause was that the process
safety information provided to the plant operations personnel and to the hazard analysis teams did not warn them of the potential for this runaway reaction, and Morton had documented internally that they knew this reaction could reach a runaway point. This information was available on their system, and they had done some of the chemical testing that companies typically do to identify these types of reactions.

However, this information was not communicated to the folks in New Jersey who were running the process, and as a result, they were unaware of its potential. The operators were unaware of it. The supervisors were unaware of it, and when they got into the situation, they really were not equipped to see what could possibly happen.

Contributing causes. Hazards of previous operational deviations were not evaluated, and it had a number of events over the years. Again, they started making material in 1990. This incident happened in 1998, and they had had maybe more than half a dozen cases where the temperature started to go up at to beyond their upper operating limit, and fortunately operators got the cooling water on quick enough or they got the steam off quick enough, and the temperature -- they were able to grab the temperature, as we say on
the plant, and pull it back down and bring that
reaction back under control.

But they never investigated these incidents, these high temperature incidents. It would have given them an opportunity to see there was something wrong in their process and maybe taken some steps to correct it.

Secondly, Morton did not follow what we call management of change procedures, which is an OSHA term for when you make a change in a process. You need to evaluate the consequences of that change. Could it have safety effects? Could it have health effects? And what are the consequences of doing that?

Morton increased their production from 1,000 gallon reactors to 2,000 gallon reactors, and they increased the batch size. What that essentially did was reduce the effective amount of heat transfer area that was available for them to really cool this reaction.

Again, they didn't do any review of this change to see if there were any possible consequences. So basically that was really the story of Morton, and we really are now -- again, the report is out, and our next effort is really to start the recommendation, an advocacy effort and see that we can get things improved
So a quick summary of the recommendations. There are some recommendations to Morton, and again, Morton is now a wholly owned subsidiary of Rohm & Haas. So Morton, Rohm & Haas.

Those recommendations are in two areas. One was to upgrade process safety management elements, process safety information, again the lack of communication about this reaction; the process hazards analysis, management of change, operating procedures training.

Two other areas for Morton and Rohm & Haas to consider was upgrades, engineering upgrades, and that was in the area of pressure relief requirements and in the controls and safety instrumentation on these reaction kettles.

We've also made some recommendations to a number of organizations to communicate this incident to their membership, and that was SOCMA, the Synthetic Organic Chemical Manufacturers Association; the American Chemistry Council, ACC, previously the CMA; CCPS, the Center for Chemical Process Safety of the American Institute of Chemical Engineers; and the PACE Union, which represented the folks here at Morton.

And we really would like them to get out
and get our word out and communicate the information to their membership. We started doing that. We've been meeting with folks, and that effort is starting to happen.

Finally, we had two recommendations to OSHA and EPA. The first one was for OSHA and EPA to issue joint guidelines on good practices for handling reactive chemical process hazards. Morton was using the OSHA PSM standard even though this process didn't really apply, wasn't really covered. They had extended coverage to their process, but the PSM is really minimum guidelines. There's nothing really specific on reactive hazards.

So what we'd like to see coming out of OSHA and EPA is guidelines to give companies information on evaluating reactive hazards and the consequences of deviations, reporting and investigating deviations from normal operations in near miss situations, for example; determination of proper design for items such as pressure relief, emergency cooling, process alarms, process controls, safety interlocks; and then an appropriate use of chemical screening techniques. And there's a variety of techniques. Some are computerized. Some are desktop calculation techniques, and then there's quite a number of laboratory
techniques.

The second recommendation is for OSHA and EPA to participate in a hazard investigation of reactive chemical process incidents to be conducted by the Chemical Safety Board.

And what we'd like to do here is to really evaluate the frequency and the severity of reactive chemical incidents. We know there's been a history of others. There was a NAPP case in New Jersey in 1995; Georgia Pacific several years ago. There's evidence that Philips down in Pasadena, Texas of this year had some relation to reactive chemicals.

So we want to really get an understanding of what is going on in the industry in this regard.

Secondly, how are OSHA and EPA currently addressing reactive hazards and industry also? What are the differences between large companies and medium companies and small companies in how they address these hazards?

OSHA and industry use National Fire Protection Association rankings or reactivity ratings as a means to assess the risks from various chemicals, and these rankings are used on material safety data sheets, and they're also used by people in the plant. Really these rankings are designed for emergency
responders.

So the question we have is: is that being used in the plant? How effective is that use in the plant? And how is that information getting transmitted back and forth?

And we hope that out of this study we'll be able to develop some further recommendations for reducing the number and severity of reactive chemical incidents.

Really that's our summary of Morton. Any questions?

CHAIRPERSON TAYLOR: Dave, one question. The status of the last two recommendations that you made to OSHA and EPA, what are the next steps? And can you give us an update on where we are?

MR. HELLER: Well, our process is to issue a formal letter of recommendation, but the requirements in our enabling legislation is that OSHA and EPA have 180 days in which to respond to that letter. So really those letters just went out in the past two weeks.

CHAIRPERSON TAYLOR: Any other questions on Morton?

DR. POJE: I just had a comment. I think Dave has lowered the enthusiasm that I perceived around this particular investigation. We had over 100 people
attend the meeting in Patterson with a very high degree of interest in following a much more detailed technical presentation, and then coming to a public comment period with input of an interest in the major recommendations arena on how to improve the system.

There was a high degree of activity from the Rohm & Haas already in implementing a whole host of safety enhancing procedures in that facility as well as other Morton facilities.

There is a high degree of interest in engaging us in discussions on this matter. Dave and I had an opportunity to go brief the new, the revitalized Process Safety Committee in the SOCMA community and a high degree of discussion with people about where does this issue of reactive chemicals meet the needs that are emergent within their domain?

The American Chemistry Council's Plant Operation Safety Committee has asked us to present next month to their technical committee about this matter. There will be presentations at a major international symposium in Orlando at the beginning of next month sponsored by the American Institute of Chemical Engineers on this matter, and we've been asked by a number of other parties to share that information with them, including the National Association of Chemical
Distributors.

So I'm quite gratified by the impact that this report has had in trying to coalesce a broader coalition of people around safety related functions and reactive hazards. A lot of work to be done in the guidelines, as well as in the investigation that will be part of this coming year's projects for the board, but quite clearly, this is a quite exciting arena of investigative work leading to larger safety ramifications.

DR. ROSENTHAL: Dave, do you have any idea how many people have downloaded that report?

MR. HELLER: Phil, the last number I heard was over 8,000, unless Phil has a more recent number than that. That's over 8,000 downloads since it's been on the Web site.

DR. POJE: Which doesn't hit our record, which is over 100,000 downloads for the Herrig report, but it's only been up there for a few weeks.

CHAIRPERSON TAYLOR: Okay. Thank you, Dave.

The Tosco Avon refinery update, Don.

And, again, when our investigators come up to the podium, can you introduce yourself and what you've been doing? We already know what Don has been
Thank you.

MR. HOLMSTROM: My name is Don Holmstrom. I'm the lead investigator in the Tosco incident that occurred on February 23rd, 1999, and I'm going to give a status report on the Tosco Avon refinery incident investigation.

In the Tosco incident, the U.S. Chemical Safety Board has formed a team, investigation team, with considerably oil refinery experience. I have 18 years of oil refinery experience.

Also on the team is Investigator Barry Downs. Barry joined the team in June and has 11 years of oil refinery experience with an emphasis in incident investigation.

And also recently joining the team is Steve Selk, who has worked in the oil and chemical industry for 25 years with an extensive background in safety standards, regulations, and incident investigation.

Also leading the investigation and safety programs area of the Chemical Safety Board is Bill Hoyle, who has 16-plus years in oil refinery experience and has provided significant leadership to the Tosco investigation team.

I'd also like to thank Shannon McCleary,
who has aided the Tosco investigation team, and in addition, I'd like to thank Faye Gibbins and Bea Robinson for their assistance in administrative and financial matters.

The CSB team over the last five months has performed over 25 additional witness interviews. The CSB team recently was required to subpoena three witnesses. This was the first use of the CSB subpoena authority.

The depositions were successfully completed with the witnesses responding to all questions posed.

The team has submitted an extensive follow-up information request to the Tosco Refining Company. The CSB request seeks 33 documents and nine interrogatories. Much of the information has been previously requested by the Chemical Safety Board, but was not forthcoming or denied by Tosco as redacted or as attorney-client privilege.

This information was due to the CSB by August 24th, 2000. The CSB to date has not received a written response. The CSB team has followed up and will seek appropriate measures to obtain the information.

New Tosco incident case files have been reviewed and summarized by the team. The Chemical
Safety Board has worked with the American Petroleum Institute and the National Petrochemical Refiners Association concerning industry good practice.

The CSB recently received a document from these organizations entitled "Work Authorization in Refineries." The CSB team thanks them for their input.

The incident investigation analysis has been completed by the Chemical Safety Board team. The Tosco investigation time line tracking the events leading to the incident has been developed.

A logic tree diagram, a tool for graphically depicting and organizing investigation information has been charted for the Tosco incident. The CSB has obtained new software to perform this important investigation task more easily.

The services of a corrosion consultant, the Hendricks Group, Incorporated, out of Houston, Texas, has been obtained by the Chemical Safety Board. David Hendricks and Dr. Russell Kane are recognized experts in corrosion control, mechanical integrity, failure analysis, and materials technology having performed more than 1,000 root cause failure analysis and corrosion investigations.

Both have been published extensively, lectured, and held positions in technical societies,
such as NACE, the National Association of Corrosion Engineers.

The work of the CSB team is now concentrated in the report writing phase. The team has completed a draft of the executive summary of the report. The team is now working on the full report draft and outline.

The CSB team can report that the sale of the Avon refinery has been completed. Ultramar Diamond Shamrock has purchased the plant from Tosco Refining Company. The CSB team believes that the sale will not have any effect on our investigation. The team is analyzing the effect of the sale in relationship to the recommendations component of our report.

That completes my presentation.

CHAIRPERSON TAYLOR: Okay. Are there any questions of the board members?

DR. POJE: I just want to give a comment. I think as Chris made us amply aware this morning, we do owe a tribute to Don for building the team and for effectively dealing with a handoff from Armando Santiago into the next phase of completion of this report, and I think it's well on its way towards completion.

So thank you and the team for that work.
I do want to recognize once again in this context the able assistance we've received from Dave Peck. As Chris has mentioned, he's on detail from the Department of Interior and played a major role in helping us pursue what for us was the first time use of subpoena processes and the deposition of witnesses, and that's a very important legal procedure for us to employ and to employ in a way that insures fairness, as well as the obtaining of the relevant information.

So, again, to you and to the team, thanks an awful lot for bringing us this.

CHAIRPERSON TAYLOR: Any other comments?
(No response.)

MR. HOLMSTROM: Thank you.

CHAIRPERSON TAYLOR: Thanks, Don.

We'd like to take, let's see, a five-minute break.

DR. ROSENTHAL: Which means you'd better be back in 15.

(Laughter.)

CHAIRPERSON TAYLOR: No later than 10:40.

Okay. Ten, forty.

(Whereupon, the foregoing matter went off the record at 10:33 a.m. and went back on the record at 10:45 a.m.)
CHAIRPERSON TAYLOR: We're going to start
back with or without you.

DR. ROSENTHAL: Let the record show I was
in my seat before Gerry.

(Laughter.)

CHAIRPERSON TAYLOR: We're going to
continue now with our agenda and discuss our incident
selection criteria and investigation protocol. Shannon
McCleary from our staff, the ISP staff, is going to
give a presentation regarding that information. So
I'll let Shannon take over.

Shannon, please introduce yourself and tell
a little bit about who you are, please.

MS. McCLEARY: My name is Shannon McCleary.

I'm a program analyst in the Office of Investigations
and Safety Programs, and I've been working for quite
some time on revising the accident selection process to
come to where we are today, and that is our final draft
of the accident selection process being presented for
the board's review and consideration at this time.

There are handouts of this final report.

Just to give you some background, when the
board was first created under the Clean Air Act
Amendments, it was given the legal responsibility to
investigate serious chemical accidents at fixed facilities and, more specifically, the law emphasizes accidents that affect or have the potential to affect the public, stating that in no event shall the board forego an investigation where an accidental release causes a fatality or serious injury among the general public or had potential to cause substantial property damage or number of deaths or injuries among the general public.

So, in essence, there's a distinction made that CSB must investigate accidents where members of the public are killed or serious injured, but we have some discretion if the general public is not affected.

We estimate that at least 100 serious chemical accidents occur each year at fixed facilities that could potentially be investigated by the CSB. However, we've also determined that we can only initiate investigations of approximately three to five of these cases each year due to our budgetary constraints.

To address this issue, we have developed a set of criteria to aid in the board's internal decision making process to select accidents at fixed facilities for investigation. The selection criteria was developed with input and feedback from our stakeholders.
through two round table sessions, and it's designed for three primary purposes:

To insure the effective use of our resources;

To maximize the benefits of the board's investigation reports in preventing future accidents;

And to enable the timely dispatch of investigation teams.

The selection process accomplishes this through a two phase evaluation. In the initial evaluation, primary weight is given to the actual and potential consequences of an accident, and those consequences are given a specific rating which serves to flag serious accidents for consideration.

In the second phase of evaluation, the decision to launch an investigation will be made based on a broader assessment of a number of other factors.

These are the factors in the initial evaluation that will be considered. There are seven categories. Six relate to the actual consequences of the accident, and an additional factor considers potential consequences.

The six criteria dealing with actual consequences are listed here. The first is injuries or health effects to members of the public outside the
fence line; deaths, injuries, or health effects to personnel inside the fence line, be that facility employees, contractors, outside responders, or members of the public.

We will also consider public evacuations or shelters in place; property losses, both outside the fence line and inside the fence line; and ecosystem damages.

And in addition to looking at these actual consequence factors, the should speak gives a substantial weight to the seriousness of potential consequences to the public. Therefore, all accidents will be screened further to evaluate this potential using the seventh factor.

This factor is necessary to take into account the fact that some accidents which have low direct consequences within the work place are perhaps near misses with high potential impact on the community.

CSB will utilize available information on the chemicals involved, the site location and proximity to the public and various other factors to evaluate the seriousness of potential consequences to the public. In each of the categories, the accident is given a rating based on the severity of those consequences.
listed here, and those with higher total ratings are more serious and will advance to the second phase of the evaluation.

It is in this second phase of evaluation that the CSB will consider a variety of other factors leading to a final decision on whether to launch an investigation.

The first is feasibility. We would ask such questions as does the CSB have the resources to conduct this investigation.

The second concern is community impact. Is there an effective civilian response outside the plant gates? Is there significant community concern about public responders or industry's ability to manage this type of accident?

The third factor for consideration is public recognition. Such questions to be considered include what is the general awareness and sensitivity of the public regarding the accident. Was there extensive local or national media coverage? What is the general public's reaction to this accident?

The fourth factor to be considered is history and number of facilities. Is there a history of significant accidents in the subject industry sector facility? Is there a history of similar accidents from
the subject process or operation? How many facilities use the chemical or process involved in the accident?

The fifth factor to be considered in the second phase of evaluation is the learning potential from conducting an investigation. We would consider such questions as what is the likelihood that new technical information from an investigation of this accident will impact chemical safety. What is the potential to increase awareness of past lessons that will impact chemical safety? And what is the likelihood of this accident happening again?

Through this two phase evaluation the CSB will be able to evaluate an accident and make a launch decision within 24 to 48 hours following an accident. When the CSB receives initial notice of a serious industrial chemical accident at a fixed facility, the accident selection process will begin immediately. Information will be gathered on a continuing basis from the company, from responders, media reports, and through coordination with other federal, state, local agencies to complete the evaluation of the selection factors leading to a final launch decision.

And that is the process at this time.

Thank you.

CHAIRPERSON TAYLOR: Thank you, Shannon,
for all of your hard work.

Any questions from the Board members?

DR. POJE: No. Just to say that I appreciate all of your work. There's been an awful lot more that goes into this than just the presentation you're seeing today, and I also appreciate the work that you and Bill have done and Irv, in particular, to pull together a larger suite of stakeholder interests in this particular topic and some significant feedback.

This question will be part of a major discussion at an international symposium on chemical accidents that will occur in Orlando in two weeks, and I think it's a tribute to all of you for having put this question more forcefully before the public and helping guide the institution on how we can best expend our resources in the future.

DR. ROSENTHAL: I wanted to just make special recognition of Shannon's work in this area because I think she came into this area relatively new and has done a tremendous job of personal growth and adding on.

So excellent job, Shannon.

MS. McCLEARY: Thank you.

CHAIRPERSON TAYLOR: Thank you.

I will now call -- oh, Chris?
MR. WARNER: I'd like just to add one point to the incident selection procedure. As you know, we're getting ready to possibly go out on a new investigation. To those of the staff who for over a year have been waking up at two o'clock in the morning or three o'clock in the morning when they get a buzz from the National Response Center to the team that evaluates and gets the information necessary to see about going out on investigation, I appreciate all of your hard work and your late nights, your families being woken up by a pager going off in the bedroom or whatever. It takes an awful lot of time and stress, but I do appreciate it.

CHAIRPERSON TAYLOR: Thank you.

Bill.

MR. HOYLE: The next item on the agenda is a discussion of our revision of our investigation protocol, but first I want to depart from the agenda and take a minute to acknowledge the presence of some representatives who are with us today from both Morton, Rohm & Haas, and also representatives from Sonat, El Paso.

I want to acknowledge the appreciation or extend the appreciation of the Chemical Safety Board to those representatives for their cooperation with us in
our investigations of events at their facilities.

From time to time we've certainly disagreed, but through it all, the cooperation and professionalism has been very high, and we greatly appreciate it, and we wanted to take this opportunity to publicly acknowledge that cooperation that we have received from Morton, Rohm & Haas and Sonat, El Paso.

So with that, let me bridge to the protocol development revision work. Last year we developed an interim investigation protocol which is currently in place to guide us in the conduct of investigation. We are now revising this interim investigation protocol as needed to even better meet our needs.

We are fortunate to have expert assistance in this important project through contract with EQE, formerly JBF, which is a highly regarded provider of process safety and incident investigation related services.

The focus of our current protocol revision activity is on topics such as fine tuning our procedures for prompt investigation team deployment. Our goal was to deploy within or was to arrive on the scene of the incident within 24 hours. It's an ambitious goal, but that's what we're aiming for.

We're also addressing the conduct of
opening conferences with different agencies and accompanied upon arriving at the scene. We're addressing evidence preservation, effective interviewing techniques and policies, coordination with other agencies who respond to these incidents, and gathering needed documents in an investigation.

As part of this, we're internally organizing with Dave Heller, the lead on this activity, and organizing an interview training program for both current staff and newly hired staff to fine tune interviewing skills. This is an important aspect of our activity.

We've developed a work plan for the protocol revision, and we've prioritized those most important items to be addressed first. As part of this work, we're studying protocols and practices from the National Transportation Safety Board and other government agencies, as well as the Center for Chemical Process Safety and also protocols from private industry model programs in the area of incident investigation.

Our goal in that is to benefit from the many years of experience of these other organizations in doing chemical incident investigations.

So that's the status. We're continuing to work on the protocol revision. We have a protocol in
place. We're continuing to refine it.

If there's any questions, I'll take those.

CHAIRPERSON TAYLOR: Any questions?

(No response.)

CHAIRPERSON TAYLOR: Okay. Thanks, Bill.

MR. HOYLE: Okay.

CHAIRPERSON TAYLOR: Hiring plan.

MR. HOYLE: Okay. The next report or item on the agenda is our hiring plan report. I must say that I'm very gratified to report success with our hiring program.

Three highly qualified individuals have already begun work at the CSB, and three additional highly qualified individuals will report for work within a few weeks.

We are also currently advertising to hire a technical editor-writer and also to hired additional investigations, and I once again would like to extend thanks to Faye Gibbins who's standing on the far wall and her staff for their assistance in doing this both resume screening and gathering and cataloging.

In the last three to four months we've reviewed nearly 700 resumes, and this takes a lot of effort, and we appreciate the expert support we're getting in that.
I want to take a moment to introduce you to some of the new individuals who have joined our staff. Two of our three new investigators or staff members are with us today, and I'd like to recognize them.

First, Steve Selk. Steve, if you would stand up and raise your hand.

CHAIRPERSON TAYLOR: Stand up.

MR. HOYLE: This is Steve Selk. Steve comes to us from Chicago, Illinois, and brings to the Chemical Safety Board 25 years of experience in chemical industry facility design, process safety management, and incident investigation, and many other important skills.

We're very fortunate to have Steve, and he's already working hard. He has been moved forward and is working on the Tosco team and a number of other important assignments.

Second, I'd like to introduce Barry Downs. Barry, would you stand and let people see you there?

Barry comes to us from Philadelphia, Pennsylvania where he has joined the CSB as a safety recommendation specialist, but he's also assisting on the Tosco investigation report.

Barry brings to us more than then years' experience in oil refining operations, instrumentation,
and incident investigation and process safety, and we're really enjoying working with Barry who joined us in June.

Our third new staff member is John Murphy. John comes to us from San Antonio, Texas, and has more than 20 years of experience in the chemical industry and process safety management activities. John is a leader of health and safety activities for the American Institute of Chemical Engineers.

John unfortunately cannot be with us today because he's in a moving van somewhere between San Antonio and D.C., and so he'll be back with us in a couple of days.

DR. POJE: He's been with us, but he's making his family whole in this area.

MR. HOYLE: Right. John has already been working in the trenches, but he's gone back to bring his furniture and his family here.

DR. ROSENTHAL: In that order.

(MR. HOYLE: I missed that one. It's probably good.

(Laughter.)

MR. HOYLE: I also want to report that an additional three individuals who will be joining the
CSB shortly have similar stellar credentials and years of experience in the chemical industry. When they arrive, the CSB investigations and safety programs group will have 12 members, which nearly doubles the size of the group since June.

This is exceptional success, and we had planned to hire an additional six staff members by the end of the calendar year.

I'd like to close on the hiring plan by making an observation, and that is while all of our new staff members have quite varied experiences and careers, there's one thing they have in common. They're all excited and passionate about the mission of the Chemical Safety Board, and it should be noted that each of them likely could earn more money by continuing to work in the private sector, but they choose to work for the Chemical Safety Board because they're very excited about the mission and the future of what we're building here, and I think that's a real testimony to this creation of this agency and the future that we are excited about and that we're going to continue to attract very talented individuals who are looking for things more than, in addition to that which they were gaining in the private sector, and we're very excited. We're glad to have them here.
So that concludes my report.

CHAIRPERSON TAYLOR: Thank you, Bill.

Any questions?

DR. ROSENTHAL: No.

CHAIRPERSON TAYLOR: I just would like to say again welcome to all of our new staff members, those that are here and those who are not, and we really appreciate the hard work that has gone into the selection of those staff members.

They are very highly qualified, and I look forward to working with all of you.

Any other comments?

(No response.)

CHAIRPERSON TAYLOR: Okay. Chris, strategic plan.

MR. WARNER: As you know, we've had a round table meeting in July. I'd like to acknowledge the stakeholders who were at that meeting and thank them for their involvement. This has been a fairly intense time, extensive task that we have done. I think we've done a great job.

We welcome all of the comments that we have from all the stakeholders. We have a final report that we're putting together for the board to review, and the next steps would be after board review and possible
approval hopefully, we'd be getting that up to Congress at the end of September.

And just to go through the major parts of the strategic plan, in order to provide a clear road map for the future, the CSB has developed this strategic plan in accordance with the Government's Performance and Results Act of 1993. The plan describes expected accomplishments over the next five years, 2001 through 2005.

The CSB will use this strategic plan as a guide in setting priorities, allocating resources and making decisions that produce the specific outcomes identified in the strategic plan.

The mission of the CSB as laid out in this plan is to promote the prevention of major chemical accidents at fixed facility. The plan is organized around two over arching goals, one mission goal, and one enabling goal.

the mission goal focuses on the principal role of the CSB to promote prevention of chemical accidents at fixed facilities. The CSB accomplishes this goal by producing timely, high quality investigation reports, recommendations and other technical products, developing effective outreach and partnerships with stakeholders, and developing and
implementing a system for chemical accident data
collection that can be used to measure prevention
effectiveness.

By 2005, the CSB expects to initiate five
major accident investigations and one hazard
investigation per year that benefit from effective
coordination and partnering with industry, unions,
federal, state, and local entities.

From these investigations will come reports
that contain well reasoned and precisely targeted
recommendations that promote prevention of chemical
accidents and worker and public safety.

The enabling goal focuses on enhancing the
management of the CSB and improving the organization
effectiveness through work place planning, hiring, and
training, cooperative working relationships, and
information resource security and management.

The CSB accomplishes this goal by clearly
delineating roles, responsibilities, and
accountabilities for board members and staff;
developing and implementing administrative and
personnel policies, including family friendly policies;
and completing organizational information technology
and physical infrastructure.

The CSB has already taken significant steps
in this area in FY 2000 and is committed to steady improvement in the management of its human and physical resources, and the CSB employees remain highly motivated and committed to the agency's mission.

CHAIRPERSON TAYLOR: Thank you, Chris.

DR. ROSENTHAL: That was a good summary, Chris, and I think I and the other board members would appreciate any comments on that strategic plan because, while it is fairly shortly going to be put down in a hardened form after we approve it and send it to the Congress, it's a living document, and it can evolve around those objectives so that when you get it, any comments that you have, suggestions would be appreciated.

CHAIRPERSON TAYLOR: Yes.

DR. POJE: And if I can just echo what Chris said earlier, we want to thank Anna Johnson for playing a lead role as Chris' assistant in bringing this project to fruition, and one person who had been with us for a while as a delight and hard working individual in our office, but has since gone on to other things, Beverly Brock has been a great aid to the institution and bringing this project to its current state of fruition.

CHAIRPERSON TAYLOR: And we also have to
again thank the staff because they also had initial involvement in the entire strategic plan. We met as a team, the strategic plan team. We went away from our offices here to another facility and really -- yeah, that was good. No, we didn't -- but we got together as a group and talked over what this would actually be.

And I think this is a huge accomplishment for us, and again, thank you to the staff and all of our hard work to getting this where it is now.

Thanks, Chris.

And since you're up there, don't move. CSB legal and regulations update.

MR. WARNER: In the past, we have gone over various board directives, notation memos that the board has issued between public meetings.

As you know, under Government in the Sunshine Act, a multi-member board such as this conducts its business in the public. We have these meetings every month or every two months. In between the board members are permitted legally to conduct business through a memo notation system where they pass various policies around and vote on them, and then we report them at the public meeting.

Since the last public meeting, we have issued approximately 24 various notation items, some of
great length, for example, the subpoena order, personnel orders, policies, things like that. Time really doesn't permit reading every single one of them.

So what I'd like to do if that's possible is just sort of highlight the ones that we've gone through for you, and if there are issues you can ask me about them.

Notation item 33 was concerning the lease of the property, which took a substantial amount of time, over three or four months.

Thirty-four and 35 are personnel issues that we are putting in place and policies that you have approved.

Thirty-six regarded the Office of Legal Counsel and contracting issues.

Thirty-seven is personnel.

Notation item 38 was where the board adopted the decision to make Andrea Taylor the spokesperson for the board, for Congress, the press and the public.

Thirty-nine concerned budget issues, and just to explain that to the people here, this is more than a presentation of investigations. This is where we actually do business, too, and so some of this might seem routine.

As you can tell, since January we are
without a chairperson, and so the three sitting board members, four board members have split the responsibilities of the chairman, and as they outlined to you in the beginning. So it adds another layer to what we do, and that's why some of these might seem sort of simple or basic, but because of our structure, they're necessarily legally to do.

Number 40 concerned the presence of board members in Washington regarding their presence at board briefings and board meetings.

Forty-one and 42 are, again, personnel issues.

Forty-three, 44 regard delegations to various persons here at the staff level.

Notation item 45 is where the board delegated all EEO responsibilities to Dr. Taylor, and she is working with Don Holmstrom, who is our EEO Director.

Notation 46 is a personnel policy on leave which required a fair amount of research.

Notation item 47 regards the assignments that were initially assigned to Dr. Hill in January when the board split its responsibilities for the Chairman's spot. Those responsibilities have not been carried out and, therefore, were transferred from Dr.
Hill back to the staff to complete.

Number 48 involves the implementation of a performance appraisal program.

Forty-nine, the issuance of administrative subpoenas were being ordered. Number 11, that went along with that.

Number 50 was the approval of the Morton investigation report.

Fifty-one regards the authority and procedures for depositions and other testimony under oath, and that's Board Order No. 12.

Fifty-two was an authorization to General Counsel to work on the recommendations of EPA and OSHA for the board.

Fifty-three is a contracting matter.

And 54 involves a policy for personnel, and that brings us up to date.

CHAIRPERSON TAYLOR: Okay. Any questions?

DR. POJE: If I could just make a comment, it's clear that we have sat ourselves on the course of action of building investigation and safety program emphasis for the Safety Board, but I think as Chris is pointing to here, it's to be enabled to do that requires us to have a fair amount of legal infrastructure developed for administering an agency.
And I want to give special recognition to Chris in his major hat of the General Counsel, as well as to Ray Porfiri for a very high degree of legal research and legal scholarship to help build particularly the directive materials for the agency in order to get us policies and board input into the policies that then become the guiding principles of our agency's operations.

So thank you, Chris.

CHAIRPERSON TAYLOR: Thanks.

Irv? No.

Okay, Chris. Continue.

MR. WARNER: Next on the agenda, I believe, is the GAO report. It's report number RCED00-192, issued July 11, 2000.

The GAO report made the following two recommendations, which will help to strengthen the CSB operations.

The GAO recommended that the CSB develop and implement clear policies and procedures in the investigation protocol to further insure the impartiality and thoroughness of the investigations.

As CSB informed Congress in December 1999, and as part of the ongoing endeavor to improve our investigation policies, we will continue to refine and
improve our investigation protocol for this fiscal year. As part of this effort, we will consider implementing the additional policies and procedures that the GAO identified for insuring impartiality and thoroughness in our investigations.

We note that although we have not had written policies and procedures on the items that GAO identified, all four of the CSB investigation reports have been highly praised for their objectivity and thoroughness.

And again, to just emphasize this point, we are a new organization, and we are starting up. We will develop a myriad of legal policies and personnel and administrative policies over the next year or year and a half, and those will all be laid out in front of the board in the ensuing months.

So the fact that GAO identified it, they identified it that we should put it in our protocol. We did have draft procedures that we were following, and therefore, if there was an issue that was raised in the staff and was not resolved by the staff, in the transmittal memo that went to the board, I as General Counsel and the Chief Operating Officer would specifically raise that issue to the board on the report when they consider the report. There has been
no such issues raised in any of the reports we've done so far.

The second, GAO also recommended that the CSB develop an agreement with an existing Office of Inspector General to provide institutional oversight of the CSB. We agree with the recommendation. In fact, as GAO reported, we have sought assistance from the Offices of Inspector General for the Departments of Energy and Treasury, and although these attempts were unsuccessful, we will continue to seek assistance from an existing Office of Inspector General.

We note that as an interim step, we have posted information on the GAO's fraud net in the common areas at the CSB so that employees can easily report allegations of fraud, waste, abuse, or mismanagement of federal funds to an independent entity.

Those are the two recommendations.

CHAIRPERSON TAYLOR: Okay. The memoranda?

MR. WARNER: The last issue that the board would like me to address, as part of our ongoing attempt to establish relationships with agencies, as you know, we had developed memoranda of understanding with OSHA and EPA. We are also in negotiations with the NTSB regarding our relationship with them in investigations.
The board members met in, I believe, August, beginning of August, with Chairman Hall and had a very productive meeting with him. The staff will be following up with the senior staff from the NTSB on a variety of subjects regarding jurisdictional issues, details, training, et cetera, and hopefully we should have a completed MOU shortly for you.

In addition, as I mentioned earlier at the beginning of the meeting, we had Shira Flax from the Agency for Disease Registry -- Toxic Substances and Disease Registry --

MS. FLAX: ATSDR.

MR. WARNER: -- and she is here and will be completing an MOU with that agency -- sorry, Shira -- shortly as well.

We also have a second GAO investigation that was sort of looking at the interplay, interconnection between all federal agencies on accident investigations, and we should be getting a preliminary draft report from them next week.

And I'll have more to report next meeting.

CHAIRPERSON TAYLOR: Okay. Thank you.

Board comments? Update?

DR. ROSENTHAL: Update? What have I been doing? Well, I guess I think I'll mention first, and
I'm glad Dennis is here because he can tell me what SASH (phonetic) stands for.

MR. HENDERSHOT: Safety and Chemical Engineering Education.

DR. ROSENTHAL: There you go.

We have had a project to evaluate the use of our reports as teaching tools, and so I've been working with CCPS, AICHE, and participating at a program that's going to be taking place this next Monday, Tuesday, Wednesday in Detroit, in which they're getting a collection of university professors together, training basically to BASFY and dot (phonetic) facility, but as an adjunct.

We're going to discuss the possible use of the Morton case as a teaching tool when these professors go in and evolve from that, and involving the questions at Morton on near misses and their third party program.

Been selected as a reviewer of the ISPRA papers for a symposium they've had that's going to be published shortly.

I have the distinction, if you want to call it that, of sitting on the board of the Loss Prevention Journal so that I continue to review oodles of papers each month, sending off comments, such as they may.
Finally, have had the pleasure of meeting with colleagues at EPA, Jim Makris, David Speights, Kathy Jones, and with Joe DuBois in discussions with Mike Marshall, Bill Webber at BLS, kind of talking around the issue of possible general things that might be done in the area of getting a set of numbers that will let all of us know whether the number of chemical accident releases are going up and down, frequency by SIC code and by chemical. I don't want to know anything more personally.

That's taken up my time.

CHAIRPERSON TAYLOR: Gerry.

DR. POJE: Yeah, I think I've said enough today about the involvement that we've had as board members collectively and individually in all the activities that you've been hearing about today from the staff. As board member responsible for personnel matters, I obviously have a little bit more intimacy on a day-to-day basis with Chris on a number of these activities.

But I did want to take this time since we also have been introducing individuals to also alert you that in May of this year the board added a special assistant for board members to help us on investigation and safety issues, and I'd like to recognize Daniel
Horowitz who is here today.

Daniel has been quite involved to date in the strategic planning effort, in a degree of engagement on the Sonat team and its completion of the investigation work. He also has served us ably in the national assessment project representation at Texas A&M University.

He is a quite skilled individual. He is a chemist with experience in environmental research, technology, and policy.

Prior to joining the CSB, he was a program manager with Metabolics, Incorporated. This is a biotechnology company that was researching and going through early product in a pilot phase of environmentally friendly polymers.

So they were developing a biologically derived latex material useful in industrial coding and electronics manufacturing arena, and he had some on point experience in that capacity dealing with health and safety concerns.

From '94 to '95, he served as a congressional fellow of the American Chemical Society and worked on federal technology policy issues with the United States Congress House Committee on Science. So he has another degree of linkage for us as board
members to that important institution on the Hill.

In earlier positions he researched environmental science and policy issues for the National Wildlife Federation, the consulting firm Hirschorn & Associates. He holds an A.B. degree from Harvard University, a Master of Science from Stanford University, and a Ph.D. from the University of Cambridge in England, so certainly quite an accomplishment.

So we also welcome him to the board. He has been a person who has really worked well coordinating between board members and the staff on a number of important technical issues, and we will continue to rely upon him for such matters.

So welcome, Dan. Thanks for joining us.

CHAIRPERSON TAYLOR: Thanks.

Just to give you an update, as Chris has already mentioned, I am now since our last meeting the official spokesperson for the board. That could be good or bad.

I'm also responsible for EEO, as overseeing what happens in that arena of EEO complaints, and overseeing the completion of the annual reports. Hopefully we can get those, the back ones, completed as well as the end of this calendar year another report
will be due.

In addition, I've worked as the board member with the Sonat team, and that's been a fun experience, as well as a learning experience for me because my background is actually industrial hygiene and not the oil refinery industry, largely working with the auto companies in the past.

In addition to that, I'd just like to say I joined the board about a year and a half ago and moved my family from Michigan. I am pleased to announce that I am happy that I'm a member of the board and we have been working very hard, as you can tell, with a lot of our efforts and moving forward to what I came to Washington for, to prevent chemical accidents from occurring on a broader scale, developing policies, developing recommendations, assistant to those recommendations, and advocating for prevention and the health of workers and the public.

So in saying that, I'd like to just say again, thank you to all of my fellow board members, as well as to the staff.

And with that I'd like to also mention that I thank all of you stakeholders in the audience for supporting us and being with us through everything that we've done and our future, and hopefully you'll
continue to grow with us as we continue to make changes and develop our policies here at the agency.

Any other comments?

(No response.)

CHAIRPERSON TAYLOR: Next, our board meeting, our next meeting. The board had determined initially that the next board meeting would be on November 9th. The room is not available for that date. So we're moving it to November 8th.

We wanted to try and establish a pattern of meeting on the second Thursday of every other month, but we're not having any success yet. So this is Friday, and it's not the third. It's not the second.

DR. POJE: We're subject to too many controls held by other people and not our own.

CHAIRPERSON TAYLOR: That's right. So our next board public meeting will be held on Wednesday, November the 8th, here in this room.

With that I'd also like to now open the floor for public comment, and to start I'll find out first if there are company officials who would like to give a statement. I know that Sonat is represented and Rohm & Haas.

MR. CALLAHAN: Yes. Thank you, Madame Chairman.
CHAIRPERSON TAYLOR: Can we have you come to the podium?

MR. CALLAHAN: Sure, I'd be happy to.

CHAIRPERSON TAYLOR: For the record. Thank you.

MR. CALLAHAN: Thank you very much.

My name is Glenn Callahan. I'm an attorney with the firm McCarter & English, and I represent Rohm & Haas and Morton.

And, first of all, I'd like to acknowledge that with me is Dennis Hendershot, who's the senior technical fellow, process hazard analyst for Rohm & Haas, who has worked with me and others from the Rohm & Haas group to look into the issues relating to the Morton incident.

And following the board's presentation, the staff's presentation in Patterson, we took that information back, continued our investigation, and are here today to do a couple of things.

First of all is to thank the board and the staff for a really excellent job, excellent presentation, and to let you know that Rohm & Haas, who could be considered to be a leader in the industry for recognizing and dealing with issues of product and process hazard and safety, appreciate the opportunity
to have been involved, unfortunately to have been involved, in a way that they would prefer not to be, namely, in the investigation of an incident. We'd like to be involved more in the prevention of incidents.

The second thing that you should know is that the recommendations that are contained in the Morton report, of which you've heard a fair amount today and perhaps have had an opportunity to read either from the Web site or otherwise, for the most part they have been implemented or they are in the process of being implemented, and it is the goal to avoid and to learn from the incident that occurred at the Morton facility in Patterson and to see to it that that type of incident is prevented.

The comments that I was going to make, actually I'm going to have to shift them a little bit because I think that what's really at issue from the standpoint -- from our perspective and our reason for being here is really very much highlighted by both Bill Hoyle's comments and Chris Warner's comments both on the strategic plan and on the interim investigation protocol.

I think that that is really why we're here and what we'd like to comment on because at the end of the day, you don't get it better. You don't get it
right unless you have the facts that are critical and that are substantive.

Since the presentation in Patterson in July, we've had an opportunity to go back with the benefit of the work that the board has done, the benefit of OSHA investigations, the benefit of internal investigations, and have had the luxury, if you will, of having all of that information available and then going back and doing it all over again.

And as many of you know, there's no teacher like doing it over and over until you ultimately get it right.

And what we found was that there were a number of factual issues that we believe to be inaccurate in the final report, but it doesn't change our commitment to the recommendations.

So what we're really talking about is the process and the information that has been gathered and the information gathering process, and we are committed to working through this process with the board and with the staff members to give you the benefit of what we found out, how we found it out, and what you can do on a going forward basis to make the investigative process better.

Because at the end of the day, as I say,
the recommendations are really what's important, but how you get to the recommendations, the information upon which those recommendations are based are equally important, especially if one of the goals, one of the strategic goals is to gather data to avoid future incidents.

That's all preface. Sorry for the long preface, but let me tell you where we have found that there are a couple of issues that -- and we'll be submitting this to the board and to the staff in writing so that you can incorporate it to the extent that you feel it appropriate, you know, as an add-on, addendum, or whatever to the report.

The two areas that the report, we feel, did not have an accurate picture of what went on, and this is not critical so much of the report because it really took a fair amount of time, even with all of the information that was out on the table, for us to ultimately knit together how the process was ultimately put together.

The two areas, one is the suggestion in the report that the Morton process that was in use in Patterson in 1998 had somehow been switched from a semi-batch process, in which the ingredients are introduced in stages, and I'm probably talking to
chemists who really know what this means as opposed to a lawyer who has to fumble through some of this, but from a semi-batch process the process was converted into a full batch process in which all of the ingredients were combined at the same time.

That's not correct, and the reason for the confusion is this. The investigation reviewed the process or a process that had been developed on a totally independent basis in a Morton facility in Hounslow, England. That process was not imported to the Patterson plant. The process that was in use at the Patterson plant was actually a process that had been developed by a bench chemist at the Patterson plant, and his process was different from the Hounslow process in that all of the materials for the O-NCB and the 2-EHA were introduced at the same time.

The significant difference between the two processes was the semi-batch or the staged introduction of these O-NCB, which as you may know is a very highly toxic substance -- two minutes and I'll be done -- was that semi-batch -- his process eliminated the multiple handling of the O-NCB and brought it in at a lower temperature bringing it up, whereas the Hounslow process started at a higher temperature.

The second issue relates to the lack of
communication of certain information to the Patterson facility, and that's another issue.

The Hounslow information was actually submitted to Patterson and was reviewed by the bench chemist who had, in fact, developed a process that was in place, and a determination was made by that individual and reviewed that the process was, indeed, safe from the exothermic problem that had been noticed in England.

So with those two primary exceptions and perhaps one other small one, which I'll leave for our written proposal, we'll be submitting those, but again, the most important issue is the recommendations are being implemented, and we do appreciate the fact that we've been given an opportunity to comment.

Thank you very much.

CHAIRPERSON TAYLOR: Thank you very much.

Anyone from Sonat?

And I didn't preface this, and I thank you for keeping close to my little hand motions here, but all comments should be limited, please, to five minutes. Sorry. Five minutes.

MR. CALLAHAN: Thank you.

DR. POJE: Thank you, Glenn.

I look forward to reviewing this material
when it's available.

MR. CALLAHAN: Thank you.

DR. POJE: I believe that our report did highlight the issue of toxicity associated with the ortho-nitrochlorobenzene and recognize the special precautions that were in place at that facility for limiting the human exposure of the work force to it. So a very important competing issue sometimes in the development of processes that we will be attentive to.

MR. CALLAHAN: Thank you.

CHAIRPERSON TAYLOR: Any other comments?

(No response.)

CHAIRPERSON TAYLOR: Sonat.

MR. JARRETT: Madame Chairperson, I'm Keith Jarrett. I'm a lawyer for Sonat.

We had prepared to make some comments, but I think it's fair to say we'll leave ours for writing, although I would echo Mr. Callahan and say that our interaction with the board and staff has been very cooperative, both from our perspective in terms of providing access to people and material and documents, and from the board in giving us an opportunity to comment in writing upon certain draft findings, and we have made certain observations.

We're in agreement with the vast majority
of the findings of the board. We have some
disagreements, as well, about factual findings, and
we've detailed those in writing and will do it again
when the final report comes out, I suppose.

But it is important to know that my client,
Sonat, has implemented a number of recommendations
proactively. In fact, they seem to mimic or parallel
that which the staff has indicated might be
appropriate, and those have been in place for well over
a year, and I think we'd all like to prevent some
recurrence of any kind of tragedy like this.

One comment I would make. It seems in
dealing with the subjects that have been talked about
by the staff, things like protocol of the board in
investigations and strategic planning, and it's
implicit in some of the findings of the staff that have
been talked about here, which is that the focus of the
background of the staff members and of the board has
been traditionally on the chemical refining industry.

You know, Sonat Exploration is an oil and
gas exploration and production company. We're not in
the refining business, and there is a great distinction
both in the businesses and in the way they're
regulated.

The refinery business has a plethora of
regulations that are applicable to the business. Oil and gas is traditionally exploration and production; has traditionally been excepted from those regulations; and indeed, the process safety management regulations that have been subject to much discussion in the board presentations contains specific exclusions for oil and gas production operations.

There's a reason for those. They were not deemed to be a good fit for the industry. Years ago when they were enacted, OSHA has issued interpretive letters in prior occasions which plainly indicate the type of facilities that my client was operating at the time of the accident were not covered by that regulation, and I think the board's report confirms that my client was in compliance with all existing regulations at the time.

There were errors made, engineering errors that my client made that contributed to the accident, and as I say, we've implemented changes to make sure that doesn't repeat itself, but if for the purposes of the investigations going forward, if it's an objective of the agency to investigate accidents in oil and gas exploration and production facilities, seemingly expertise in that field would be an appropriate addition to the staff members and/or consultants in
that field, which the board did in this case. They retained some experts in the field, and we're in general agreement with those engineering findings.

Thank you very much.

CHAIRPERSON TAYLOR: Thank you.

DR. POJE: Thank you. If I could just --

DR. ROSENTHAL: I have a question. Was your recitation of exclusion from all of these regulations a complaint?

(Laughter.)

DR. POJE: You don't have to answer that one.

CHAIRPERSON TAYLOR: You don't have to answer that.

(Laughter.)

DR. POJE: I just wanted to thank you for your remarks. Clearly the board's mission, if you look at this possible range of chemical and other incidents to which we could become involved, is extraordinarily broad. The staff currently, as Bill projected, you know, we're ramping up to a team that will have fewer than 20 people in the investigation and safety program area.

We're confronted with the need to build expertise that will be on point, targeted, experienced,
but we can't possibly profess as an emergent institution to be able to be expert in every possible domain in chemical engineering that we might face.

So we are solicitous of our sister agencies and their knowledge of expertise, where we might be able to find it. We would even be persuaded to say who are the other good exports who the board should keep mind of and a roster of so that we could access them as quickly as we can.

We're dependent upon many to help us in that. We think the statements about improving your investigation process and protocol and making sure the investigation is deemed the highest quality is essential for this institution to survive.

If people query us and say, "We don't think you investigated well. You used bad experts or people who were inexpert in the area in which you were trying to do your investigation," we think we'll be harmed institutionally.

So, therefore, again, I would just make the statement once again as Irv and Andrea said, we welcome input about how to improve. We also welcome input about expertise that we should be cognizant of as we are forced to go forward into such situations.

We do not try to assess blame in any
instant. We try to extract the best lessons that could be learned and could be projected to a larger sector of the industry for improving on this whole process of chemical safety.

DR. ROSENTHAL: I might add that -- in fact, give you preview -- I'm on a panel for how do we improve accident investigation processes. Mike, you're on that same panel.

One of the things that at least is my personal goal is how can we do a better job of involving people in the fact finding, forensic stage of the investigation. There are resources in the labor industry, university, institution, even in certain areas in the public interest groups can afford experts, and that stage at the fact finding ought to be possible to do a better job in cooperation.

After that, with a given set of facts, it's quite easy to make any case you want, but it would be nice if we could proceed from the same set of factual information, did not have to repeat differential thermal scans four different times that were done on the same equipment, have three different people tell us why a stress failure occurred, and that's a goal.

Whether it be done informally, which is going to be difficult, whether through some mechanism
as the NTSB does, has formal mechanisms for doing it, that has to be developed by counsel with possible approaches by which it might be done, and by staff, but in response to the representations made by counsel for both companies, we have a common goal in that sense, and where disagreements occur, let them be afterwards.

CHAIRPERSON TAYLOR: Yes. Any additional public comments?

MR. ORUM: I'll stand right here so you all can see me.

I'm Paul Orum, a presumed expert in public interest.

CHAIRPERSON TAYLOR: The problem though is the mic.

PARTICIPANT: Well, I can move my mic. He can stand there.

MR. ORUM: Okay. I'll speak loudly.

With the Working Group on Community Right to Know here in Washington, D.C., and have a question for you about your process on moving toward the system for chemical accident data collection.

Irv, you mentioned that you're working on getting a set of numbers to tell whether accidents are going up or down by SIC code and by chemical. Is that what you are talking about? Is that something
different? And what is the process and the public
input that you anticipate over the next few years?

DR. ROSENTHAL: Our strategic plan just
adopts a goal five years out to have it developed and
implemented a system.

It also marks specifically that we will be
holding a round table to get formal inputs on
methodology, and we are going to hire a specific person
with expertise in that field to work around that
particular thing.

My personal thoughts are that somewhere we
need a metric that will enable us to know whether the
frequency of the types of incidents that this board is
concerned with are increasing or decreasing, though
clearly we don't control the world. We are part of the
world.

I mean, EPA, OSHA, a variety of other
people are involved, industry, the American Chemistry
Council, whew.

(Laughter.)

DR. ROSENTHAL: API, all have to be players
in doing this, but collectively, that number is a
critical number. It's the equivalent of an OII number,
some index by which we can tell where we're going.

And since the knowledge also is supposed to
be not only a measure, but a guide to where we should concentrate our energies, you'd like to know what SIC code and you'd also like to know what chemical because these are the areas in which you can attempt to work with prevention.

We from our point of view need -- this data could be anonymous as OII data. I don't have to know the name of, from my point of view, of that statistic. You don't have to know the name of the company. I don't care who owns the system, I personally, just to give you a response.

We need the outputs from such a system, and we are open to working with anyone collectively in any fashion to get that, but it seems to me that if we're spending this collective energy in this area, we should work collectively to develop such a metric.

If you have it in your back pocket, Paul, you can retire.

(Laughter.)

CHAIRPERSON TAYLOR: And I think just before you continue with this discussion, the first thing that we do plan to do is to hold a stakeholder round table so that this discussion can be brought forth and what is actually needed for measurement, along with a SIC code and things and chemicals that Irv
has suggested.

We want to get that stakeholder input and also consensus if that's possible, what metrics are needed or what methodology it is. We're not there yet.

MR. ORUM: Thanks. I appreciate the brief explanation.

I would just follow up that I really don't think that SIC code and chemical really are the only areas that really get you to prevention. I think you do need to know the company. You need to know whether they're a good actor, a bad actor. You need to be able to do that analysis, and you need transparency down to the very specific incident that you're talking about.

Otherwise you are giving once again short shrift to the public interest that we've seen again and again and again and again of not giving basic underlying data.

I hope just to state it strongly that it's a fundamental interest. I don't think you're going to get agreement on it because I don't think industry is going to agree with you. I think they're looking for you to protect you, to protect themselves from the public knowing that information.

CHAIRPERSON TAYLOR: Okay.

DR. ROSENTHAL: My only comment is I gave
you minimum requirements. If our stakeholders can form a consensus and get us some support in Congress and the money to do it, we are an agency. We are not the principal.

CHAIRPERSON TAYLOR: Okay. Any other comments?

(No response.)

CHAIRPERSON TAYLOR: Okay. Thank you. Yes?

MR. NASH: I had --

CHAIRPERSON TAYLOR: Can you introduce yourself first?


And I had three questions or three comments in the form of questions.

(Laughter.)

MR. NASH: I noticed that in your selection criteria you had potential for consequences to the public. You did not have potential for consequences to workers, and I wondered what or why that is.

I know your legislation forces you to investigate deaths to the public and does not force you to investigate deaths to workers, but Congress did that. But that wouldn't necessarily come into play
here I don't believe. So that was one question. Why
is that there?

Secondly, I want to know a little bit about
the voting on the Morton report. Was Dr. Hill involved
in that, and if not, why not?

And my third question is, oh, given some of
the questions about the reports that you all have come
out with and also some comments by stakeholders at your
previous meeting, are you doing anything about peer
review or outside review of your final investigation
reports?

CHAIRPERSON TAYLOR: Thank you, Jim.
The first answer sine Irv has been
involved --

DR. ROSENTHAL: Yeah. I think the history
of the act shows that the intention of adding on the
Chemical Safety Board, as, in fact, EPA was to
supplement OSHA's primary concern with what takes place
in the work place, if you'll look through the
legislative history, and we're attempting to be
responsive.

Secondly, and that comes in the language,
which says you shall investigate or cause to
investigate accidents, but in no event shall you forego
events, accidents with respect to the public.
Secondly, generally the potential for workers is realized, unfortunately, or you don't even hear about it. So generally speaking you get the worker deaths and injuries, and in fact, if you looked to try and calculate estimates of probability of worker deaths, you can figure if you have the incident, you're going to get someone unfortunately. They're close to it.

So our emphasis on potential was done with stakeholder inputs who almost uniformly pointed out that the potential to the public, the potential, for example, for release of a highly toxic material, which may in itself not have occurred -- could be a small leak -- is the type of thing that Congress had in mind when you look at the history of this following the BOPAL (phonetic) type thing.

So that's my response to that one.

DR. POJE: I guess I also want to make it clear that this public comment period is designed for comment, and we're more than happy to answer questions, but in a separate session. We're here available for you if you want to act in your reporter capacity.

For matters such as raising about voting records and who voted how, you're free to talk to Chris Warner at any time. That's a matter of public record,
although as you can see, not every small issue is likely to be put up onto our Web site as a notice to the 3,000 people who we noticed that the board spent 1,500 on X kind of an expense.

So feel free to talk to Chris.

I guess I wasn't sure of the third question that you had.

CHAIRPERSON TAYLOR: Peer review.

DR. POJE: Peer review. The board, as a board, is constituted by individuals that are explicitly selected and nominated by the President based upon technical criteria and competencies in a way that seeks to have balancing occur.

So you look at the statute, and there is a suggestion that the President select somebody with toxicological competency. That's a skill set that I have, and that the Senate in their confirmation process hopefully would be seeking to review the President's nomination to be assured of that balancing equation.

We are the reviewers who are charged in a very high policy way by the President and the Senate to be selected as the ultimate peer reviews of the work of the institution.

Now, having said that, I think it's also clear from the descriptions that we've had from the
staff today about expert consultancies that we're
drawing into our investigative work that are doing
things like having specific competencies in a pressure
relief system design and implementation, who will be
enjoined in the process and will review the entire work
product at the end of the day before it comes through
the staff up to the board for our review and our
decision making.

In a nutshell, that describes some of the
peer reviewage that we have at this moment in time, and
I'd be more than happy to talk to you about any --

DR. ROSENTHAL: Yeah, I might add I don't
personally think that one should rule out peer review
as a future tool, but things become appropriate at a
certain time to convene a peer review group of ten
people in the staff at where it is, and we're in the
midst of trying to bail out rowboats, may be a little
inappropriate at this stage of our development.

DR. POJE: And the other thing I would say
is that we are a learning institution. So you've just
heard from some comments that we will likely be
receiving written comments about. That's an important
aspect of learning.

Dennis Hendershot who's here will tee up an
audience of probably about 400 or so expert chemical
engineers at the spring's annual symposium of the American Institute of Chemical Engineers.

We as professionals at the staff level working on investigative reports are going to be charged with taking that investigative effort and bringing it into that professional arena and laying bare the nature of how we did it, why we did it, and opening ourselves up to what I think is one heck of an audience to give you peer review.

And the best thing from the board's vantage point is that Dennis will have had all those people pay their own way to get to that meeting.

(Laughter.)

DR. POJE: In order to do that.

MR. HENDERSHOT: If you speak, you have to pay your own way.

DR. POJE: We'll pay our own way to get there, but we won't have to bring all of those people on our own nickel as a baby institution to do such work.

So our intent here in the development of investigation safety programs is that any one of our technical products is not really fully met until it goes before professional societies and engineering groups for a full review, and it's up on the Web site,
and Phil can attest that we're getting comments about people's analysis and suggestions.

So we're a learning institution and getting reviews in that fashion, and we think that that's very important aspects for the critique of the ongoing investigative matters and for helping us build a stronger process for the future.

CHAIRPERSON TAYLOR: Does that answer most of your question? Thank you.

Any other comments, public comments?

(No response.)

CHAIRPERSON TAYLOR: Then hearing none, thank you very much for coming and have a good weekend.

DR. POJE: And as was stated earlier, we do welcome you if you want to step up to the fourth floor where our offices are. We'd be more than happy to show you around.

CHAIRPERSON TAYLOR: Just to look at Gerry's desk.

(Whereupon, at 11:58 a.m., the meeting was concluded.)