

CAUSE NO. 05CV0337

MIGUEL ARENAZA, ELIZABETH ) IN THE DISTRICT COURT  
RAMON, DAVID G. CROW and )  
JUANITA G. CROW, et al. )  
) )  
VS. ) 212TH JUDICIAL DISTRICT  
) )  
BP PRODUCTS NORTH AMERICA )  
INC., B.P. CORPORATION )  
NORTH AMERICA INC., DON )  
PARUS, AND JE MERIT )  
CONSTRUCTORS, INC. ) GALVESTON COUNTY, TEXAS

CAUSE NO. 05CV0337-A

IN RE: BP AMOCO EXPLOSION ) IN THE DISTRICT COURT  
MARCH 23, 2005 )  
COORDINATED DISCOVERY ) 212TH JUDICIAL DISTRICT  
PROCEEDINGS )  
) GALVESTON COUNTY, TEXAS

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ORAL VIDEOTAPED DEPOSITION OF

STANLEY W. SORRELS

JUNE 8, 2006

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<p>Page 2</p> <p>1 ORAL VIDEOTAPED DEPOSITION OF STANLEY W.                  2 SORRELS, produced as a witness at the instance of the                  3 Plaintiffs and duly sworn, was taken in the                  4 above-styled and numbered cause on June 8, 2006, from                  5 10:04 a.m. to 6:38 p.m., before Stephanie Barringer,                  6 Certified Shorthand Reporter in and for the State of                  7 Texas, reported by stenographic means at the offices                  8 of Fulbright &amp; Jaworski, 1301 McKinney, Suite 5100,                  9 Houston, Texas, pursuant to the Texas Rules of Civil                  10 Procedure and the provisions stated on the record or                  11 attached hereto.                  12 Since this deposition has been realtimed and you                  13 may be in possession of a rough draft form, please be                  14 aware that there may be a discrepancy regarding page                  15 and line numbers when comparing the realtime draft                  16 and the final transcript. Also, please be aware that                  17 the realtime screen and the unedited, uncertified                  18 rough draft transcript may contain untranslated                  19 steno, a misspelled proper name and/or nonsensical                  20 English word combinations. All such entries are                  21 corrected in the final certified transcript. There                  22 also may be persons receiving the realtimed feed                  23 outside of the deposition room, but the reporter has                  24 given this access only to known attorneys of record                  25 and/or their experts.</p>	<p>Page 4</p> <p>1 APPEARANCES                  (Continued)                  2                  3                  4 FOR PLAINTIFFS JAIME ANDREADE, ET AL.:                  5 Mr. Brent Coon                  Mr. Larry Sarten                  6 Mr. Eric Newell                  Mr. Arturo J. Gonzalez                  7 Brent Coon &amp; Associates                  3550 Fannin                  8 Beaumont, Texas 77701                  Fax: 409-833-4483                  9 Telephone: 409-835-2666                  10                  11 FOR PLAINTIFF ROGER RODRIGUEZ:                  12 Mr. John W. Stevenson, Jr.                  John W. Stevenson &amp; Associates                  13 24 Greenway Plaza, Suite 750                  Houston, Texas 77046                  14 Fax: 713-622-3224                  Telephone: 713-622-3223                  15                  16 FOR DEFENDANT JE MERIT:                  17 Mr. Patrick B. Larkin                  18 Ebanks, Smith &amp; Carlson                  2500 Five Houston Center                  19 1401 McKinney                  Houston, Texas 77010                  20 Fax: 713-333-4600                  Telephone: 713-333-4500                  21                  22                  23                  24                  25</p>
<p>Page 3</p> <p>1 APPEARANCES                  2                  3                  4 FOR PLAINTIFFS ADRIAN MENDOZA, ET AL.:                  5 Mr. Chris Dean                  Williams &amp; Bailey Law Firm                  6 8441 Gulf Freeway, Suite 600                  Houston, Texas 77017                  7 Fax: 713-643-6226                  Telephone: 713-230-2200                  8                  9                  10 FOR PLAINTIFFS RHONDA DARLENE HEICKMAN,                  INDIVIDUALLY AND AS DEPENDENT                  ADMINISTRATOR OF THE ESTATE OF RYAN                  11 RENE RODRIGUEZ:                  12 Mr. Doug York                  Reaud, Morgan &amp; Quinn                  13 801 Laurel Street                  Beaumont, Texas 77720-6005                  14 Fax: 409-833-8236                  Telephone: 409-838-1000                  15                  16                  17 FOR PLAINTIFFS NATHANIEL EARL GRIMES,                  EVA HENDERSON, LEONARD BOURGEOIS,                  ROBBIE BOURGEOIS:                  18 Ms. Sherry Scott Chandler                  19 The Chandler Law Firm, LLP                  Park Laureate                  20 10000 Memorial Drive, Suite 320                  Houston, Texas 77024                  21 Fax: 713-682-9911                  Telephone: 713-222-7285                  22                  23                  24                  25</p>	<p>Page 5</p> <p>1 APPEARANCES                  (Continued)                  2                  3                  4 FOR DEFENDANT BP PRODUCTS NORTH AMERICA, INC.:                  5 Mr. Anthony Brown                  McLeod, Alexander, Powel &amp; Apffel                  6 802 Rosenberg                  P. O. Box 629                  7 Galveston, Texas 77553-0629                  Fax: 409-762-1155                  Telephone: 409-763-2481                  8 - and -                  9                  10 Ms. Jessica Gilmore                  Fulbright &amp; Jaworski                  11 1301 McKinney, Suite 5100                  Houston, Texas 77010-3095                  12 Fax: 713-651-5246                  Telephone: 713-651-5151                  13                  14                  15 FOR FLUOR ENTERPRISES d/b/a FLUOR                  GLOBAL SERVICES:                  16 Mr. Daniel Pettit                  Locke, Liddell &amp; Sapp, LLP                  17 3400 JP Morgan Chase Tower                  600 Travis Street                  18 Houston, Texas 77002-3095                  Fax: 713-223-3717                  Telephone: 713-226-1200                  19                  20                  21 VIDEOGRAPHER:                  22 Mr. George White                  23                  24                  25</p>

Page 6

1

2 INDEX

3

4 PAGE

5 STANLEY SORRELS

6 Examination by Mr. Coon ..... 10

7 Examination by Mr. Stevenson ..... 265

8 Examination by Mr. Dean ..... 281

9 Signature Page ..... 322

10 Court Reporter's Certificate ..... 324

11

12 EXHIBITS

13 (Continued)

14 EXHIBIT DESCRIPTION PAGE

15 460 Plaintiffs' Notice of 13

16 Intention To Take the Oral

17 and Videotaped Deposition of

18 Stan Sorrels with Subpoena

19 Duces Tecum

20 461 Process Safety Standard No. 6, 13

21 Flare, Blowdown, Pressure Relief,

22 Vent, and Drain Systems for

23 Process Units, Bates

24 BPISOME00173115 through

25 BPISOME00173121

462 Process Safety Standard No. 6, 13

Flare, Blowdown, Pressure Relief,

Vent, and Drain Systems for

Process Units, Revised 3/1/94

BPISOM00056919 through

BPISOM00056926

Page 7

1 EXHIBITS

2 (Continued)

3

4 EXHIBIT DESCRIPTION PAGE

5 463 Amoco Petroleum Products 158

6 Sector Refining Facility

7 Siting Screening Workbook,

8 April, 1995, BPISOM00065585

9 through BPISOM00065627

10 464 Email string from Greg Crum 159

11 dated 4/26/05, Subject: FW:

12 TXC Investigation Information

13 Request of Whiting,

14 BPISOME00172917 through

15 BPISOME00172920

16 465 BP HSSE Organization 168

17 pre 23rd March 2005

18 Response to Request 12,

19 BPISOM00231887 through

20 BPISOM00231891

21 466 BP HSSE Organization 168

22 post 23rd March 2005

23 Response to Requests 1,

24 2, 5, 6 and 11

25 BPISOM00231880 through

BPISOM00231886

467 Amoco PPS-Refining 177

Facility Siting Reference

Manual, BPISOM00068263

through BPISOM00068466

468 Siting Evaluation of 240

Several Occupied Buildings

at the Amoco Texas City

Refinery for Vapor Cloud

Explosion, Fire, and Toxic

Material Hazards dated March,

1997 prepared by EQE

International, Inc.,

BPISOM00204884 through

BPISOM00204910

Page 8

1 EXHIBITS

2 (Continued)

3

4 EXHIBIT DESCRIPTION PAGE

5 469 Email string from Stanley 240

6 Sorrels dated 5/6/96,

7 Subject: Unit Staffing,

8 BPISOM00154939 and

9 BPISOM00154940

10 470 Email string from James 240

11 Koller dated 5/15/96,

12 Subject: Safety Considerations

13 for HIPRO Staffing

14 Recommendations,

15 BPISOM00154941

16 471 Guidelines for Assessing 240

17 Minimum Unit Staffing

18 Levels to Meet Process

19 Safety Requirements,

20 BPISOM00080528

21 472 Process Safety Staffing 240

22 Assessment -- Texas City

23 Business Unit,

24 BPISOME01760754 and BPISOM00154619

25 through BPISOM00154878

473 Reference Documents -- 240

Guidelines for Assessing

Minimum Unit Staffing

Levels to Meet Process

Safety Requirements,

BPISOM00154906 and

BPISOM00154906, Refining

Business Unit Group --

Guidelines for Assessing

Minimum Unit Staffing

Levels to Meet Process

Safety Requirements,

BPISOM00154896 and

BPISOM00154905

Page 9

1 EXHIBITS

2 (Continued)

3

4 EXHIBIT DESCRIPTION PAGE

5 474 Email from Stanley 240

6 Sorrels dated 8/30/96,

7 Subject: Operator Staffing

8 Study, BPISOME0111402

9 475 Refining Business Group 255

10 Staffing Study Paper,

11 BPISOM00154879 through

12 BPISOM00154886

13 476 Process Safety Staffing 259

14 Assessment -- Texas City

15 Business Unit, BPISOM00154510

16 through BPISOM00154510 through

17 BPISOM00154513, Process Safety

18 Staffing Assessment -- Texas

19 City Business Unit,

20 BPISOM00154615 and

21 BPISOM00154616

22 477 Management of Change Form for 260

23 Consolidation of the ISOM and

24 AU2 optimization operator

25 positions, BPISOM00024457

through BPISOM00024472

478 Management of Change Form to 260

reduce asset operator minimum

staffing from two to one,

Commissioned, BPISOM00154349

through BPISOM00154351

479 Grievance on behalf of PACE 263

dated 2/8/01, BPISOM00134315

Page 10

1 THE VIDEOGRAPHER: It's June 8th.  
 2 The year 2006. The time is 10:04. We are on the  
 3 record.  
 4 (Witness sworn.)  
 5 MR. COON: Before we begin the  
 6 record, the deposition, I assume the witness will  
 7 read and sign?  
 8 MR. BROWN: Yes, that's correct.  
 9 MR. COON: And we will take it to  
 10 our usual customary agreement of form and  
 11 responsiveness.  
 12 MR. BROWN: Correct.  
 13 MR. COON: Cool.  
 14 STANLEY SORRELS,  
 15 having been first duly sworn, testified as follows:  
 16  
 17 EXAMINATION  
 18 Q. (BY MR. COON) All right. Mr. Sorrels,  
 19 would you state your name and address for the  
 20 record please, sir?  
 21 A. Yeah, my name is Stanley William Sorrels.  
 22 I live at 701 Graham Drive in Chesterton, Indiana.  
 23 The zip code is 46304.  
 24 Q. Where is Chesterton from Chicago?  
 25 A. Thirty miles due east in northwest

Page 11

1 Indiana.  
 2 Q. Do you work at the Whiting plant up  
 3 there?  
 4 A. I do work at the Whiting BP refinery.  
 5 Q. Mr. Sorrels, we have asked you to come  
 6 down to Houston, Texas, today to give us an  
 7 opportunity to ask you questions concerning the  
 8 March 23rd, 2005 explosion at the BP Texas City  
 9 facility.  
 10 I understand by you being here  
 11 today you have had an opportunity to discuss the  
 12 nature of these proceedings with BP's attorneys and  
 13 have a general understanding as to the basic nature  
 14 and scope of the testimony that will probably be  
 15 elicited together?  
 16 A. You could say that.  
 17 Q. Have you given a deposition before?  
 18 A. No, I have not.  
 19 Q. Do you understand what the process  
 20 involves?  
 21 A. I believe I understand the process.  
 22 Q. Do you understand you are under oath the  
 23 same as if you were in front of the jury and, in  
 24 fact, if this case goes to trial and you were not  
 25 in attendance that the jury may watch your

Page 12

1 videotaped testimony?  
 2 A. Yes. I understand that.  
 3 Q. So everything you say today is subject to  
 4 the same penalties of perjury, et cetera.  
 5 Therefore, it's imperative that your answers are as  
 6 the court reporter swore you to do, which is the  
 7 truth, the whole truth and nothing but the truth.  
 8 Fair enough?  
 9 A. Fair enough.  
 10 Q. If I ask you something you don't  
 11 understand, let me know. I would be happy to  
 12 rephrase or repeat it.  
 13 Deal?  
 14 A. Yes.  
 15 Q. Also keep doing what you are doing now  
 16 which is answering out loud as opposed to uh-huhs  
 17 an huh-uhs because the court reporter has trouble  
 18 determining which one that is.  
 19 Okay?  
 20 A. Yes.  
 21 Q. If you need a break, you can let us know  
 22 any time during the day. You can have BP counsel  
 23 here who can go visit with you. Okay?  
 24 A. That's fine.  
 25 Q. I take it by BP's counsel being here and

Page 13

1 no other lawyers sitting by you that you have  
 2 chosen not to bring a personal attorney with you?  
 3 A. I do not have a personal attorney with  
 4 me.  
 5 Q. Before coming in today, we provided a  
 6 notice of your deposition for your attendance here  
 7 and it also had an attachment which requested that  
 8 you provide certain documents.  
 9 And in that regard, have you had  
 10 an opportunity to look over the deposition notice  
 11 and the types of information that was requested for  
 12 your attendance?  
 13 A. I have seen the deposition notice and I  
 14 believe the documents that were requested have been  
 15 given to our attorneys.  
 16 Q. Okay. Are you aware of documents that  
 17 may exist that would be responsive to this subpoena  
 18 that have not been produced?  
 19 A. No, I am not.  
 20 (Exhibit Numbers 460 through 462  
 21 marked for identification.)  
 22 Q. (BY MR. COON) I want to attach this as  
 23 the next sequential which I believe is 460, which  
 24 is the depo notice and subpoena.  
 25 Mr. Sorrels, my name is Brent

<p style="text-align: right;">Page 14</p> <p>1 Coon. I had an opportunity to say hello to you 2 just before we started the deposition. I believe 3 it's the first time that I have ever seen you, but 4 welcome to Houston, sir. 5 A. Thank you. 6 Q. I am going to ask you a lot of questions 7 today. I am going to cover a lot of different 8 areas. You seem to be knowledgeable regarding the 9 number of issues that we deemed to be of interest 10 in this particular case. So I am going to cover 11 that ground as fast as we can because we are going 12 to try to get done with you today. Okay? 13 A. (Nods head.) 14 Q. Yes? 15 A. Yes. 16 Q. In doing that I am going to talk pretty 17 fast. So in talking to you pretty fast, do the 18 best you can to keep up. If you need me to slow 19 down a little bit, let me know. Okay? 20 A. I will. 21 Q. Also, do what you have been doing so far 22 which is try not to talk over me and I will try not 23 to talk over you. We may both understand the 24 questions and answers, but it's hard for the court 25 reporter to get down.</p>	<p style="text-align: right;">Page 16</p> <p>1 report? It came out October 27th. 2 A. No, I have not. 3 Q. Have you seen any of the findings of the 4 Occupational Safety -- 5 A. Yes, I have. 6 Q. -- Health Association? 7 A. Yes, I have. 8 Q. Did you read any of the individual 9 citations that were issued in the investigation 10 resulting from the explosion? 11 A. The citations from which report? From 12 OSHA? 13 Q. From OSHA, yes, sir. 14 A. I did skim those. Yes, I did. 15 Q. Okay. Anything else that you recall 16 having looked at before? 17 A. I have reviewed the API 752 document for 18 facility siting and I have looked at the Amoco 19 workbook that Amoco wrote for facility siting in 20 Amoco refineries in 1995. 21 Q. Did this have anything to do with the 22 fact that there were some trailers located in 23 proximity to the ISOM unit that were destroyed in 24 the explosion resulting in a number of casualties 25 and fatalities?</p>
<p style="text-align: right;">Page 15</p> <p>1 A. I understand. 2 Q. I may, from time to time, interject. I 3 am not meaning to interrupt. I may need to 4 interject if you have a long dissertation about 5 something just to help fill in some information. 6 Okay? 7 A. Okay. 8 Q. Mr. Sorrels, before you came in for your 9 deposition today, did you go back and look at 10 anything to refresh your memory about the nature of 11 the matters you may be testifying to today? 12 A. I reviewed the final report by BP of the 13 March 23rd, 2005 fatal accident in Texas City. 14 Q. When was the first and last time you 15 looked at that report? 16 A. The first time I looked fully at the 17 final report was earlier this year. I don't have 18 an exact date. The most -- the last time I looked 19 at the final report was yesterday. 20 Q. Did you ever look at the interim report 21 that came out May 12th? 22 A. Yes, I did. 23 Q. Okay. 24 A. Yes, I did. 25 Q. Have you looked at the CSB interim</p>	<p style="text-align: right;">Page 17</p> <p>1 A. Well, facilities -- 2 MR. BROWN: Objection, form. 3 THE WITNESS: Excuse me. 4 A. Facility siting was mentioned in the -- 5 in both the interim report and final report for BP 6 and I just wanted to refresh my memory around both 7 those two documents. 8 Q. (BY MR. COON) Do you recall staffing or 9 training issues as one that was picked up either 10 with CSB or the fatal report? 11 A. Say that again. Could you say that 12 again? 13 Q. Yes, sir. 14 You told us about looking at the 15 trailer sitings -- 16 A. Yes. 17 Q. -- because it was one of the issues in 18 the fatal report. 19 A. Yes. 20 Q. So the next question from that was: Do 21 you recall seeing anything dealing with staffing or 22 training issues? 23 A. In the final report? 24 Q. Yes, sir. 25 A. I recall seeing things in the final</p>

5 (Pages 14 to 17)

<p style="text-align: right;">Page 18</p> <p>1 report about those, yes.  2 Q. And as a result of that, did you  3 undertake any initiative to look back at staffing  4 and training issues associated with BP Texas City  5 or within the BP infrastructure?  6 A. No, I did not.  7 Q. Do you recall, also, comments from  8 Mr. Mogford in the fatal report that this explosion  9 was traced back to the release of hydrocarbons from  10 an F-20 blowdown drum and vent stack?  11 A. Yes, I recall that.  12 Q. And do you recall the Mogford report  13 stating that there were inherently safer mechanisms  14 to handle those types of releases, including a  15 flare?  16 Do you recall that?  17 MR. BROWN: Objection, form.  18 A. I don't recall the specific language in  19 the report with regards to that.  20 Q. (BY MR. COON) Do you recall some  21 comments to the general nature that there had been  22 a determination from the investigation that flares  23 were inherently safer than vent stacks?  24 A. I recall some general comments to that  25 effect.</p>	<p style="text-align: right;">Page 20</p> <p>1 schooling you have received in the past? And once  2 we do that we will run through your work history.  3 Okay?  4 A. Sure. My educational background. I have  5 a bachelor of science degree, chemical engineering,  6 from the University of Missouri at Raleigh Campus  7 that I obtained in May of 1974, and that's the  8 extent of my formal education.  9 Q. Okay. Have you gone back to obtain any  10 licenses or certificates in any field?  11 A. No.  12 Q. Whether lawnmower maintenance to how to  13 handle F-20 blowdown drums anything in between?  14 A. Not anything that comes to my mind,  15 significant.  16 Q. Okay. Have you gone back intermittently  17 over the years to obtain additional education with  18 respect to those matters that are relevant to your  19 present occupation?  20 A. I have certainly attended training and  21 symposiums put on -- training put on by the  22 company, symposiums put on by industry and some  23 training put on by industry to stay current in  24 industry practices and current thinking relevant to  25 my positions over the years.</p>
<p style="text-align: right;">Page 19</p> <p>1 Q. As a result of seeing those comments, did  2 you undertake any initiative to go back and review  3 BP policies or procedures with respect to the  4 utilization of vent stacks or F-20 blowdown drums?  5 MR. BROWN: Objection, form.  6 A. I did in my role at the Whiting business  7 unit, I did look at -- I did think about the report  8 as it reflects on my current role in the Whiting  9 business unit but not as it reflects to anything in  10 Texas City.  11 THE VIDEOGRAPHER: Sir.  12 (Discussion off the record.)  13 Q. (BY MR. COON) Mr. Sorrels, I do not have  14 the benefit of a CV or resume on you, sir.  15 Do you have one?  16 A. I believe our attorneys were handling  17 the -- that particular document.  18 Q. Okay. Well, it may have --  19 A. I certainly have one, but the attorneys  20 were going to make that available.  21 Q. Well, we will try to find one and attach  22 it to your deposition later today. But since I  23 don't have that in front of me right now, can you  24 briefly walk me through your educational background  25 so the jury has some understanding what kind of</p>	<p style="text-align: right;">Page 21</p> <p>1 Q. Mr. Sorrels, could you now go through,  2 sir, what your vocational background has been since  3 graduating in '74?  4 A. Yeah. When I graduated, I went to work  5 for Amoco Oil Company at their Wood River refinery  6 in Wood River, Illinois, in 19 -- in May of 1974.  7 I held a position there as a process safety  8 engineer. That was kind of an entry level  9 position. I -- over time, I worked my way up to be  10 a process superintendent at that refinery and was  11 in a role of process superintendent for the CAT  12 cracker and the ultraformer complex when the  13 refinery was shut down permanently in 1981.  14 Q. Why was that plant shut down?  15 A. At the time, my understanding was the  16 industry was a bit -- had overbuilt capacity. The  17 refinery was built in 1904, I believe, and was  18 relatively old. It only ran sweet crude and it was  19 deemed to be not a very economic refinery to  20 operate in the current market environment and Amoco  21 chose to close it and dismantle it.  22 Q. What was relevant about the age of the  23 facility having anything to do with its economic  24 viability?  25 A. It was built to run sweet crude. It was</p>

6 (Pages 18 to 21)

<p style="text-align: right;">Page 22</p> <p>1 not designed to run the newer crudes that were  2 appearing on the market, like the higher sulfur  3 foreign heavy crudes. There wasn't really a method  4 to get those into the mid west at the time. And we  5 were basically running sweet crudes out of Oklahoma  6 and west Texas and places like that and -- and as a  7 result, there were other refiners that were running  8 crudes that had higher values. And we just -- in  9 the mix of refineries, we just didn't have a great  10 set of equipment to run the newer types of crudes  11 that were coming on the market.</p> <p>12 Q. Okay. And where did you go from '81?  13 A. In 1981, I was transferred by Amoco to  14 the Whiting refinery in Whiting, Indiana -- Amoco's  15 Whiting refinery. I was transferred there as a  16 process superintendent. So I obtained the same  17 level I was at Wood River, and I held the role  18 there as operating superintendent for a couple of  19 years on the crude unit and one of the large vapor  20 recovery units.</p> <p>21 And then after a few years, I  22 moved on to a role where I was kind of working for  23 the plant manager, doing the management by  24 objective process for the business unit. Amoco had  25 embarked on a process to start developing kind of</p>	<p style="text-align: right;">Page 24</p> <p>1 and I moved to a position in Amoco's general --  2 Amoco oil's general office in the refining  3 department.</p> <p>4 Q. Where is that?  5 A. In Chicago.  6 Q. Okay.  7 A. Downtown Chicago.  8 Q. The job there was what?  9 A. Well, my -- I had four positions there.  10 I stayed there 12 years. The first position, I was  11 the manager of technical training for -- for  12 refining.</p> <p>13 Q. How long did you have that job?  14 A. A couple years, two.  15 Q. What did that involve?  16 A. At the time, Amoco was hiring a fair  17 number of process and non-process engineers out of  18 the college campuses and we had developed -- my  19 predecessor, actually, had developed programs to  20 help train these new engineers that we were  21 recruiting out of college to make them more  22 valuable in the refining work that we do in Amoco.</p> <p>23 Q. Okay.  24 A. So it was a bridge between the technical  25 world in academia to the industrial world, and I --</p>
<p style="text-align: right;">Page 23</p> <p>1 the management by objective concept in the  2 organization. I think most companies were starting  3 to do that up and down the line, and I worked on a  4 special assignment to begin that initiative at the  5 Whiting business unit.</p> <p>6 Q. When you say companies were starting to  7 do that, did Amoco make some efforts to do things  8 to some degree consistently with what was being  9 done by their competitors in the petrochemical  10 field?</p> <p>11 MR. BROWN: Objection, form.  12 A. I am not -- I am not knowledgeable in  13 what the industry was doing at that time in the  14 petrochemical field with management by objectives.  15 I do know that there was a desire at Amoco to do  16 something consistent within the Amoco refineries.</p> <p>17 Q. (BY MR. COON) Okay. So in the '80s, the  18 barometer for consistency was pretty much what was  19 going on within the confines of BP's operations?  20 MR. BROWN: Objection, form.  21 A. I don't have any knowledge of -- of BP's  22 operations in the middle -- in the middle '80s.  23 Q. (BY MR. COON) Okay. Let's go forward  24 then.  25 A. Okay. In 1985, I left Whiting refinery</p>	<p style="text-align: right;">Page 25</p> <p>1 and I was involved in that for a couple of years.  2 Q. And that would have taken you, what, to  3 '87?  4 A. '87, '88 timeframe. I don't recall  5 exactly.  6 Q. Okay.  7 A. At that point in time, I moved to a job  8 in supply and logistics with Amoco. I was the  9 manager of the west zone supply and logistics  10 group. What was that was -- my responsibility in  11 that job was -- Amoco had refineries in four west  12 zone refineries. They had Whiting; Mandan, North  13 Dakota; Kasper, Wyoming and Salt Lake City, Utah.  14 And my job now was -- I had a bunch of product  15 schedulers that worked for me and I moved the  16 products -- the finished products out of those four  17 refineries, scheduled their movement in to  18 marketing terminals to -- for the marketing people  19 to sell the products.  20 Q. Was this the distribution system or were  21 these taken directly to retail outlets, like gas  22 stations?  23 A. It was a distribution system. I did  24 not -- I was not involved in the final distribution  25 to the -- to the filling stations. I was just</p>

7 (Pages 22 to 25)

<p style="text-align: right;">Page 26</p> <p>1 involved in the bulk movements from the refineries 2 in to the -- in to product terminals. 3 Q. Okay. So you take the products that the 4 various refineries would have made, such as motor 5 oils and whatever other things that they made at 6 each facility. And then those would be bulked up 7 and shipped to a distributor that would then break 8 them down to individual retailers? 9 A. Largely, I moved liquid products. I did 10 not move any crude oil. I was not involved in 11 crude only products and I moved gasoline -- various 12 grades of gasoline, distillates, jet fuels, 13 premium. 14 Q. Did any of that go directly to BP retail 15 gas station type outlets? 16 MR. BROWN: Objection, form. 17 A. I would have no knowledge where it went 18 to once it went to the terminals. I am not aware 19 of shipping into any BP terminals at the time. 20 Q. (BY MR. COON) Okay. Next job? 21 A. After about three years in that role, I 22 moved into engineering. I was a process technology 23 specialist in Amoco engineering. So what I did in 24 that role was I was responsible as a technical 25 person to support the refineries on technical</p>	<p style="text-align: right;">Page 28</p> <p>1 Oil. And then after about a year or so it became 2 Allen Kozinski and I -- 3 Q. Was Allen, Mr. Evans' replacement as VP? 4 A. Yes, he was. Yes, he was. Uh-huh. 5 Q. Who replaced Mr. Kozinski? Mr. Gower? 6 MR. BROWN: Objection, form. 7 A. Mr. Kozinski was in the role of vice 8 president for Amoco refining at the time BP merged 9 with Amoco. So he was the -- Mr. Kozinski was the 10 last Amoco refining vice president. 11 Q. (BY MR. COON) And did he carry that 12 title after the merger in '99? 13 A. He became the vice -- the vice president 14 for Global BP refining in '99 at the time of the 15 merger. 16 Q. How long did he remain in that position 17 until you replaced him? 18 A. Mr. Kozinski retained the position a 19 couple of years -- I'm going to say two, two and a 20 half years. He moved to London out of Chicago, 21 obviously, and -- at the beginning of his tenure in 22 that role, and then he was replaced by Mike 23 Hoffman, Michael Hoffman. 24 Q. Okay. We understand Mr. Hoffman 25 subsequently went to London?</p>
<p style="text-align: right;">Page 27</p> <p>1 issues for a couple of the process technologies, 2 particularly sulfur recovery, alkylation and 3 product treatment, some. 4 Q. And what kind of timeframe are we talking 5 about now? 6 A. We are talking '90 to probably '92, '93 7 timeframe. 8 Q. Okay. 9 A. After about two and a half, three years 10 in that role, I am still in Chicago at this point. 11 I -- I -- I was moved to a position titled director 12 of process safety for Amoco refining. In that 13 role, I worked with the Amoco refineries with 14 regards to largely the implementation of OSHA 15 1910.119 PSM and provided process safety support 16 with -- and I have a small staff of people that 17 worked for me to provide process safety support for 18 the refineries as well as put together some 19 governance documents, guidance documents, to help 20 them deliver process safety at the -- at the 21 refinery. 22 Q. Who is your boss at that time? 23 A. Well, I had two. When I entered into the 24 job, it was a fellow by the name of Richard Evans. 25 He was the vice president of refining for Amoco</p>	<p style="text-align: right;">Page 29</p> <p>1 A. I believe -- 2 MR. BROWN: Objection, form. 3 THE WITNESS: I am sorry. 4 A. Mike worked -- was an ARCO Heritage 5 person and yes, he -- he, obviously, moved to 6 London. That position is out of the London office. 7 Q. (BY MR. COON) Okay. Who replaced 8 Mr. Hoffman? 9 A. Mr. Hoffman is in his current -- is still 10 in that position. 11 Q. Okay. That's when that whole title moved 12 over to London? 13 A. Yeah, at the time -- 14 Q. I've got you. 15 A. -- at the time Amoco was merged with BP 16 in '99. 17 Q. Okay. And how long did you retain the 18 title of director of process safety? 19 A. Okay. I left that position in April of 20 1997 and I moved back to the Whiting refinery. 21 Q. You had that job, what, three or four 22 years? 23 A. Three or four years. 24 Q. And what was the reason for returning to 25 the Whiting facility?</p>

8 (Pages 26 to 29)



<p style="text-align: right;">Page 30</p> <p>1 A. It was a promotion for me. I became 2 the -- I became one of three operations managers at 3 the Whiting refinery. So I was back running units 4 and getting involved in -- in operations, managing 5 operations and that was always a strong desire of 6 mine. So I had that opportunity. It came my way 7 and I accepted it. And so I left and went to that 8 position in April of '97. 9 Q. Was the Whiting facility operated like a 10 triumvir with three operating managers each with a 11 different area of responsibility? 12 A. Yes, it was. 13 Q. Which one did you have? 14 A. I had the crude and asphalt and oil 15 movements area. So my area of responsibility 16 was process -- I had all the crude units, the 17 coker, the asphalt business. I had all the oil 18 movements operations. I had all the product 19 blending and shipping operation, the boat docks. 20 That was -- that was kind of my area of 21 responsibility. 22 Q. Okay. How long did you have that title? 23 A. I had that title until June of -- June of 24 1999. 25 Q. Is that the time of the merger?</p>	<p style="text-align: right;">Page 32</p> <p>1 held positions that long in HSSE or longer. 2 Q. Are you still attempting to be upwardly 3 mobile within the corporate structure at BP? 4 A. I have other interests in opportunities 5 at BP; but for personal reasons, I want to stay at 6 the Whiting business unit. 7 Q. I had seen in some of the records there 8 were some discussions at one time with respect to 9 you becoming a BUL at one of the facilities, maybe 10 you were up for consideration. 11 Were you aware of any of that? 12 A. No, I wasn't. That would be flattering 13 if that was the case; but no, I am not aware of 14 that. 15 Q. Have you ever asked for a position of a 16 business unit leader? 17 A. No, I have not. 18 Q. Have you asked for any other position as 19 something you would consider a promotion from your 20 present title as head of HSSE at Whiting? 21 A. I have had conversations with my -- with 22 my current supervisor along the lines that I would 23 consider a technical position at Whiting. I would 24 also consider going back in a joint operating 25 position at Whiting. Some of those would not be</p>
<p style="text-align: right;">Page 31</p> <p>1 A. It was after the merger. I was at -- I 2 was at the Whiting at the time of the merger and 3 after the merger had taken place, there was -- it 4 occurred in January 1 of 1999. Mid that year, 5 there was a reorganization done of folks at Whiting 6 and I was reassigned the manager of health, safety 7 security and environmental for the Whiting business 8 unit. 9 Q. How long did you have that title? 10 A. I am in that title today. 11 Q. So you have retained that from the summer 12 of '99 to the present -- 13 A. That's correct. 14 Q. -- which is the summer of '06. So about 15 six years, seven years. Seven years? 16 A. That's correct. 17 Q. Is that a long time to hold that one 18 position? 19 MR. BROWN: Objection, form. 20 A. Oh, I -- I don't know. It's a -- in what 21 context is it a long time? 22 Q. (BY MR. COON) Well, seven years is a 23 long time to hold an HSSE position with BP? 24 MR. BROWN: Objection, form. 25 A. There are other people at BP that have</p>	<p style="text-align: right;">Page 33</p> <p>1 promotions for me. They would just be lateral 2 moves, but I would be interested in doing more 3 things and different things. 4 Q. Okay. Can you give me the types of 5 day-to-day responsibilities you have as head of 6 HSSE in Whiting? 7 A. Well, you know there is -- there's four 8 legs to that stool. There is the health piece. We 9 have -- our refinery is a large refinery, and we 10 have about 1400 BP employees at Whiting and we have 11 our own health department. We have a doctor, 12 physician, licensed physician, who is full-time 13 employed with a clinic and the clinic is -- is 14 staffed with -- with medically trained people that 15 provides health services to BP employees and health 16 services to any other person working on the site 17 that needs emergency care. That physician, who 18 heads up the health group, reports to me. 19 Environmental area. I have an 20 environmental superintendent. We have around 15 or 21 20 technical people that work in the environmental 22 area and my responsibility there is to -- is to 23 assure that the Whiting business unit operates 24 consistent with the requirements of our 25 environmental permits and show -- and has</p>

<p style="text-align: right;">Page 34</p> <p>1 continuous improvement in the areas of emissions 2 reductions, whether they be to air, water, land; 3 whatever. 4 I have a safety team that works 5 for me. I have a safety superintendent for the 6 refinery. The role there, that -- that -- that job 7 encompasses both process and non-process safety. 8 We, also, have an industrial hygienists -- a 9 professional hygienist that works for that position 10 and works in that area as well. And, you know, 11 that role is to assure that we are in compliance 12 with any OSHA requirements, BP requirements, as 13 well as put together programs and opportunities to 14 reduce injuries at the Whiting business unit. 15 The last piece of my group is 16 security. I am responsible for plant security. I 17 have a security superintendent. We have a set of 18 BP security staff that provide surveillance on the 19 refinery, 24/7. We also use -- we supplement that 20 with some non-BP contract-type people to provide 21 security at our entryways into the refinery to 22 assure that people are coming in are the right 23 people and have the business need to be there. 24 Q. Like gate guards? 25 A. Gate guards. We follow BP's policies for</p>	<p style="text-align: right;">Page 36</p> <p>1 Q. Is there a review committee that audits 2 existing policies and makes recommendations for 3 change? 4 MR. BROWN: Objection, form. 5 A. A review -- I need clarification on that. 6 A review committee in BP or review committee at 7 Whiting? 8 Q. (BY MR. COON) Either one. 9 A. For policies and procedures, at Whiting 10 we have some committees, some standing committees 11 that look at HSSE policies and procedures for 12 Whiting. We have a couple of standing committees 13 that do that. 14 Q. And what about within BP, say, all the 15 units in the United States? 16 A. Most of the policies within BP are 17 handled out of London, out of the group. I am not 18 aware of any review that is specifically done in 19 the United States. 20 Q. And who is in charge of HSSE in London? 21 A. They just have somewhat changed that 22 role. John Mogford is the group vice president for 23 safety and operations. 24 Q. Is that globally? 25 A. Globally.</p>
<p style="text-align: right;">Page 35</p> <p>1 getting security right and BP's security standards. 2 Q. In your role as head of HSSE Whiting, do 3 you promulgate any rules or procedures or policies? 4 MR. BROWN: Objection, form. 5 A. We prepare for the business unit with 6 input from the appropriate people at the business 7 unit and in conjunction with -- with HSSE policies 8 that are consistent with BP requirements, legal 9 requirements or the direction that the leadership 10 team wants to take the business. 11 Q. Are you charged with the review of the 12 existing policies at BP on any of these four areas 13 to intermittently or periodically update them to 14 keep them current with whatever is going on in the 15 industry or within the -- that particular field, 16 such as the field of health or safety? 17 A. The policies that I -- that I review and 18 keep current are those that are related to the 19 Whiting business unit. 20 Q. Do you ever meet or work with the 21 superintendents of HSSE at other BP facilities 22 to -- 23 A. Yes. 24 Q. -- prepare notes? 25 A. Periodically, uh-huh.</p>	<p style="text-align: right;">Page 37</p> <p>1 Q. Okay. 2 A. And there is a group vice president 3 position for environmental and -- 4 Q. Who is that? 5 A. -- I am trying to remember his name. I 6 don't talk to him often, obviously. 7 And there is a group -- there is a 8 vice president in London who deals with security, 9 who manages security. His name is John Sullivan, I 10 think, would be an environmental guy. 11 Q. Okay. 12 A. But those are the three and they are -- 13 and I am not sure on the health side whether there 14 is a BP medical director right now or not. That 15 position was -- was unfilled. And the person in it 16 would have gone to a new job, but there is a BP 17 group directors position in London as well. 18 Q. Who did Mr. Mogford report to? 19 A. I am not positive about that today. 20 Q. Who do you report to? 21 A. I report to the business unit leader at 22 the Whiting business unit. 23 Q. And who is that now? 24 A. His name is Daniel Sajkowski. 25 If I could offer something to</p>

<p style="text-align: right;">Page 38</p> <p>1 you --</p> <p>2 Q. Sure.</p> <p>3 A. The environmental group's vice</p> <p>4 president's name is Greg Coleman. I am sorry I</p> <p>5 couldn't remember at the time. That's who it is.</p> <p>6 Q. Mr. Coleman?</p> <p>7 A. Mr. Coleman.</p> <p>8 Q. Okay.</p> <p>9 A. C-o-l-e --</p> <p>10 Q. Have you had any dealings with</p> <p>11 Mr. Coleman?</p> <p>12 A. I have spoken with Mr. Coleman, met</p> <p>13 Mr. Coleman, went to some meetings where</p> <p>14 Mr. Coleman was present.</p> <p>15 Q. Organizationally, is there a routine</p> <p>16 structure for the heads at HSSE within the various</p> <p>17 business units here under the BP North America</p> <p>18 umbrella that meet either in London or at one of</p> <p>19 the business units as part of an annual program or</p> <p>20 meeting or teleconference or anything of that</p> <p>21 nature dealing with your HSSE issues?</p> <p>22 MR. BROWN: Objection, form.</p> <p>23 A. There is a HSSE network, global network,</p> <p>24 that embodies the HSSE managers in refining,</p> <p>25 worldwide, in BP, which I am a member and all the</p>	<p style="text-align: right;">Page 40</p> <p>1 And --</p> <p>2 Q. I think you have five or six units and</p> <p>3 then you have the pipeline?</p> <p>4 A. Yeah, you have pipeline, you have</p> <p>5 aromatics and alkylation. So there is one there.</p> <p>6 So there are seven or eight.</p> <p>7 Q. Does the regional group have its own set</p> <p>8 of policies with respect to any of the four areas</p> <p>9 that you were involved in?</p> <p>10 A. No.</p> <p>11 MR. BROWN: Objection, form.</p> <p>12 THE WITNESS: Sorry.</p> <p>13 A. No, it does not.</p> <p>14 Q. (BY MR. COON) Is there a Global BP</p> <p>15 policy handbook or notebook dealing with each of</p> <p>16 these four subject matters?</p> <p>17 MR. BROWN: Objection, form.</p> <p>18 A. There are -- there are -- the -- the</p> <p>19 global document that is out there is "Getting HSSE</p> <p>20 Right," what we call gHSEr. It embodies the global</p> <p>21 view about HSSE, what we should be striving to</p> <p>22 achieve.</p> <p>23 Q. (BY MR. COON) And the matters that you</p> <p>24 address, sir, at the Whiting facility that are</p> <p>25 separate and independent, the global perspective of</p>
<p style="text-align: right;">Page 39</p> <p>1 site HSSE managers is a member. That is chaired by</p> <p>2 a convenor, as they call it in BP, who leads that</p> <p>3 group.</p> <p>4 The global network gets together</p> <p>5 and meets face-to-face once a year.</p> <p>6 Q. (BY MR. COON) Does that include you?</p> <p>7 A. It includes me.</p> <p>8 Q. Did you know Joe Barnes here at the Texas</p> <p>9 City --</p> <p>10 A. Sure.</p> <p>11 Q. -- facility?</p> <p>12 A. Sure. I know Joe.</p> <p>13 Q. That would include him? I think he had</p> <p>14 the same title?</p> <p>15 A. That would include Joe, right.</p> <p>16 In addition, there are regional</p> <p>17 subgroups that were formed a few years ago out of</p> <p>18 that global group. So there is a U.S. region HSSE</p> <p>19 managers group.</p> <p>20 Q. And how many different HSSE managers</p> <p>21 would be involved in that subgroup?</p> <p>22 A. In the U.S. group, I am going to say</p> <p>23 seven or eight.</p> <p>24 Q. That's for -- one for each business unit?</p> <p>25 A. One for each business unit, basically.</p>	<p style="text-align: right;">Page 41</p> <p>1 HSSE, is there a separate notebook or an addendum</p> <p>2 to the Getting HSSE Right that you utilize?</p> <p>3 MR. BROWN: Objection, form.</p> <p>4 A. We have a number of manuals of documents,</p> <p>5 policies for the Whiting business unit that -- that</p> <p>6 are intending to state how we comply and what our</p> <p>7 expectations are to meet various requirements in BP</p> <p>8 for HSSE.</p> <p>9 Q. (BY MR. COON) And how is it determined</p> <p>10 that the compliance is not significantly out of the</p> <p>11 norm with what the other units are doing with</p> <p>12 respect to those same issues? How do you achieve</p> <p>13 relative consistency?</p> <p>14 MR. BROWN: Objection, form.</p> <p>15 A. Over time, there is some assurance</p> <p>16 auditing that is done both --</p> <p>17 Q. (BY MR. COON) Who does that?</p> <p>18 A. Well, some is done internal and shared --</p> <p>19 some is done internally and shared externally</p> <p>20 within BP and some is done externally to our</p> <p>21 business unit where people come in and will -- some</p> <p>22 externally is done what I would call second party,</p> <p>23 which are BP people that don't work at Whiting.</p> <p>24 And then there are some done by agencies or some</p> <p>25 other groups or consultants.</p>

11 (Pages 38 to 41)

<p style="text-align: right;">Page 42</p> <p>1 Q. Is there a consulting company that is 2 more often than not utilized as the primary 3 consultant to come out and do intermittent audits 4 at the various facilities to address uniformity 5 issues within the various business units? 6 MR. BROWN: Objection, form. 7 A. Over all, I would say that each business 8 unit uses -- it has the choice of which consultants 9 they want to use to come in and do that assurance. 10 Q. (BY MR. COON) What type of formal 11 processes do you utilize at the Whiting facility to 12 network with the other business units with respect 13 to issues -- awareness issues associated to HSSE? 14 A. Okay. Within -- within U.S. refining 15 there -- and at the kind of underneath this U.S. 16 refining, HSSE manager's group, each -- each of 17 these locations has, for example, a safety 18 superintendent. I mentioned that to you already 19 for Whiting and there is a -- what they call a 20 community of practice, a "COP" as they call it at 21 BP, where the safety superintendents at each of 22 these locations and pipeline and chemicals meet 23 periodically face-to-face and telecom monthly on 24 key safety issues within BP that they believe that 25 would benefit sharing information around.</p>	<p style="text-align: right;">Page 44</p> <p>1 It's occupational safety. It's related to, you 2 know, making sure that -- that -- that the 3 workplace, the area where people work, the walking 4 working surfaces, the ladders, the equipment that 5 they work on, the protection that we give them in 6 terms of fire retardant clothing, hard hats, 7 goggles and everything is to assure that they can 8 perform their work in a safe way everyday. So it's 9 focused on what I would call the personnel side of 10 safety, the interface between the individual and 11 the work that they do and making that work safe for 12 them. 13 The process side is really more 14 or less what happens insides the pipes at the 15 plant. In other words, it's making sure that the 16 right systems are in place and safeguards are in 17 place and that people understand them and -- and 18 they are effective so that the processes operate 19 within boundaries or conditions that would deem to 20 be safe from an operating perspective. "Safe" 21 meaning so that we would avoid releases of 22 hydrocarbons, fires, explosions as a result of that 23 or some outcomes that would not be acceptable. 24 Q. Would anyone with experience of HSSE be 25 expected to understand the basic differences</p>
<p style="text-align: right;">Page 43</p> <p>1 The same thing exists for 2 environmental. My environmental superintendent is 3 part of an environmental COP in terms of meeting, 4 periodically, face-to-face with -- with her 5 counterparts at the other plants as well as the 6 monthly telecom. 7 The same thing with security. 8 There is a security COP. I don't believe there is 9 anything on the health side similar to that. 10 Although, I know that the health community does 11 stay fairly closely connected on key issues with 12 BP. 13 Q. Mr. Sorrels, when you talked earlier 14 about the safety components being non-process and 15 process safety, can you elaborate a little bit? I 16 am assuming non-process, you are talking about the 17 occupational personal aspect of safety? 18 A. Yes, I am. 19 Q. For the ladies and gentlemen of the jury 20 that may be hearing your testimony and not 21 understanding the distinction between non-process 22 and process, can you elaborate a little on both and 23 explain what you mean by both? 24 A. Well, non-process safety as I -- as I 25 kind of view it, is much like you described it.</p>	<p style="text-align: right;">Page 45</p> <p>1 between non-process and process safety issues? 2 MR. BROWN: Objection, form. 3 A. Let me clarify. You say within HSSE? 4 Q. (BY MR. COON) Yes, sir. 5 A. I would say people that are in the safety 6 group. I wouldn't go so far as to say everybody in 7 HSSE, but I would say that definitely the people 8 that are in the safety group of Whiting certainly 9 understand the difference between process and 10 non-process safety. 11 Q. And would it be fair to say that anyone 12 that was charged with the management of HSSE in a 13 business unit such as yourself have a fundamental 14 understanding of the differences between 15 non-process and process safety? 16 MR. BROWN: Objection, form. 17 A. I think that I gave you my definition of 18 process and non-process safety. I think each HSSE 19 manager would have a definition of that. I would 20 say that based on their own definitions that they 21 would -- that they would be knowledgeable on the 22 differences, however, they chose to describe them 23 to you between process and non-process safety. 24 Q. (BY MR. COON) Okay. But would it 25 surprise you that someone was charged with heading</p>

12 (Pages 42 to 45)

<p style="text-align: right;">Page 46</p> <p>1 HSSE at a business unit of BP that did not 2 understand the difference between process and 3 non-process safety, just from an informative and 4 educational understanding? 5 MR. BROWN: Objection, form. 6 A. It -- it may not surprise me and let me 7 explain why. It's because in a large organization 8 like BP, people move around in their careers for 9 growth and development and people move into 10 positions in HSSE as a part of growth and 11 development. 12 For example, when I moved into the 13 process safety position in Amoco, I didn't give you 14 a background that said I had a deep understanding 15 of process safety. Now, I developed and learned a 16 lot of things while I was in that role, obviously. 17 So part of my career development and part of my 18 contribution to the business was sometimes you are 19 put in positions that you're -- that you are not 20 always fully aware or an expert in when you get 21 there; but you learn and you become knowledgeable 22 and you make -- and you work to make a difference 23 when you are in those positions. 24 Q. And in an operation as big as BP with 25 responsibilities associated with your title, would</p>	<p style="text-align: right;">Page 48</p> <p>1 the API recommended practices and standards. There 2 are certain ones I am familiar with, but -- but 3 many I am not familiar with. 4 Q. What would be your definition of process 5 safety management just in layman's terms? 6 A. Well, I think, honestly, I think OSHA 7 does a really good job of defining process safety 8 in the 14 elements of the PSM regulation. 9 Q. Can you summarize those for us? 10 A. I don't know that I can -- I can give you 11 all 14. 12 Q. I am not looking for all 14. 13 A. But I can tell you that I think the ones 14 that -- that one needs to -- to -- to -- I don't 15 want to say one is more important than the other 16 one when they are all important; but I think ones 17 that are particularly engaging are the ones around 18 management of change, making sure that when changes 19 are made in the plant that they are properly 20 managed from start to finish, operating procedures 21 current and up-to-date, mechanical integrity, 22 making sure equipment is fit for -- fit for purpose 23 and fit for service with the right kind of 24 inspection plans and testing programs around 25 equipment.</p>
<p style="text-align: right;">Page 47</p> <p>1 it be prudent to have someone hitting that role who 2 didn't understand the basic differences between 3 process safety and personal safety? 4 By example, someone who would 5 think that wearing safety glasses and steel-toed 6 shoes was process safety as opposed to personal 7 safety, that level of fundamental ignorance or lack 8 of understanding? 9 A. I don't think you would find that case in 10 BP. 11 Q. I take it, sir, by what you have told us 12 already that you have a pretty good understanding 13 of the OSHA guidelines. 14 You have actually referenced 1910, 15 for example? 16 A. (Nods head.) 17 Q. And I take it also by your title that you 18 have a pretty good understanding of the basic API 19 standards as they relate to the petrochemical 20 industry? 21 MR. BROWN: Objection, form. 22 Q. (BY MR. COON) For instance, 521 and some 23 of the others that you have already mentioned? 24 A. I have a working understanding of the PSM 25 regulation. I do not have a deep understanding of</p>	<p style="text-align: right;">Page 49</p> <p>1 Emergency response is -- is -- is 2 another one of the elements, clearly HAZOPs, 3 process hazard analysis, PHAs, very important. You 4 know, leading indicator type things where you get a 5 knowledgeable group of people in a room about the 6 process and the safeguards. And then sit down in a 7 proactive way and do a HAZOP on a process unit and 8 look for opportunities to assure its safety or make 9 it safer. 10 So those are the kinds of things 11 that, you know, when I think about process safety 12 management that I think are key in the process 13 safety management arena. 14 Q. And in that vein you believe that being 15 proactive on those issues is better than being 16 reactive? 17 MR. BROWN: Objection, form. 18 A. I believe that one needs to set out a 19 plan to be able to continuously improve performance 20 in those -- in those areas and other areas. 21 Q. (BY MR. COON) Would you call that being 22 proactive? 23 A. I think there are -- I think each side is 24 different and each situation is different and I 25 hate to categorize it in a broad term like that.</p>

13 (Pages 46 to 49)

<p style="text-align: right;">Page 50</p> <p>1 But I do think in all of those areas there is 2 opportunities for improvement and I think depending 3 on what's most needed at a particular site that 4 there will be -- that will -- that will kind of 5 decide the agenda as to, you know, what you are 6 going to spend more time working on this year or 7 next year versus other things; and it's going to 8 vary plant by plant. 9 Q. Mr. Sorrels, would you agree that process 10 safety management involves the application of 11 management principles and methods that would 12 prevent and control any accidental releases of the 13 hydrocarbons that are contained within the piping 14 that you described to us earlier? 15 MR. BROWN: Objection, form. 16 A. Could you clarify what you mean by 17 management principles? 18 Q. (BY MR. COON) Well, I think it would go 19 into the concept of the things you just described, 20 mechanical integrity, testing, things of that 21 nature. 22 MR. BROWN: Objection, form. 23 A. I don't see those as -- you may describe 24 them as management principles, but I see those as 25 elements of a process safety management system. I</p>	<p style="text-align: right;">Page 52</p> <p>1 event was one due to a loss of containment of 2 hydrocarbons, was it not? 3 MR. BROWN: Objection, form. 4 A. What I -- when I read the report, the 5 final report, it was very clear to me that there 6 was a significant -- it appeared as if, based on 7 the report, there was a significant amount of 8 hydrocarbon that exited the F-20 stack at the 9 blowdown stack. Okay. 10 The blowdown stack is -- is there 11 as a relief device for a process unit, in the case 12 as I read the Texas City report. I would not have 13 expected liquid such as described in the report to 14 exit that blowdown stack. 15 MR. COON: I will object to the 16 responsiveness. 17 Q. (BY MR. COON) Mr. Sorrels, I guess the 18 question I had for you is a simple one, which was: 19 Irrespective of what you would anticipate and 20 foresee, the reality was we did have a exodus of 21 vapors ad liquids out of the F-20 blowdown drum on 22 that date, did we not? 23 A. Yes, according to the report, that's what 24 I've read. 25 Q. And I presume that was not a controlled</p>
<p style="text-align: right;">Page 51</p> <p>1 see those as a bit different. 2 Q. (BY MR. COON) Okay. Well, you agree 3 that it's important in the petrochemical industry 4 in dealing with process safety management to keep 5 the hydrocarbons contained in the piping? 6 A. I believe that -- I believe that keeping 7 hydrocarbons inside the equipment where 8 they're belong -- where they belong and -- and what 9 it's designed for is very important in refining. 10 Q. And the failure to do so creates a number 11 of problems. 12 It creates health risk and it 13 creates environmental problems, does it not? 14 A. It -- it may. 15 Q. Not every single time, but it certainly 16 poses the potential? 17 A. Depending on the conditions, yes, it 18 could -- it varies; but, yes, the conditions are 19 critical to the impact that a loss of containment, 20 as I like to describe it, will -- will have. 21 Q. And these are generally called loss of 22 containment? 23 A. I like to describe them, personally, as 24 loss of containment issues. 25 Q. And, for instance, the March 23rd, 2005</p>	<p style="text-align: right;">Page 53</p> <p>1 and planned release on the part of BP Texas City, 2 was it, sir? 3 A. Based as to what I read on the report, 4 that's correct. 5 Q. And I don't think you need to read a 6 report to determine that that was an uncontrolled 7 release, do you, sir? 8 A. Based on the way it was described in the 9 report, it did appear as if it was an uncontrolled 10 release. 11 Q. Okay. But the question to you was: You 12 did not need to read a report to come to that 13 conclusion. 14 You know from your own experience 15 in process safety management that you don't want a 16 bunch of liquid coming out of an F-20 to the 17 ground, do you, sir? 18 A. I don't think you want hydrocarbons from 19 any piece of equipment breaching the -- the 20 pressure boundary of that equipment and entering 21 the environment or in the air. 22 Q. Well, what we had on that day was, from 23 BP's standpoint, they lost control of the 24 hydrocarbons and they escaped through the F-20 and 25 vented to atmosphere, and then the liquids poured</p>

14 (Pages 50 to 53)

<p style="text-align: right;">Page 54</p> <p>1 to the ground, and the vapors went everywhere, and 2 it hit an ignition source and exploded? 3 A. What I read in the report was that the 4 tower was overfilled and the overflow went into the 5 blowdown system and overwhelmed the blowdown stack 6 and exited the blowdown stack both at the top and 7 at the bottom. 8 Q. Okay. Now, you have some experience with 9 respect to blowdown drums, do you not, sir? 10 MR. BROWN: Objection, form. 11 A. Experience in what way? 12 Q. (BY MR. COON) Experience in, for 13 instance, having something to do with PSS Number 6, 14 which deals specifically with blowdown drums? 15 MR. BROWN: Objection, form? 16 A. Yeah, Process Safety Standard Number 6 17 was an old Amoco standard that was written sometime 18 in the '80s. I don't know when. Yes, I am 19 familiar with process safety standards -- 20 Q. Okay. 21 A. -- so that's a yes. 22 Q. That is an area that we are going to 23 focus on today during the course of your 24 deposition. Another area I want to talk to you 25 about today has to do with trailer siting.</p>	<p style="text-align: right;">Page 56</p> <p>1 A. Fine. 2 Q. Okay? 3 A. Sure. 4 Q. And I can give you some of those at lunch 5 if that helps you as well? 6 A. That will be great. 7 MR. COON: And with that, we will 8 take our break, our hourly break. 9 THE VIDEOGRAPHER: Okay. Off the 10 record at 11:01. 11 (Recess taken.) 12 THE VIDEOGRAPHER: Tape 2 of the 13 deposition of Stan Sorrels. The time is 11:16. We 14 are back on the record. 15 Q. (BY MR. COON) Mr. Sorrels, are you a 16 member of any organizations presently? 17 A. I am a member of the American Petroleum 18 Institute. 19 Q. Any other ones, any chemical engineer 20 organizations or -- 21 A. No, I am not. 22 Q. -- any health organizations? 23 A. No, I am not. 24 Q. Any safety organizations? 25 A. National Safety Council.</p>
<p style="text-align: right;">Page 55</p> <p>1 I take it from the documents that 2 you have received that you have some significant 3 experience associated to trailer siting, do you 4 not, sir? 5 A. I have background in that, yes. 6 Q. And, also, in the documents that we have 7 reviewed, you seem to have some significant amount 8 of experience dealing with benchmarks, most 9 notably, those referenced as the Solomon benchmarks 10 and how those apply to the utilization of adequate 11 staff at the petrochemical industry owned and 12 operated by BP. 13 You have some experience there, do 14 you not? 15 MR. BROWN: Objection, form. 16 A. I don't recall information with regards 17 to Solomon benchmarking that you referred to. 18 Q. (BY MR. COON) Okay. What we will do 19 then since I do not know which documents you have 20 had time to look at and those you have not that 21 were responsive to our subpoena dealing with that 22 issue. So we will try to do that at a break where 23 you can read them and -- 24 A. Fine. 25 Q. -- be prepared to answer questions.</p>	<p style="text-align: right;">Page 57</p> <p>1 Q. Okay. Any environmental organizations? 2 A. No. 3 Q. Have you ever had personal experience 4 working with any of the regulatory agencies dealing 5 with environmental concerns? 6 MR. BROWN: Objection, form. 7 A. Yes, I have. 8 Q. (BY MR. COON) Could you tell me briefly 9 about those circumstances? 10 A. I deal with -- in a broad sense, I deal 11 with environmental regulatory agencies as they come 12 to the Whiting business unit and do auditing, which 13 they come regularly, both the state and Federal 14 environmental agencies and have conversations with 15 them about that. 16 We have conversations with them 17 about environmental permits that are required for 18 our business, emissions in those permits. We 19 have -- we negotiate those with agencies. And I 20 certainly work with the agencies on keeping them 21 aware on aspects of our business. In terms of 22 future -- future -- what's going on in the future, 23 what do we see, what equipment changes might occur 24 at the Whiting business unit over the next three or 25 four years that we are going to be coming to them</p>

15 (Pages 54 to 57)

<p style="text-align: right;">Page 58</p> <p>1 and asking them for help and support to obtain the 2 necessary operating permits to build or construct 3 or to modify, things like that. 4 Q. Have you ever been involved with working 5 with any of these agencies at any level with 6 respect to influencing environmental policies? 7 MR. BROWN: Objection, form. 8 Q. (BY MR. COON) Not just dealing with your 9 compliance and permitting issues present and 10 future, but actually modifying some of the 11 parameters that may come to pass in the future? 12 A. No, I have never had a position like that 13 at BP and I have not done that. 14 Q. Does BP have persons that do that type of 15 work? 16 A. They have people that do advocacy work; 17 yes, they do. I believe that's how you've -- I 18 interpret what you have asked me is -- is advocacy 19 around policies. 20 Q. Yes, sir. 21 Lobbyist and things of that 22 nature? 23 A. We have people that do advocacy within 24 BP, yes. 25 Q. Where are they stationed or officed at?</p>	<p style="text-align: right;">Page 60</p> <p>1 conduct. 2 Q. And what is the code of conduct? 3 A. BP has a document, a group document that 4 talks about their expectations of how BP employees 5 need to conduct themselves consistent with BP's 6 expectations and values, how they want to do their 7 business. 8 Q. Okay. 9 A. In a sense, I see it much as an ethical 10 kind of code of conducts and ethics, a bunch. 11 Q. Is there any, I guess, logo or buzzwords 12 that go with that as a statement? 13 MR. BROWN: Objection, form. 14 A. Not that I can recall. 15 Q. Okay. The reason why I ask is I thought 16 I had seen something somewhere, where there was a 17 policy statement that went with that that said, "Do 18 no harm to other people" or something. I can't 19 remember if that was part of it? 20 MR. BROWN: Objection, form. 21 A. BP has a HSSE policy statement. I don't 22 believe -- I am not sure if David is involved in it 23 at all, but they have a general policy statement 24 for -- that comes out of group BP with regards to a 25 general statement about how BP wants to -- its</p>
<p style="text-align: right;">Page 59</p> <p>1 Is that out of London or Chicago or -- 2 A. In the United States, there is a group 3 that is -- the folks who do the advocacy for BP 4 live in various parts of the country in the United 5 States. They -- they -- they -- they live in 6 various parts of the country, but I would say that 7 the group is located out of Chicago is where it 8 would be based. 9 Q. Now, it's my understanding from deposing 10 Mr. Pierpoline that there is also an office dealing 11 with HSSE here in Houston called the HSSE western 12 hemisphere group, something like that. 13 Do you know anything about that? 14 A. No, I do not. 15 Q. Do you have any dealings with them? 16 A. No, not that I can recall. 17 Q. Do you know Mr. Pierpoline? 18 A. I know David, yes. 19 Q. Have you ever acted with him or his 20 office on any issues associated with Whiting? 21 A. I have. I have. 22 Q. Okay. Can you tell me, generally, the 23 types of things y'all deal with? 24 A. Mostly just compliance issues, legal 25 compliance issues and things around BP's code of</p>	<p style="text-align: right;">Page 61</p> <p>1 views about HSSE and maybe that's what you are 2 referring to. 3 Q. (BY MR. COON) Yeah, I am not really sure 4 what they were referring to. 5 A. Yeah. 6 Q. I just remember that there was some kind 7 of jingle that they have in one of those safety 8 policy statements. I can't remember exactly how it 9 went. 10 I guess, really -- we weren't 11 really on the same page there, are we? 12 A. No. When you took me down the David 13 Pierpoline route, he is more in compliance and 14 ethics and, now, I am a bit confused as to where 15 you are at. 16 Q. Okay. Well, let's get back on track and 17 start talking about the thing I told you we were 18 talking about at the next session, which is the 19 process safety standards and how all this relates 20 to the blowdown drum and F-20 and the vent stack 21 and this explosion. Okay? 22 A. Okay. 23 Q. I have with me a copy of the Fatal 24 Accident Investigation Report also known as the 25 Mogford report that came out in December of 2005.</p>

16 (Pages 58 to 61)



<p style="text-align: right;">Page 62</p> <p>1 And as I understand from your 2 earlier testimony, this is the document that you 3 primarily reviewed in anticipation of your 4 testimony today? 5 A. That's correct. 6 Q. And it's also a document that you were 7 aware of and had reviewed to some degree at some 8 point in time earlier this year? 9 A. That's correct. 10 Q. And when you met with BP counsel this 11 year, the -- one of the things that came from those 12 meetings was to review the fatal report and have a 13 better understanding of its findings? 14 MR. BROWN: Objection. Instruct 15 the witness not to discuss matters he discussed 16 with counsel. 17 Q. (BY MR. COON) Here, I'll just -- let me 18 ask it this way. 19 You met with BP's counsel before 20 your deposition today; is that correct? 21 A. Yes, I did. 22 Q. Okay. Could you tell me about how many 23 times you met and about how long each of those 24 sessions took place? 25 A. We met for two days for the greater part</p>	<p style="text-align: right;">Page 64</p> <p>1 conducted on a broad scale at Whiting to get a 2 better understanding of the attitudes and 3 perceptions of most of the hourly and salaried 4 staff at Whiting? 5 A. BP does an annual people assurance 6 survey. 7 Q. Called a PAS? 8 A. PAS. We do that at Whiting and that's a 9 broad -- that's a broad assessment that people have 10 the opportunity to contribute to on a voluntary 11 basis around a whole host of -- a whole host of 12 questions related to the kind of things that you 13 mentioned. 14 Q. Okay. Mr. Sorrels, you understand from 15 the Fatal Accident Report that there were a number 16 of conclusions that were drawn and attempts to 17 create some attribution for this explosion of 18 March 23? 19 A. Yes, I am aware that conclusions were 20 drawn by the people that prepared the report. 21 Q. And a number of these conclusions 22 centered around the F-20 system at the ISOM unit, 23 did it not? 24 A. Some of them did. 25 Q. I am going to show you some documents</p>
<p style="text-align: right;">Page 63</p> <p>1 of each day. 2 Q. And was that here in Houston or was that 3 in Chicago? 4 A. It was in Houston. 5 Q. Did you ever give a statement to anyone 6 associated with this explosion? OSHA, CSB, 7 Mogford, anyone else? 8 A. No, I did not. 9 Q. And I take it you did not participate in 10 what's being called the Telos Report that came out 11 in January of 2005? 12 A. No, I did not. 13 Q. Are you familiar with what that document 14 is? 15 A. I have never seen the document. 16 Q. Have you heard of the Telos document? 17 A. I have heard -- I have heard the name 18 Telos, yes. 19 Q. Do you have some understanding as to what 20 it is? 21 A. Very limited understanding of what it is. 22 Q. Do you have any understanding as to why 23 that particular survey was conducted? 24 A. No, I do not. 25 Q. Are you aware of any survey that was</p>	<p style="text-align: right;">Page 65</p> <p>1 that we have already utilized with other witnesses. 2 In addition to the fatal report, which you have 3 already seen, I am going to ask you if you have 4 seen what is called Process Safety Standard 5 Number 6. It's Exhibit 123. 6 (Tenders document.) 7 Have you seen that document 8 before, Mr. Sorrels? 9 A. (Examines document.) 10 Yes. Yes, I have. 11 Q. Okay. What is the date of that 12 particular document? I think it's on the back 13 page. 14 A. Well, there is a series of dates. 15 Q. Okay. What is the one for that one, the 16 last date on there? 17 A. The last date it says, "Revised 18 October 20th, 1994." 19 Q. Would that be -- be fair to state that 20 the one you have in your hand is the 1994 version 21 of PSS Number 6? 22 A. Yes, I believe so. 23 Q. To your knowledge, was that the one that 24 was in effect at the time of the explosion of 25 March 23, '05?</p>

17 (Pages 62 to 65)

<p style="text-align: right;">Page 66</p> <p>1 MR. BROWN: Objection, form.  2 A. I have no way to know what Texas City had  3 in effect with regards to Process Safety Standard 6  4 on March 23rd, 2005.  5 Q. (BY MR. COON) Okay. Can you tell us  6 what PSS Number 6 is?  7 A. It is a process safety standard that  8 Amoco used in its refining organization and as the  9 title says, provides guidance around flares,  10 blowdown, pressure relief, vents and drain systems  11 for process units.  12 Q. And were you familiar with that document  13 during your tenure as director of process safety in  14 Whiting during the '93 to '97 years that you had  15 that position there?  16 A. I was aware of the document.  17 Q. How was it that that document was  18 disseminated to persons such as yourself at that  19 time?  20 A. Well, within Amoco, the -- the process  21 safety standards that Amoco had in place were --  22 were distributed to all the Amoco refineries, to  23 the leadership of the Amoco refineries with regards  24 to safety requirements.  25 Q. Okay. Now, what does PSS Number 6 deal</p>	<p style="text-align: right;">Page 68</p> <p>1 This is not an engineering design  2 of these units. That's what it's not.  3 Q. (BY MR. COON) Okay. Let's back up a  4 little bit before we talk about the details of the  5 document.  6 A. Sure.  7 Q. When were the first refineries built?  8 MR. BROWN: Objection, form.  9 Q. (BY MR. COON) About a hundred years ago?  10 A. Well, I can't answer that, but I can tell  11 you the refinery I work at in Whiting, Indiana, was  12 built in 1889 and it has to be one of the oldest in  13 the country.  14 Q. And when that facility was built a  15 hundred years ago, technology had not developed to  16 the point that it has now with respect to safe and  17 efficient operations.  18 If you compare today's standards  19 versus those, we are a lot better off now, and we  20 have come a long way, haven't we?  21 A. It appears that way to me, yes.  22 Q. In fact, that's one of your jobs, as head  23 of HSSE, is to continue to improve safety,  24 environmental, security and health concerns as  25 technology and science and other sciences out there</p>
<p style="text-align: right;">Page 67</p> <p>1 with?  2 A. Well, it deals with the items that are  3 listed in the -- on the title: Flare, blowdown,  4 pressure relief, vent and drain systems for process  5 units.  6 Q. And for the benefit of the jury that  7 doesn't know a lot about those issues or the  8 particulars of PSS Number 6, could you just give us  9 a layman's summary of what that document entails?  10 MR. BROWN: Objection, form.  11 A. Well, for the items mentioned, flares,  12 blowdowns, relief systems, vent, drain systems, it  13 deals with the safe design and operation of those  14 systems and how -- in hydrocarbon units, units that  15 process hydrocarbons.  16 And so what it's intended to do is  17 to provide guidance around things you should  18 consider when you design a flare or design a  19 blowdown system or design a relief system. It's  20 not intended to be a document to design a system.  21 This is a document that provides additional  22 information to who's ever going to design the  23 system that there are some process safety  24 considerations that they could -- should consider  25 in that design.</p>	<p style="text-align: right;">Page 69</p> <p>1 make them available and aware to us, correct?  2 A. Correct.  3 Q. And we know a lot more about, for  4 instance, health issues in the 21st century than we  5 knew at the end of the 20th century or even at the  6 beginning of the 20th century when this refinery  7 was built?  8 MR. BROWN: Objection --  9 Q. (BY MR. COON) The Whiting refinery?  10 MR. BROWN: Objection, form.  11 A. It appears that way to me.  12 Q. (BY MR. COON) For instance, we look at  13 asbestos. Asbestos was used all over the  14 petrochemical plants including those belonging to  15 Amoco and BP until relatively recent years, wasn't  16 it?  17 A. Asbestos --  18 MR. BROWN: Objection form.  19 Excuse me.  20 A. Asbestos was used in most of the  21 industry, yes.  22 Q. (BY MR. COON) And at some point in the  23 20th century, science realized that there was --  24 there were significant health problems associated  25 with the utilization of asbestos in the</p>

18 (Pages 66 to 69)

<p style="text-align: right;">Page 70</p> <p>1 petrochemical environment, didn't it?  2 MR. BROWN: Objection, form.  3 A. Yes, they did.  4 Q. (BY MR. COON) And we found out at some  5 point in the 20th century that exposure to enough  6 asbestos or under certain circumstances could cause  7 asbestosis and lung cancer and mesothelioma and  8 things like that --  9 MR. BROWN: Objection, form.  10 Q. (BY MR. COON) -- correct?  11 A. Now, first of all, I am not an expert in  12 that field. By any means; but at a conversational  13 level, I would say, yes, as time has gone by new --  14 new health information has serviced -- surfaced  15 about the effects of asbestos.  16 Q. Sure. And as a result of that, certain  17 policies and procedures were put in place to reduce  18 the exposure to those known health risks, such as  19 abatement policies where you can go back into the  20 plants and take a lot of the asbestos out and  21 reduce that risk to your employees, correct?  22 A. I think what I -- I mean, I wouldn't  23 agree that we have gone in and taken a lot of  24 asbestos out of the plant. I think what we have  25 done is we have managed the asbestos that we have</p>	<p style="text-align: right;">Page 72</p> <p>1 blowdown drums and a shift to the utilization of  2 flares over the last few decades.  3 Fair statement?  4 A. I am not an industry expert on flare and  5 blowdown drums, and I can't speak to what the  6 industry has done. I have -- I don't have  7 information as to what the industry has done with  8 regards to flares and blowdown stacks.  9 Q. Okay. Do you have any understanding as  10 to when flares were the more accepted system for  11 new construction? The '60s, '70s?  12 MR. BROWN: Objection, form.  13 A. I -- I, honestly, don't know the answer  14 to that.  15 Q. (BY MR. COON) Do you have any vent stack  16 systems at Whiting?  17 A. Vent stacks? Blowdown stacks?  18 Q. Yes, sir.  19 A. Yes, we do.  20 Q. Blowdowns with vent stacks?  21 A. Yes, we do.  22 Q. Have you had any new construction out  23 there over the last 30 years?  24 A. Yes, sir, we have.  25 Q. In any of your new construction, did you</p>
<p style="text-align: right;">Page 71</p> <p>1 in plants in a manner that's consistent with the  2 new information with regards to health of the  3 employees that are around asbestos.  4 Q. Okay. Has the Whiting facility ever  5 initiated anything that would be called an asbestos  6 abatement program?  7 MR. BROWN: Objection, form.  8 A. We have abated some asbestos at the  9 Whiting business unit.  10 Q. (BY MR. COON) And abating asbestos means  11 removing it, does it not?  12 A. That's correct.  13 Q. And again, that's done to reduce the risk  14 of adverse health effects to your employees and  15 others that are on that facility?  16 A. I believe that's a primary reason, yes.  17 Q. And just as we have improved with medical  18 knowledge, we have improved with technical  19 knowledge over the last hundred years, have we not?  20 MR. BROWN: Objection, form.  21 A. In certain areas, we have certainly  22 gained technical knowledge.  23 Q. (BY MR. COON) And one of the areas that  24 the petrochemical area has improved from a  25 technology standpoint is the utilization of</p>	<p style="text-align: right;">Page 73</p> <p>1 build those units and attach them to flares or to  2 blowdown drums?  3 A. All the new construction, the grassroots  4 construction that we have done, new construction of  5 units, process units in the last 30 years, to my  6 knowledge and I haven't been at Whiting the whole  7 30 years, okay, to my knowledge those have been  8 attached to flares.  9 Q. And that's because as Mr. Mogford said in  10 the report, flares, one, are inherently safer than  11 blowdown drums and then, two, is they are  12 beneficial from the standpoint of environmental  13 risk, correct?  14 MR. BROWN: Objection, form.  15 A. Well, I don't know who Mr. Mogford  16 consulted with with regards to the statements about  17 being inherently safer, but as I spoke to you  18 earlier, I am not an expert on the inherently safer  19 differences between flares and blowdown stacks.  20 So...  21 Q. (BY MR. COON) Well, do you know if  22 Mr. Mogford had to consult with anyone to come to  23 that common sense conclusion that a controlled  24 system of eliminating hydrocarbons is better than  25 an uncontrolled system?</p>

<p style="text-align: right;">Page 74</p> <p>1 MR. BROWN: Objection, form.  2 A. Well, a blowdown stack is not an  3 uncontrolled system. I mean, you are making that  4 assumption. There are controls on blowdown stacks.  5 There are controls upstream of blowdown stacks and  6 those controls were noted in the report -- in the  7 Texas City report on that blowdown stack. So the  8 blowdown stack is not absence of controls.  9 MR. COON: I want to object to the  10 responsiveness.  11 Q. (BY MR. COON) Mr. Sorrels, would you  12 rather, in the event of an upset at a unit, for the  13 vapors and the potential for liquids to go out a  14 blowdown drum to ground level in the general area  15 and vicinity of people who are working or would you  16 rather them vent off to a flare located away from  17 persons and equipment, where they can either burn  18 off or create a fire in the flare compound and not  19 in the unit? Which would you prefer?  20 A. Let me clarify because you are changing  21 questions on me.  22 Q. I'll just give you that one question?  23 A. In one case, you have put the blowdown  24 stack on the unit and the flare away from the unit.  25 In the other questions you have given me you are</p>	<p style="text-align: right;">Page 76</p> <p>1 unit, a flare system away from the unit than I  2 would have it have the blowdown close to the unit.  3 Q. (BY MR. COON) Okay. Now, you said you  4 do not know who Mogford consulted with to come to  5 the conclusion that flares were inherently safer;  6 is that correct?  7 A. I do not know.  8 Q. Do you know whether or not Mr. Mogford  9 needed a consultant to tell him that flares were  10 inherently safer than blowdown drums?  11 A. I don't know that either.  12 Q. Did you look at the list of the other  13 persons that assisted Mr. Mogford in the  14 investigation?  15 A. No, I did not.  16 Q. Did you ever question Mr. Mogford with  17 respect to his conclusion that blowdown drums were  18 not as safe as flares?  19 A. No, I did not.  20 Q. Don't you have responsibilities for the  21 utilization of blowdown drums at the Whiting  22 facility?  23 MR. BROWN: Objection, form.  24 A. We have blowdown drums at the Whiting  25 facility that are operated by our operating -- our</p>
<p style="text-align: right;">Page 75</p> <p>1 talking about the merits, the inherent differences  2 between flares and blowdown stacks, assuming they  3 are at the same location. So you have kind of  4 given me a different question here to answer. Now,  5 I need some clarification on that.  6 Q. Okay. Well, I will give you this  7 example.  8 A. Okay.  9 Q. Would you rather have in this situation  10 where this ISOM unit was -- let's go to what we  11 have.  12 We have an ISOM unit with a vent  13 stack and blowdown drum which is located within the  14 confines of the unit.  15 A. Okay.  16 Q. Would you rather have a vent stack there  17 where if there is an uncontrolled release that the  18 vapors and liquids come out there or would you  19 rather have had any excess run to a flare in an  20 area located away from the unit?  21 MR. BROWN: Objection, form.  22 A. If those are my only two options -- and I  23 don't know that they are the only two options, but  24 if those are the only two options, I would  25 certainly rather have the vent system away from the</p>	<p style="text-align: right;">Page 77</p> <p>1 operating team at the Whiting business unit. I  2 don't operate those blowdown systems at the Whiting  3 business unit.  4 Q. (BY MR. COON) Have there been any  5 decisions made at Whiting to remove the blowdown  6 drums there as a result of what happened in Texas  7 City?  8 A. We are currently engaged in a very  9 intense study at Whiting using some outside  10 engineering firms to evaluate all of our blowdown  11 stacks at Whiting and what the next steps are going  12 to be with those blowdown stacks.  13 Q. Has there been any present decision made  14 with respect to removing of the blowdown drums and  15 replacing them with flares?  16 A. The project is in the select stage right  17 now. At the end of the select stage is when you  18 make that decision. So that particular decision is  19 coming soon but that -- the project is still not at  20 the conclusion of the select stage.  21 Q. Are you involved in that process?  22 A. Yes, I am.  23 Q. Why are you engaging in this process?  24 A. Because we want to be certain that we  25 understand the operations of our blowdown stacks.</p>

<p style="text-align: right;">Page 78</p> <p>1 We want to make sure we understand that we are 2 doing the right things with regards to the safety 3 of the operations of those blowdown stacks and 4 considering alternatives to those blowdown stacks 5 if those other alternatives are safer systems. 6 Q. That's going to cost a lot of money, 7 isn't it, to replace these blowdown drums and run 8 everything to a flare if that's what you decide to 9 do? 10 A. Well, first of all, the -- the project is 11 a lot more complicated than that, you know. If you 12 would like for me to explain, I will. 13 Q. I really don't need you to. I need you 14 to answer the question which is does it cost a lot 15 of money to get rid of the vent stacks and run -- 16 A. Yes, it will. 17 Q. -- everything to a flare? 18 A. Yes, it will. 19 Q. Is there a return on investment in that 20 expenditure? In other words, do you get some sort 21 of revenue benefit down the road as a result of 22 that significant capital expense? 23 MR. BROWN: Objection, form. 24 A. To a large extent, probably not. There 25 probably are aspects of that. There could be</p>	<p style="text-align: right;">Page 80</p> <p>1 they are doing it and how that impacts Whiting and 2 its decision to remove the vent stacks and blowdown 3 drums? 4 MR. BROWN: Objection, form. 5 A. No, I have not. 6 Q. (BY MR. COON) Have you talked to any 7 other business units here in what -- they call it 8 the North American complexes, regarding their 9 continued utilization of blowdown drums or the 10 removal of same and substitution of flares? 11 A. Not in any substance. 12 Q. Are you aware of any remedial measures 13 undertaken by BP Texas City as a result of the 14 explosion other than the things we just discussed 15 about the flares? 16 MR. BROWN: Objection, form. 17 A. I am aware that Texas City has embarked 18 on a program to move to eliminate as many blowdown 19 stacks as they can and go to flares or to relieve 20 to other -- other safe areas. 21 Q. (BY MR. COON) Okay. Anything else you 22 understand that BP Texas City is doing remedially 23 as a result of the explosion? 24 MR. BROWN: Objection, form. 25 A. Well, I mean, there's a lot of</p>
<p style="text-align: right;">Page 79</p> <p>1 opportunities but largely, probably not. 2 Q. (BY MR. COON) Have you come to any sort 3 of preliminary numbers as what -- as to what it 4 would cost to get rid of the blowdown drums at 5 Whiting and run everything to a flare? 6 A. We have a preliminary number. 7 Q. What is it, sir? 8 A. It's in the neighborhood of over a 9 hundred million dollars. 10 Q. And in looking at having to make a 11 hundred million-dollar capital expense with very 12 little return, if any, on investment, have you 13 taken it upon yourself to question Mr. Mogford with 14 his conclusion that these flares are, in fact, 15 inherently safer; therefore, mandating the 16 necessity of Whiting to review its own policies? 17 A. No, I haven't spoken to Mr. Mogford. 18 Q. Have you talked to anyone at Texas City 19 regarding the implementation of a new policy there 20 to replace all the blowdown drums and run 21 everything to a flare? 22 A. No, I have not. 23 Q. Have you talked to Mr. Barnes as the 24 person who was in charge of HSSE at Texas City 25 regarding what they are doing down there and why</p>	<p style="text-align: right;">Page 81</p> <p>1 conversation that can take place around it at a 2 very high level about things going on at Texas 3 City. 4 Q. (BY MR. COON) Sure. But you are head of 5 HSSE at a major refinery, are you not? 6 A. Yes, I am. 7 Q. So don't you want to know what's going on 8 in BP Texas City as a result of the explosion if 9 they are making material changes from a remedial 10 measures that could impact the operations of 11 Whiting or at least should impact the operations of 12 Whiting? 13 A. Yes. Yes, I do. I am very interested in 14 that. 15 Q. And in that regard, have you made any 16 efforts to communicate with representatives of BP 17 Texas City what, in fact, they have decided to do 18 immediately to reduce the risk of tragic episodes 19 such as what occurred on March 23, 2005? 20 A. I can't recall any -- anything specific 21 that I have -- I have been involved in; but I know 22 I have been in a lot of meetings at Whiting 23 where -- where teams of people who were working on 24 various projects at Whiting that are related to the 25 tragedy in Texas City have talked to people at</p>

21 (Pages 78 to 81)

<p style="text-align: right;">Page 82</p> <p>1 Texas City to try to get a better understanding of 2 some of the remedial measures that they are taking. 3 For example, I know that our 4 people that are looking at blowdown stacks and 5 flares has spoken to Texas City, you know. I know 6 that our people who do training, for example, at 7 Whiting have spoken to Texas City about training. 8 I know emergency response people at Whiting have 9 spoken to -- I know our fire chief have spoken to 10 the fire chief at Texas City. Okay. I -- I know 11 those things and I have -- and I have heard about 12 some of those conversations through them. 13 Q. Okay. What about the utilization of 14 contractors and their vehicles within the confines 15 of the fence at the business units owned and 16 operated by BP? 17 A. I have heard that Texas City is -- and 18 again, I have heard that not directly from Texas 19 City but, actually, through other people at 20 Whiting, including my boss, my business unit 21 leader, that Texas City is embarking on a program 22 to reduce traffic in the refinery. And as a result 23 of that, one area that we are looking at at Whiting 24 is we have embarked on what we call a 25 transportation study of the plant to try to get a</p>	<p style="text-align: right;">Page 84</p> <p>1 MR. BROWN: Objection form. 2 A. No. 3 Q. (BY MR. COON) Did you know that process 4 simulators were utilized and made available by 5 Amoco prior to the merger specifically with the 6 board operators? 7 A. I was -- 8 MR. BROWN: Objection form. 9 A. I -- I was never involved in operator 10 training for board operators or been asked to 11 contribute to that. So, no, I am not aware of 12 that. 13 Q. (BY MR. COON) Did you know that the 14 utilization of process simulators fell to the 15 budget ax at BP Texas City a number of years ago? 16 MR. BROWN: Objection, form. 17 A. No, I didn't know that. 18 Q. (BY MR. COON) Did you understand from 19 reading the Mogford report, the fatal report, that 20 the probable ignition source for the vapor and 21 liquid forming around the F-20 was a contractor's 22 vehicle running adjacent to the ISOM unit? 23 A. I saw that in the report, yes. 24 Q. As I understand, one of the fallouts from 25 that report and that understanding was for Whiting</p>
<p style="text-align: right;">Page 83</p> <p>1 better understanding of what our future should be 2 at Whiting with regards to allowing vehicle entry 3 into our facility. 4 Q. What did you understand the training 5 issues were that were being looked at by BP Texas 6 City and how those impacted any discussions or 7 decisions at Whiting? 8 A. The information that I had heard was just 9 around not -- not -- not anything around the 10 details of training programs. It was mostly around 11 the use of process simulators for training, you 12 know. 13 At Whiting, we do not use process 14 simulators for training and there was a lot of 15 conversation about should we, what are the 16 benefits, what would it take to -- to -- to use 17 those kind of systems at Whiting. 18 And I believe that -- I had heard 19 that Texas City was considering or using some 20 process simulators and I think our training folks 21 were interested in their experiences as to how to 22 get that off the ground. 23 Q. Are you aware that process simulators 24 were available and utilized by Amoco prior to the 25 merger?</p>	<p style="text-align: right;">Page 85</p> <p>1 to review their vehicle traffic policies; is that 2 correct? 3 A. We looked at our vehicle traffic policy 4 at Whiting. Yes, we did. 5 Q. Do you allow contractors or anyone, for 6 that matter, to drive vehicles within the fence of 7 the business units in Whiting? 8 A. Yes, we do. 9 Q. Do you allow contractors to utilize their 10 personal vehicles as a means of transport in and 11 out of the areas they may be conducting work at 12 Whiting? 13 A. Yes, we do. 14 Q. Do you require those vehicles to be 15 diesel engine? 16 A. No, we don't. 17 Q. Do you require those vehicles to have 18 spark arrestors? 19 A. No, we don't. 20 Q. Are you aware of any policies or 21 consideration of any policy by BP in the past to 22 mandate the utilization of diesel engine or the 23 utilization of spark arrestors to reduce the 24 likelihood of a personal vehicle being an ignition 25 source to uncontrolled hydrocarbon releases?</p>

22 (Pages 82 to 85)

<p style="text-align: right;">Page 86</p> <p>1 MR. BROWN: Objection, form.  2 A. No. No, I am not.  3 Q. (BY MR. COON) And as head of HSSE at a  4 major facility owned by BP, you have never  5 discussed the issue of personal vehicles being a  6 potential source of ignition to uncontrolled  7 hydrocarbon releases?  8 A. Yes, we have.  9 Q. And even though you have discussed it,  10 you have made no decisions to implement any kind of  11 prophylactic measures associated with that  12 potential ignition source?  13 A. Well, there is two things that have  14 occurred at Whiting. And I -- Number 1, I  15 mentioned to you in the bigger picture we -- we  16 have put together a project team with a project  17 manager who actually works in our maintenance area  18 of the plant who is looking at a transportation  19 policy for Whiting. And the transportation policy  20 would -- would -- would look at some of the things  21 you are talking about, as well as just access to  22 the plant.  23 The second thing is that we have  24 done some things since the Texas City tragedy to  25 reduce traffic in our plant, just the numbers of</p>	<p style="text-align: right;">Page 88</p> <p>1 Q. Well, how does BP define commissioned?  2 It's their word, isn't it?  3 MR. BROWN: Objection, form.  4 Q. (BY MR. COON) Do you commission trailers  5 for occupancy at BP Whiting?  6 A. People at Whiting commission trailers for  7 occupancy based on their delegation of authority.  8 Q. (BY MR. COON) Okay. Then I guess the  9 question for you is: Why are you asking me what I  10 mean by commissioning when you're familiar with  11 what commissioning is --  12 A. Oh, I meant --  13 Q. And that -- and that BP Whiting does, in  14 fact, commission them and that you are head of  15 HSSE, which has some oversight role in  16 commissioning of trailers?  17 MR. BROWN: Objection, form.  18 A. I only asked you that question because I  19 am not sure if the commissioning process at Texas  20 City is the same process as we would use at Whiting  21 to commission trailers.  22 Q. (BY MR. COON) Why would you believe that  23 the commissioning of a trailer being suitable for  24 occupancy -- that has been approved through the  25 PHAs and MOCs -- why would you assume it would be</p>
<p style="text-align: right;">Page 87</p> <p>1 vehicles.  2 MR. COON: Object to the  3 responsiveness.  4 Q. (BY MR. COON) Mr. Sorrels, the question  5 I had of you --  6 A. I am sorry.  7 Q. -- was: As a result of those prior  8 discussions --  9 A. Oh --  10 Q. -- was any policy implemented dealing  11 with vehicular traffic to reduce the likelihood of  12 vehicles that were gas combustion without spark  13 arrestors?  14 A. No.  15 Q. With respect to the trailers, you  16 understand that the trailers that were destroyed in  17 this explosion were located within 350 feet of a  18 potential vapor release source, being the F-20  19 blowdown?  20 A. Yes, I understand that, based on the  21 report.  22 Q. Did you have an understanding that those  23 trailers had never been commissioned for location  24 there?  25 A. How do you define commissioned?</p>	<p style="text-align: right;">Page 89</p> <p>1 different at BP Texas City than at Whiting?  2 A. I just haven't seen the Texas City policy  3 for this -- this, how trailers are commissioned.  4 And so I have not had an opportunity to compare to  5 it what Whiting does.  6 You know, Whiting would -- would  7 say that the commissioning process for a trailer is  8 completed through the MOC process, the management  9 of change process. And at the point in time that  10 it's completed per the policy and the MOC process  11 for trailers or portable buildings as we call them,  12 temporary portable buildings, then it can be  13 commissioned. It is ready to be commissioned.  14 Commissioned means that it is  15 signed off by the appropriate authority that all of  16 the MOC issues are completed. That's what it means  17 at Whiting. I am not sure -- I have never seen the  18 policy at Texas City.  19 Q. Okay. Do you have any reason to believe  20 that the commissioning process is any different at  21 Texas City than at Whiting?  22 A. I have no basis to say it is or it isn't.  23 Q. Did you read the fatal report that  24 discussed what was involved with respect to MOCs  25 and the location of these temporary trailers?</p>

23 (Pages 86 to 89)

<p style="text-align: right;">Page 90</p> <p>1 A. Yes, I did.  2 Q. And in reviewing that, weren't you able  3 to ascertain that there were no material  4 differences with respect to trailer siting at Texas  5 City than Whiting?  6 A. No, I could not.  7 Q. Okay. Assume for me the Texas City  8 policies are very similar to those at Whiting, that  9 you are not to occupy a trailer until it's been  10 signed off and commissioned for occupancy.  11 A. Is that the Texas City policy? Is that  12 what you're --  13 Q. Yes, sir. That appears to be the Texas  14 City policy.  15 A. Okay.  16 Q. Okay. Assume for me that it is the case.  17 Did you have an understanding in  18 this particular situation that that vehicle had not  19 been signed off for occupancy?  20 A. The --  21 MR. BROWN: Objection, form.  22 A. The impression I had in reading the  23 report is that it had not been signed off.  24 Q. (BY MR. COON) Okay. Now, BP had a  25 policy that required a management of change in</p>	<p style="text-align: right;">Page 92</p> <p>1 A. There was an Amoco trailer siting policy.  2 Q. Were you involved in promulgating trailer  3 siting rules?  4 A. For Amoco, yes, I was.  5 Q. Did that result in a written document?  6 A. It resulted in a screening workbook.  7 Q. What was it called?  8 A. I believe it was called Amoco Facility  9 Siting Screening Workbook.  10 Q. And is that workbook still utilized at  11 the Whiting facility?  12 A. We use it at the Whiting facility.  13 Q. It was not replaced with any new BP  14 policies or procedures regarding trailer siting,  15 correct?  16 A. It was not.  17 Q. To the best of your knowledge, has that  18 been utilized at the other business units of BP  19 North America?  20 A. Prior to the merger with BP, Texas City  21 used that policy. I am not sure since the merger  22 with BP what changes, modifications or whatever,  23 could have been or were made to that policy in  24 Texas City. The BP heritage refinery in Toledo, I  25 would have -- I assume they have a heritage policy</p>
<p style="text-align: right;">Page 91</p> <p>1 order to facilitate locating these trailers in that  2 location at the time, correct?  3 A. I am not sure what policy that would have  4 been.  5 Q. Are you familiar with any policies  6 dealing with the distances trailers can be located  7 from various parts of the BP facilities?  8 A. I am familiar with some policies, yes;  9 but not BP policies.  10 Q. Amoco?  11 A. Yes.  12 Q. And Amoco, as a result of the merger, let  13 me -- strike that.  14 BP, as a result of the merger,  15 inherited Amoco's pre-existing policies on those  16 issues unless they were subsequently modified, do  17 they not?  18 A. I presume so.  19 Q. Well, isn't that what happened at  20 Whiting?  21 A. We have continued to use some of the  22 Amoco heritage policies at Whiting. That's  23 correct.  24 Q. And there was a trailer siting policy,  25 wasn't there?</p>	<p style="text-align: right;">Page 93</p> <p>1 for -- for building siting. I assume the ARCO  2 facilities have their own policies and ARCO  3 heritage policies for building sitings. I have not  4 seen those, but I assume they have those.  5 Q. Who worked with you in promulgating the  6 trailer siting manual for Amoco?  7 A. Well, there were quite a lot of people  8 who were involved in that.  9 Q. Did you have a lead role?  10 A. My role in the manual was to coordinate  11 subject matter experts within and outside of Amoco,  12 both Amoco and contractors, to bring together a  13 document that was consistent with the intent of API  14 752.  15 Q. When was this done, sir?  16 A. It was completed in 1995. It was given  17 to the refineries in 1995. It was worked on prior  18 to that, probably for a year or two, by various  19 people.  20 Q. And Mr. Sorrels, I am handing you what's  21 called Petroleum Product Sector Refining Facility  22 Siting Screening Workbook, dated April, 1995. At  23 the bottom it says developed by S.W. Sorrels, PPS,  24 process safety director.  25 That is you, is it not?</p>

24 (Pages 90 to 93)



Page 94

1 A. That's correct.  
 2 Q. What is PPS stand for?  
 3 A. Petroleum products sector.  
 4 Q. Sir, I want to reference to you Table 3,  
 5 Safe Distance Criteria, page 7 of your notebook.  
 6 A. Okay. Okay.  
 7 Q. And now that you have seen it, let me  
 8 show it on the projector, sir.  
 9 A. I am sorry.  
 10 Q. I just wanted you to be able to see it  
 11 there.  
 12 A. Sure.  
 13 Q. Now, you have here a table doing  
 14 different types of trailers and minimum safe  
 15 distances.  
 16 Can you explain what those are and  
 17 how you arrived at those minimum safe distances,  
 18 sir?  
 19 A. This work was done a long time ago.  
 20 Q. About ten years ago?  
 21 A. More than ten years ago. It was  
 22 development started and probably working toward  
 23 this in '93 or '94, and this book was put together  
 24 in '95 and was given to the plants.  
 25 Q. Have you updated --

Page 95

1 A. I, personally, didn't make those  
 2 calculations; but people who worked and contributed  
 3 to this book did. I can give you my impressions  
 4 about how those numbers were generated, but I -- I  
 5 didn't do the calculations myself.  
 6 Q. All right. Explain to us as best you can  
 7 how those numbers were derived and what the  
 8 difference in the building types are that were  
 9 considered?  
 10 A. Sure. The wood frame and siding was  
 11 considered a standard trailer.  
 12 Q. Would these be of the type that were  
 13 destroyed in the ISOM explosion?  
 14 A. I haven't seen any information on the  
 15 constructability of the trailers from the ISOM  
 16 explosion, but they are described as trailers.  
 17 They are not described in the report to have any  
 18 special constructability. So I would be willing to  
 19 assume that they are trailers as outlined there.  
 20 A steel-framed building and siding  
 21 is a building that has a steel structure and has  
 22 metal siding bolted onto it.  
 23 Q. Okay. Have you --  
 24 A. Top and bottom.  
 25 Q. If you go with the story of, say, the

Page 96

1 three little pigs, is a steel-framed and siding  
 2 building a stronger building than a wooden-framed  
 3 and siding building?  
 4 MR. BROWN: Objection, form.  
 5 A. Stronger in what sense?  
 6 Q. (BY MR. COON) Stronger in the sense of  
 7 being able to withstand certain adverse impacts so  
 8 that it can be located closer or further in  
 9 distance from a unit?  
 10 A. Yes, it would be, based on this table.  
 11 Q. Okay. And yet -- go through the next one  
 12 and then we will talk about why you have one closer  
 13 than the other.  
 14 What's the next one?  
 15 A. Oh, the concrete masonry brick or cinder  
 16 block, that's a building that has a concrete block  
 17 wall that's unreinforced, where it has a roof  
 18 sitting on top of it, either a masonry roof, a  
 19 brick roof or a block roof.  
 20 Q. Of the three building types, is this,  
 21 from a construction standpoint, the strongest?  
 22 A. No, it is not.  
 23 Q. Where does it rank between comparing it  
 24 to wood and a steel frame and siding?  
 25 A. Well, this table is a little -- I am not

Page 97

1 sure this is the right table to make the assumption  
 2 or to answer your question.  
 3 What this table was intended to do  
 4 is that, for example, Amoco had a fair number of  
 5 these concrete masonry brick or cinder block  
 6 buildings. If you look at our engineering, our  
 7 engineering specs, we built a lot of buildings with  
 8 that construction, and there was quite a bit --  
 9 there was a quite a bit of concern that a blast  
 10 overpressure could take out one of those  
 11 unreinforced walls and drop a roof on an employee.  
 12 So therefore, that distance is further away. Okay.  
 13 The steel frame and siding  
 14 building is closer in for the same set of  
 15 conditions, thinking that, okay, it's not as  
 16 hazardous as the concrete, masonry brick building.  
 17 And the wood-framed trailer is  
 18 closer simply because there was a view, at the  
 19 time, based on the technology that was available  
 20 and the conversation that was going on from within  
 21 API and the contractor that we used to put all this  
 22 information together, which was EQE International  
 23 who is mentioned in the book for all the structural  
 24 work, that wood-framed buildings would deflect.  
 25 They could lose their shape, but that they could --

<p style="text-align: right;">Page 98</p> <p>1 they would move, they would roll, they would --  2 they would do things that were not as hazardous as  3 some of the other buildings.  4 In other words, there wasn't metal  5 siding on it that would cut you in half, there  6 wasn't masonry and brick that would drop on your  7 head.  8 Q. Okay. So that we have an understanding  9 here, the safe distance criteria was something that  10 was subjective in nature, was it not?  11 MR. BROWN: Objection, form.  12 Q. (BY MR. COON) These are best  13 guesstimates of safe distances?  14 MR. BROWN: Objection, form.  15 A. I think it's built on -- it's built on  16 the technical information that was available at the  17 time and there are assumptions made in -- in those  18 numbers.  19 Q. (BY MR. COON) And what you are trying to  20 do with this notebook is to facilitate some general  21 guidelines with respect to how each of these types  22 of buildings, where they should be located in terms  23 of their distances from potential explosion zones?  24 A. I think the purpose of this table was to  25 say that if you were going to locate a trailer, for</p>	<p style="text-align: right;">Page 100</p> <p>1 A. That was the thinking. That was -- in  2 1993, '04, '05, when the book was developed, that  3 was the thought process and based on the  4 information that our structural consultant provided  5 to us, that was the thought process at the time.  6 Q. (BY MR. COON) Did you know anything  7 about how that presumption would be modified if you  8 are in an area such as BP Texas City where trailers  9 are required to be stayed down where they can't  10 move and they can't roll as a result of concerns of  11 hurricanes?  12 MR. BROWN: Objection, form.  13 A. Well, when this workbook was written, it  14 was written for the benefit of five Amoco  15 refineries. And it was intended to be a screening  16 document that would allow you -- any one of those  17 five plants -- and they were very different plants.  18 Some were big. Some were small. They had  19 different configurations and units and, you know,  20 and so forth and different layouts.  21 Not everything in this book would  22 apply to every refinery and, potentially -- and  23 those refineries that had different situations  24 should have, could have determined that and made  25 adjustments for that.</p>
<p style="text-align: right;">Page 99</p> <p>1 example, in a location in a refinery and it was  2 350 feet away from the process unit, that you still  3 needed to do work to evaluate the risk using the --  4 using the checklist that had been provided for the  5 building but that that was a minimum safe distance  6 that you could consider that.  7 If the distance was less than any  8 of those numbers for those types of buildings, you  9 needed to go through a process -- you need to  10 use -- you needed to go deeper into the manual and  11 look at that building and that location.  12 Q. All right. And so that I understand,  13 even though a wood frame and siding trailer was  14 understood to be of the poorest quality from  15 structural standpoint in terms of being able to  16 withstand a blast --  17 A. Uh-huh.  18 Q. -- you could put it closer to the  19 potential blast zone because that type of material  20 had the ability to absorb some impact. I think in  21 your notebook it says that a trailer can actually  22 roll. So if you get a blast, instead of  23 withstanding the full force of the impact, it gives  24 to the impact. It can actually roll or move?  25 MR. BROWN: Objection, form.</p>	<p style="text-align: right;">Page 101</p> <p>1 Q. (BY MR. COON) And I appreciate your  2 caveats you made to this, but isn't this the same  3 notebook that was still being utilized by BP Texas  4 City in March, 2005?  5 A. Based on the incident report that I have  6 read, yes.  7 Q. And you seem to be indicating that this  8 is old material and you question the accuracy of  9 the conclusions.  10 Do you, in fact, question the  11 accuracy of the conclusions that are contained in  12 that notebook?  13 MR. BROWN: Objection, form.  14 A. Well, here's what I -- here's what I  15 believe. I mean, the industry at that time was  16 trying to decide what OSHA meant by facility siting  17 and after some -- some -- some great debate, it was  18 decided that what OSHA really meant was to look at  19 the safety of people in occupied buildings close to  20 process units. That was how the industry defined  21 facility siting. Okay?  22 Q. (Nods head.)  23 A. API then chose -- was asked by the  24 industry to put together a guidance document. At  25 the time that all that work was going on, the clock</p>

26 (Pages 98 to 101)

<p style="text-align: right;">Page 102</p> <p>1 was ticking on OSHA PSM. There was five years to  2 finish the PHAs, the OSHA was promulgated '91, '92.  3 Facility siting had to be completed by '96 or '7  4 for all the buildings in the plant.  5 The information that was available  6 to the industry at the time about building response  7 to blast overpressures, models that might be used,  8 consequence modeling, I mean, there were a number  9 of tools out there. But I will be honest with you,  10 those were the tools that were available at the  11 time. That was the information that was available  12 at the time. And as you said earlier, as time goes  13 by and more people get involved in looking at  14 technology and response to buildings and companies  15 start doing building impulse studies and more  16 technology becomes available and better consequence  17 models become available, these things needed to be  18 upgraded and revised.  19 MR. COON: I am going to object to  20 the responsiveness, sir.  21 Q. (BY MR. COON) The question that I had  22 for you is: Do you question the conclusions that  23 are in your own notebook, as we sit here today,  24 "yes" or "no"?  25 A. With the information that I have today --</p>	<p style="text-align: right;">Page 104</p> <p>1 workbook.  2 Q. When did this new policy come out?  3 A. It came out in interim form last year.  4 Q. After the explosion?  5 A. That's correct.  6 Q. Prior to the explosion, did you have any  7 disagreements with any of the conclusions of the  8 original notebook that was published in 1995?  9 A. Well, I am not sure what you mean by  10 disagreements. I tried to explain to you that as  11 with any document, I personally believe that  12 documents need to go through periodic reviews and  13 changes. If you look, for example, at process  14 safety standard 6, which you handed me, you will  15 see in the Amoco world about every five or six  16 years all of these were reviewed updated and -- and  17 test "is this fit for purpose" and you can see that  18 in this document.  19 Q. And we will talk about that, sir.  20 A. Had we remained Amoco, I am sure five  21 years after this document was put together that  22 Amoco, had it continued to exist, had it still had  23 people involved with process safety in the general  24 office, that that group still existed, I am sure  25 that there would have been a review of this</p>
<p style="text-align: right;">Page 103</p> <p>1 Q. Yes, sir.  2 A. -- or the information that I had in 1995?  3 Q. No, sir.  4 Today, as we sit here, do you  5 question the conclusions of the notebook that was  6 being relied upon by BP Texas City in March, 2005?  7 A. Based on what I know today, there are  8 things in the notebook that, like with any other  9 standard or guideline or policy, that I would go in  10 and revisit and reconsider.  11 Q. And how long has that notebook been  12 utilized now? 12 years?  13 A. We have used it at Whiting for -- yes,  14 since it was issued.  15 Q. And in light of the things that you just  16 discussed about a greater awareness, more  17 information, more testing, what, if anything, has  18 been done to update and revise this notebook to  19 make it more consistent with the additional  20 knowledge that BP has now?  21 A. Well, I think today BP has issued an  22 engineering technical practice for how to site  23 portable buildings. And so anything related to  24 portable buildings today, trailers, are covered  25 under BP policy. They are not covered under this</p>	<p style="text-align: right;">Page 105</p> <p>1 document and opportunities to improve upon it would  2 have been -- would have been considered.  3 Q. Mr. Sorrels, in the ten years since that  4 notebook had been put out before this explosion,  5 you look at the date it was put out in, what,  6 April, 1995?  7 A. Okay.  8 Q. The explosion was in March, 2005. So we  9 have almost exactly ten years. In that ten year  10 time, how many times had this particular facility  11 siting screening workbook been updated and revised  12 to take into considerations the things that you  13 discussed?  14 A. At Whiting?  15 Q. Anywhere.  16 A. I can't speak to anywhere.  17 Q. At Whiting, how many times had that  18 notebook been updated?  19 A. In two -- a couple of years ago, BP group  20 risk -- the BP risk group came to Whiting to  21 look -- to do some risk studies, and they reviewed  22 this workbook -- and I forget the year, 2004, maybe  23 2003. I can't recall. And they looked at this  24 workbook, they went out to the plant, they looked  25 at some of our buildings at Whiting, they looked at</p>

27 (Pages 102 to 105)

<p style="text-align: right;">Page 106</p> <p>1 some of those locations and they looked at some of  2 the criteria in this book. I can't speak to what  3 all was looked at because I wasn't involved in  4 that, but I can tell you they didn't offer us any  5 suggestive changes to this manual when they did  6 that.</p> <p>7 So that would have been, you  8 know -- so those are our experts in BP.</p> <p>9 MR. COON: Object to the  10 responsiveness. Break for lunch.</p> <p>11 THE VIDEOGRAPHER: Off the record  12 at 12:17.</p> <p>13 (Lunch recess taken.)</p> <p>14 THE VIDEOGRAPHER: Tape 3 of the  15 deposition of Stan Sorrels. The time is 1:44. We  16 are back on the record.</p> <p>17 Q. (BY MR. COON) Mr. Sorrels, before the  18 last break we were talking about the remedial  19 measures that were effected by BP Texas City as a  20 result of the explosion of March 23, 2005. And one  21 of the things that we were talking about last was  22 the issue of trailer siting. In fact, we have a  23 document that's still showing on the monitor.</p> <p>24 I am going to go back and ask you  25 more questions about the subject matter later in</p>	<p style="text-align: right;">Page 108</p> <p>1 to the rest of its refining system around the use  2 of occupied temporary buildings that was issued --  3 I can't recall the dates last year, but it came out  4 last year in interim form and finalized early this  5 year to provide guidance -- to provide guidance to  6 all of the BP refineries with regards to the use of  7 occupied trailers and safe distances away from  8 process units.</p> <p>9 Q. Do you recall what the title of that  10 document is?</p> <p>11 A. Not off the top of my head. It's BP's  12 engineering technical practice. 48C15 is the  13 number. I can't recall the exact name of the  14 document.</p> <p>15 Q. And when you say Group BP, who are we  16 talking about?</p> <p>17 A. Global BP. BP engineering in London.</p> <p>18 Q. Do you know anyone involved in that  19 project?</p> <p>20 A. Do I -- excuse me, do I know the name of  21 anyone involved in the project?</p> <p>22 Q. Yes, sir.</p> <p>23 Do you know the name of anyone who  24 would have been responsible for assisting in this  25 study?</p>
<p style="text-align: right;">Page 107</p> <p>1 the day, but the thing I wanted to lead up to here  2 was as we were talking about all the remedial  3 measures was that as a result of this explosion, BP  4 Texas City modified its position with respect to  5 trailer siting, did it not?</p> <p>6 A. Yes, it did.</p> <p>7 Q. What was your understanding as to what BP  8 Texas City did with respect to trailer siting after  9 this explosion?</p> <p>10 A. Well, what I had heard -- that Texas City  11 immediately after the incident moved OCC people or  12 moved trailers that were occupied away from process  13 areas.</p> <p>14 Q. And what distance did they move them away  15 from process areas?</p> <p>16 A. Now, that, I don't know. I just heard  17 they moved them away from process areas to what  18 they considered to be safe sites.</p> <p>19 Q. Do you have -- and that was immediately  20 after the explosion?</p> <p>21 A. Very quickly after the explosion.</p> <p>22 Q. Has anything changed since then, now, a  23 year later?</p> <p>24 A. BP developed -- Group BP developed an  25 industrial technical practice to provide guidance</p>	<p style="text-align: right;">Page 109</p> <p>1 A. Mike Considine.</p> <p>2 Q. Is he in London?</p> <p>3 A. He is in London. He is in Sunbury.  4 Sunbury is the technical -- the technical center  5 for BP and Britain.</p> <p>6 Q. Okay. Did you provide any insight,  7 comment or critique to this study?</p> <p>8 A. The development of the engineering  9 practice?</p> <p>10 Q. Any of it.</p> <p>11 A. After the incident -- after the event at  12 Texas City and BP began developing this document  13 for all their facilities and they developed the  14 first draft, they sent it out to the plants for  15 comments, all the plants for comments. I -- I saw  16 a draft of the document and people at Whiting  17 commented back about the draft.</p> <p>18 Q. Did you personally comment about the  19 draft?</p> <p>20 A. I did not.</p> <p>21 Q. Did you have any say in the draft?</p> <p>22 MR. BROWN: Objection, form.</p> <p>23 Q. (BY MR. COON) I mean, did you attend a  24 meeting where you threw your 2 cents in about the  25 draft or anything of that nature?</p>

<p style="text-align: right;">Page 110</p> <p>1 A. I did not attend a meeting about the -- 2 about the draft of the document. 3 Q. Did you provide any feedback to those who 4 did provide comment? 5 A. Yes, I did. 6 Q. And who did you provide feedback to? 7 A. People on my staff who attended some of 8 those meetings. 9 Q. Who was the person most knowledgeable 10 about that issue at Whiting? 11 A. Bill Lash. 12 Q. And who is Bill Lash? 13 A. Bill Lash is a risk engineer at the 14 Whiting position. 15 Q. What, if anything, do you recall coming 16 out of Whiting as comments on this draft? 17 A. I recall that we talked about the -- the 18 shift in the approach to -- to siting trailers from 19 one that was risk based to one that was consequence 20 based. 21 Q. Okay. Can you summarize that into 22 layman's terms? 23 A. A consequence based approach means that 24 if -- if you do a calculation to determine 25 overpressure effects from a vapor cloud explosion</p>	<p style="text-align: right;">Page 112</p> <p>1 A. Yes, it was. 2 Q. And it was just a recognition that 3 irrespective of the level of risk associated with 4 trailers being sited near process units, the 5 consequence of an explosion had a potential 6 devastating impact and therefore, the better part 7 of valor is just to move them out of range if there 8 is the potential for them not to fully absorb the 9 impact? 10 A. That's the decision that the Group BP 11 people made in that draft, yes. 12 Q. And do you -- strike that. 13 Do you agree that was a good 14 decision on their part? 15 A. I do. 16 Q. Is that something that you had ever 17 personally thought about before this explosion in 18 March, 2005, that it should shift from a risk based 19 to a consequence based, formally? 20 A. I haven't given that a lot of thought, 21 that it should shift. 22 Q. When, if ever, did Whiting take the 23 trailers that were subject to the report that we 24 talked about awhile ago and take them out of 25 that -- I guess this -- this type of formula and go</p>
<p style="text-align: right;">Page 111</p> <p>1 in an area that any building, any temporary 2 occupied building that would be in that blast zone 3 would need to be designed and capable of 4 withstanding that blast without significant harm to 5 the occupants. 6 A risk based approach is one where 7 you are willing to accept some level of risk and 8 risk is a -- is a product of likelihood and 9 consequence around -- around determining that you 10 are willing to accept some level of risk for 11 putting people in areas and in buildings that -- 12 that are less than capable of withstanding the 13 calculated blast overpressure for that particular 14 area that is studied. 15 Q. And then consequence based is what, sir? 16 A. Well, consequence based is -- is that you 17 would design the building or the building that's in 18 that blast zone and -- and it would be built and 19 designed to withstand the pressure that might be 20 expected if a blast occurred in that area so that 21 the occupants of the building would be deformed or 22 deformed to the extent that the occupants would be 23 at significant risk. 24 Q. And was this the basic theme of the draft 25 that was provided to Whiting for comment?</p>	<p style="text-align: right;">Page 113</p> <p>1 to either what the draft said or what the final 2 report said with respect to shifting from risk to 3 consequence based? 4 A. When we received the interim report from 5 BP, the engineering technical practice, the 48C15, 6 with regards to temporary buildings, occupied 7 temporary buildings, we made a decision at the 8 business unit -- and we received that draft, I want 9 to say, June or July-ish of 2005. We made a 10 decision that by October 1st of 2005 we would move 11 all of our trailers to be in compliance with that 12 draft document. So, in other words, we didn't wait 13 for the document to be finalized. It wasn't 14 finalized until after -- until early 2006, but we 15 were in compliance with that interim or that draft 16 document so to speak by the end -- by October 1st 17 of last year. 18 Q. Were most of these trailers subject to 19 relocation those utilized by contractors doing work 20 out at the facility? 21 A. There was a much higher percentage of 22 contractor trailers than trailers used by BP 23 personnel but there was a mix. 24 Q. Were all of these relocated like they did 25 in Texas City to one common compound?</p>

29 (Pages 110 to 113)

Page 114	Page 116
<p>1 A. No, they weren't, but they were moved to 2 multiple compounds at locations that were 3 considered to be safe distances based on the 4 engineering technical practice. 5 Q. Have you ever been down to BP Texas City? 6 A. Yeah, I have. 7 Q. When was the last time? 8 A. Gosh -- 9 Q. Since the explosion? 10 A. Oh, no. I haven't been -- I haven't been 11 back to Texas City -- I have been -- I have been to 12 a meeting in Houston, one meeting in Houston that 13 was going to be at Texas City that wasn't. 14 The answer to your question, I 15 don't believe that I have been at Texas City since 16 BP merged with Amoco in 1999. 17 Q. About how many times have you been down 18 there? 19 A. A couple dozen. 20 Q. And what usually brought you down to the 21 Amoco facility in Texas city? 22 A. Projects that I was working on when I 23 worked in Chicago for Amoco in one or more of those 24 various positions that I mentioned to you. There 25 was reasons to attend meetings in Texas City --</p>	<p>1 Q. Do you know what, if any, material 2 changes there were to the one from September 20, 3 1977, and the one that indicates a first revision 4 being January 27, 1986? 5 A. The only thing I knew is what's indicated 6 on this document about a change that was made to an 7 alarm on the vacuum tower vent gas. 8 Q. Okay. In the big picture, nothing really 9 major has changed between the '77 standard and the 10 1986 standard? 11 MR. BROWN: Objection, form. 12 A. I don't know what changed, if anything. 13 Q. (BY MR. COON) Do you know from anything 14 other than the comment noted on the bottom of the 15 page as to whether or not the '86 standard changed 16 anything other than the -- what they noted in 17 parens here, which was to indicate an alarm for 18 vacuum tower? 19 A. No, I do not. I don't know. 20 Q. Okay. There was another revision 21 June 26, 1986. 22 Do you know why there was another 23 revision just a few months after the first 24 revision? 25 A. No, I do not.</p>
Page 115	Page 117
<p>1 meet with people in Texas City around some projects 2 that I was working on for -- for Amoco. 3 Q. Mr. Sorrels, we have digressed some to 4 cover some of these other topics as we went into 5 the remedial measures undertaken by BP Texas City 6 after this explosion. But the area I want to spend 7 some time with you on dealt with one that you had 8 some significant personal knowledge about and that, 9 again, was this Process Safety Standard Number 6 10 and I think you have a copy -- 11 A. I do. 12 Q. -- still in front of you? 13 We have copies of some predecessor 14 or at least drafts and I don't know if these are 15 the final copy or not. I want to show them to you, 16 but as I understand the history of PSS Number 6, 17 the original came out according to the subsequent 18 ones -- there is history in the back that indicates 19 the original came out as far back as September 20, 20 1977. 21 Does that sound right? 22 A. That's what is listed here. 23 Q. Have you ever seen a copy of the 24 original? 25 A. Not that I can remember.</p>	<p>1 Q. No comment on our copies to indicate what 2 that was for, is there? 3 A. Not that I see. 4 Q. Okay. And then there is another one 5 indicates revised December 10, 1990? 6 A. Uh-huh. 7 Q. And that indicated to you addressed flare 8 knockout drum equipment sizing. 9 Do you know what that referenced? 10 A. No, not other than what I read here as 11 you do. 12 Q. Okay. Are you aware of anything that was 13 revised other than that in 1990? 14 A. No, I am not. 15 Q. Did you have anything to do with any of 16 those original drafts or subsequent revisions that 17 we just discussed? 18 A. No, I did not. 19 Q. Okay. Then we have the one that you and 20 I have a copy of here, which is the March, 1994 21 revised draft? 22 A. Correct. 23 Q. And I understand that you did have some 24 involvement in this draft; is that correct? 25 A. Yes, I probably would have.</p>

<p style="text-align: right;">Page 118</p> <p>1 Q. Okay. Can you tell me what role you had 2 and how it is that you had a role and any of the 3 revisions to the process safety standard? 4 MR. BROWN: Objection, form. 5 A. We had a practice in Amoco for these 6 process safety standard documents that we wanted to 7 revisit them every six -- every five years and just 8 make sure they were still current and up-to-date. 9 Q. (BY MR. COON) Is this with all PSSs or 10 just Number 6? 11 A. No, it was a general -- general 12 expectation that we would -- we would work to try 13 to review all of our process safety standards once 14 every five years and -- 15 Q. How -- I am sorry. 16 A. And I am just assuming looking at this 17 because I can't recall any details around it, that 18 this would have been about somewhere close to a 19 four or five year interval and it would have just 20 been a normal -- a normal update. 21 Q. How many different PSSs did Amoco have at 22 this time? Is there a book that has dozens or 23 hundreds or how does that work? 24 A. Amoco probably had between 35 and 40 25 process safety standards.</p>	<p style="text-align: right;">Page 120</p> <p>1 where all of the process safety standards were in 2 there. The most current version of the process 3 safety standard -- 4 Q. Okay. 5 A. -- was the one that was kept in the book. 6 Q. And this would have been circa what, 7 1993? 8 A. Yes. Yes. 9 Q. And have there been intermittent 10 additions to process standards -- have they added 11 some to it? 12 MR. BROWN: Objection, form. 13 A. Over the years as incidents occurred in 14 Amoco or in parts of the industry that were thought 15 to be key learnings, Amoco would generate a process 16 safety standard -- a standard or a guideline -- 17 that would be used that would be then agreed to by 18 a body of people that, you know, and then it would 19 be -- and a standard would be created. 20 Q. (BY MR. COON) Do you know who was 21 charged in formulating the original PSSs back in 22 1977? 23 MR. BROWN: Objection, form. 24 A. No, I don't. 25 Q. (BY MR. COON) When you came in, in 1993,</p>
<p style="text-align: right;">Page 119</p> <p>1 Q. Were they all kept in one book or 2 notebook? 3 A. They were all kept in one place. 4 Q. Okay. And what is that called? If we 5 wanted to go back and look at all those process 6 safety standards that Amoco had? 7 A. That was entitled Amoco process safety 8 standards and guidelines. 9 Q. And was it the original of this 1977 to 10 coincide with what appears to be the date of the 11 first PSS Number 6? 12 A. Could you say that again? Could you 13 repeat that? 14 Q. Yes, sir. 15 Was the original version of this 16 book you just described one that would have come 17 out in 1977? 18 A. Oh -- 19 Q. Because that's when we have the first 20 copy of PSS Number 6. So... 21 A. I understand. Now, I understand. 22 I don't know when Amoco decided to 23 come out with a book with all the process safety 24 standards in them. I just know when I came into 25 the position in the '90s that there was this book</p>	<p style="text-align: right;">Page 121</p> <p>1 as director of process safety and were brought more 2 into the loop on these issues, was there a 3 governing body associated with adding to PSS 4 protocols or even modifying or revising existing 5 ones? 6 MR. BROWN: Objection, form. 7 A. Yes, there was. 8 Q. (BY MR. COON) And what is that group? 9 A. We -- in Amoco that group was called the 10 general office process safety committee. 11 Q. And where were they located? 12 A. In the general office in Chicago -- in 13 Amoco's general office in Chicago. 14 Q. And who headed that in '93? 15 A. Myself -- a person who was in my role as 16 process safety director for Amoco, whoever was in 17 that role headed that committee. 18 Q. Okay. So the one that had it when you 19 were first there was you? 20 A. Yes, when I was in that role, I headed 21 that group. 22 Q. So you head that from around '93 to '97? 23 A. Yeah. 24 Q. Is that the timeframe? 25 A. Yeah.</p>

31 (Pages 118 to 121)

<p style="text-align: right;">Page 122</p> <p>1 Q. Okay. Who did you replace there?  2 A. A fellow by the name of Robert Wade.  3 Q. What happened to Mr. Wade?  4 A. Mr. Wade retired.  5 Q. How long had he held that position, if  6 you know?  7 A. Over 15 years.  8 Q. Do you know if he would have potentially  9 been around in '77 when the first drafts of the  10 process safety standards were devised?  11 A. He wasn't in the process safety directors  12 role, but he would have been with Amoco. He would  13 have been an employee of Amoco.  14 Q. And who took over your position as  15 director of process safety in '97?  16 A. A gentleman by the name of  17 Ronald Cutchall.  18 Q. Is he still there?  19 A. No. Ron left the company at the time of  20 the -- shortly after the merger with BP.  21 Q. Did anyone replace him?  22 A. No.  23 Q. Did that role, the general process safety  24 director, go to London?  25 A. No, the job was eliminated.</p>	<p style="text-align: right;">Page 124</p> <p>1 time, I guess, to use these as governance documents  2 at their sites.  3 Q. And when were they substituted?  4 MR. BROWN: Objection, form.  5 A. I can only -- well, I can only speak to  6 Whiting about that.  7 Q. (BY MR. COON) Okay.  8 A. But I would be happy to do that.  9 At Whiting, we have maintained  10 active the heritage Amoco standards that have not  11 been superseded by a BP document.  12 Q. And how is it determined whether or not a  13 BP document supersedes an Amoco heritage --  14 A. We --  15 Q. -- process safety standard?  16 A. We look at the BP document, whether it's  17 a process safety minimum expectation, which is what  18 the BP term is and if that process safety  19 expectation, minimum expectation document in BP  20 contains the same material as a document that's in  21 our Amoco heritage process safety standard, then we  22 will adopt -- we will then use the BP standard and  23 we will then make the Amoco standard essentially  24 just a reference document. It's no longer  25 governing.</p>
<p style="text-align: right;">Page 123</p> <p>1 Q. Okay. Since that time who is in charge  2 doing what you did as director of process safety in  3 an oversight role dealing with process safety  4 standards?  5 MR. BROWN: Objection, form.  6 A. I need to -- I need to clarify that a  7 little bit.  8 Q. (BY MR. COON) Sure.  9 A. As it relates to the heritage Amoco  10 standards that we are talking about?  11 Q. Yes, sir.  12 A. No one did that role.  13 Q. Okay. And that leads me to believe that  14 BP had similar standards?  15 A. BP had some process safety related  16 requirements.  17 Q. Did BP's wing or department take over  18 those responsibilities after the merger?  19 A. For these standards?  20 Q. Yes, sir.  21 A. No, they did not.  22 Q. Did standards disappear?  23 A. The standards didn't necessarily  24 disappear, but the Amoco heritage sites in the --  25 in the BP family continued, for some period of</p>	<p style="text-align: right;">Page 125</p> <p>1 Q. What are the BP process safety standards  2 called?  3 A. B -- BP process safety minimum  4 expectations.  5 Q. And how many of those different standards  6 are there? You talked about Amoco having 40 or so?  7 A. I believe at this point there are  8 somewhere around 15.  9 Q. Around 15?  10 A. Fifteen, I believe, minimum expectation  11 documents, yes.  12 Q. Are those intermittently updated similar  13 to the ones that were updated to the Amoco heritage  14 process every five years or so?  15 A. I think there is a plan to do that and  16 that's what I believe. The first minimum  17 expectation was issued by BP in either 19 -- or  18 2001 or 2002. So I don't know that any of them yet  19 have been revisited.  20 Q. Okay. To your knowledge, were there any  21 standing BP standard documents similar to the  22 process safety standards utilized by Amoco at the  23 time of the merger in '99?  24 A. I was --  25 MR. BROWN: Objection, form.</p>



<p style="text-align: right;">Page 126</p> <p>1 Sorry.</p> <p>2 A. I was unaware of any in BP.</p> <p>3 Q. (BY MR. COON) Okay. Any reason why BP</p> <p>4 would not have just adopted the pre-existing ones</p> <p>5 of Amoco in lieu of not generating any?</p> <p>6 MR. BROWN: Objection, form.</p> <p>7 A. I think there was an effort underway to</p> <p>8 try to, in the early 2000s, to look at what ARCO</p> <p>9 had, what Amoco had and what BP had and come up</p> <p>10 with a document that reflected the best, if you</p> <p>11 will, or the most appropriate pieces in one new</p> <p>12 document called the BP process safety minimum</p> <p>13 expectation. So there was a desire to harmonize</p> <p>14 documents from the companies that BP acquired.</p> <p>15 Q. (BY MR. COON) Is there an abbreviated</p> <p>16 name for the BP process safety minimum expectations</p> <p>17 notebook?</p> <p>18 MR. BROWN: Objection, form.</p> <p>19 A. Not that I am aware of -- excuse me. I</p> <p>20 need to clarify that. We call them PSMEs.</p> <p>21 Q. (BY MR. COON) PSM?</p> <p>22 A. PSMEs, process safety minimum</p> <p>23 expectation. PSMEs. Sorry.</p> <p>24 Q. Okay. There you go. And what were they</p> <p>25 called at Amoco?</p>	<p style="text-align: right;">Page 128</p> <p>1 safety standards, yes.</p> <p>2 Q. And when BP went through this transition</p> <p>3 period and then promulgated a new set of PSMEs,</p> <p>4 with the number being that many less than Amoco's,</p> <p>5 was there an omission of some or was there a merger</p> <p>6 of some of the PSSs that Amoco had to incorporate</p> <p>7 them within some of the other individual numbered</p> <p>8 ones.</p> <p>9 In other words, you have 35 or 40</p> <p>10 at Amoco and you have 15 at BP, do they still</p> <p>11 subsume the original 40 or do they exclude a bunch</p> <p>12 or did you rely upon 15 BPs and still 20 of the</p> <p>13 original Amoco's? How did that work?</p> <p>14 MR. BROWN: Objection, form.</p> <p>15 A. The -- the focus on the -- on which BP</p> <p>16 minimum expectations to begin preparing was to try</p> <p>17 to develop one for each of the major process</p> <p>18 technologies that are used in a refinery. So CAT</p> <p>19 cracking, crude distillation, ultraforming,</p> <p>20 hydroprocessing, things like that. So the first 15</p> <p>21 are largely around process technology, minimum</p> <p>22 expectations. And there are a couple in there like</p> <p>23 safe use of nitrogen because nitrogen is a -- is a</p> <p>24 very dangerous gas to use in a refinery. Hazards</p> <p>25 of H2S. There are a few things that are not</p>
<p style="text-align: right;">Page 127</p> <p>1 A. Process safety standards and guidelines.</p> <p>2 Q. And did you utilize an acronym for them</p> <p>3 as well?</p> <p>4 A. PSSs, process safety standards and PSGs.</p> <p>5 Q. Okay. And each one had a number?</p> <p>6 A. Had a number.</p> <p>7 Q. And with the BP PSMEs, they also have</p> <p>8 numbers?</p> <p>9 A. They have a number.</p> <p>10 Q. Once BP went through some transition</p> <p>11 period associated to the merger process, was there</p> <p>12 an effort made to create uniformity with respect to</p> <p>13 the areas that Amoco had process safety standards</p> <p>14 and wanted BP to adopt?</p> <p>15 A. Yes. I mean, that was the purpose of</p> <p>16 creating the PSMEs in BP was to create uniformity</p> <p>17 across the BP refining system.</p> <p>18 Q. And in doing so, as I understood, there</p> <p>19 was originally 15 or so. Did you say 15?</p> <p>20 A. Well, I think there are 15 today of</p> <p>21 process safety minimum expectations, yes.</p> <p>22 Q. And as I understood from your testimony</p> <p>23 earlier, there were about 40 or so in the Amoco</p> <p>24 notebooks at the time of the merger?</p> <p>25 A. Thirty-five to 40 standards, process</p>	<p style="text-align: right;">Page 129</p> <p>1 process technology that are considered hazardous.</p> <p>2 So BP set out to say, you know, we</p> <p>3 are going to harmonize the best of the three</p> <p>4 companies and we are going to do that at a rate</p> <p>5 that we can put together these documents and then</p> <p>6 get them -- there -- there is a process for</p> <p>7 development, which is done by subject matter expert</p> <p>8 team. And then there is some approval process</p> <p>9 these documents have to go through to be sanctioned</p> <p>10 within BP, and that takes a bit of time.</p> <p>11 Q. (BY MR. COON) Okay. With respect to, for</p> <p>12 instance, the PSS Number 6 that existed with Amoco,</p> <p>13 has BP, since the merger, come out with a different</p> <p>14 process safety standard dealing with that issue or</p> <p>15 is this one that you still utilize the Amoco</p> <p>16 standard for?</p> <p>17 MR. BROWN: Objection, form.</p> <p>18 A. Some of the non-process things, such as</p> <p>19 some of the items in process safety standard 6 in</p> <p>20 the Amoco heritage are engineering technical</p> <p>21 practices now in BP. They are not process safety</p> <p>22 minimum expectations. So, for example, BP has an</p> <p>23 engineering technical -- some engineering technical</p> <p>24 practice documents that they are developing for</p> <p>25 these kinds of things. So these would not be</p>

<p style="text-align: right;">Page 130</p> <p>1 process safety minimum expectation documents in BP.  2 Something like this would more likely be an  3 engineering technical practice.  4 Q. (BY MR. COON) Okay. Does the engineering  5 technical practice division have a safety minimum  6 expectations notebook similar to that process  7 safety that would now subsume the issues associated  8 with flares and blowdown and the other itemized  9 issues --  10 A. I --  11 Q. -- in PSS Number 6?  12 MR. BROWN: Objection, form.  13 A. I don't know the answer to that.  14 Q. (BY MR. COON) Okay. If you were to look  15 today in your position with HSSE to know what the  16 proper standard is associated with flares and  17 blowdowns at Whiting, do you go to the Amoco  18 document you have in front of you or is there  19 something else now, new and different, in the BP  20 process safety minimum expectations notebook? Is  21 there something in the engineering technical  22 practices notebook or elsewhere?  23 MR. BROWN: Objection, form.  24 A. I would know because of my  25 responsibilities what is in the process safety</p>	<p style="text-align: right;">Page 132</p> <p>1 is official or not but if I were going to go look  2 for it, I would look under BP engineering technical  3 practices.  4 Q. Okay. And you believe that somewhere in  5 there would be information associated to the design  6 of a flare blowdown with new construction?  7 A. I believe that would be information in  8 there around design of some of the systems that are  9 mentioned here in process safety standard 6, yes.  10 Q. Would that specifically include flares?  11 A. I am not sure.  12 Q. Would it specifically include blowdowns?  13 A. I am not sure.  14 Q. Okay. If it doesn't, where would you go?  15 A. For the design of those, you would go  16 back to the Amoco engineering specs.  17 Q. And did those deal with the construction  18 and design of flares and/or blowdowns?  19 A. I know they don't with the design of  20 flares. I am not aware that they dealt with the  21 design of blowdowns.  22 Q. Do you know when last Amoco considered  23 designing blowdowns as part of new construction in  24 lieu of a flare?  25 MR. BROWN: Objection, form.</p>
<p style="text-align: right;">Page 131</p> <p>1 minimum expectations. I would go to our  2 engineering group at Whiting and ask them what  3 engineering technical practices documents have been  4 developed within BP that might relate to any one of  5 these items.  6 Q. (BY MR. COON) Do you know if any of those  7 items are now incorporated in the PSMEs at BP?  8 A. I believe some of them may be, but I am  9 not -- I am not capable of telling you how many or  10 what their numbers are.  11 Q. Okay. Specific as to flares and  12 blowdowns, do you know whether or not you are still  13 to rely on the Amoco PSS Number 6 or some other  14 document?  15 MR. BROWN: Objection, form.  16 A. For the design of a flare or a blowdown  17 system, you would either look -- it wouldn't be  18 this document to design those. In other words,  19 those would either be an engineering technical  20 practice in BP or if they were Amoco, they would be  21 an Amoco engineering spec.  22 Q. (BY MR. COON) Okay. What is the  23 engineering technical practices notebook that BP  24 utilizes now called?  25 A. As far as I know and I don't know if this</p>	<p style="text-align: right;">Page 133</p> <p>1 A. Could I add some clarification to my  2 earlier comment?  3 Q. (BY MR. COON) Yes, sir.  4 A. If you look at process safety standard 6  5 and you look under the reference section at the  6 bottom of the first page.  7 Q. Are you talking about right here  8 (indicating)?  9 A. Yes.  10 You will see engineering specs  11 54D-7. So that was the engineering spec for piping  12 and relief valves. Okay. If there's the next one.  13 So in other words, for piping and relief valves,  14 which is relieve -- pressure relief is one of these  15 items, you would go to that engineering spec at  16 Amoco.  17 Now, if you go to the next page,  18 at the top of the page you will see that Amoco had  19 engineering spec, the second 77D-3, for flare stack  20 protection systems and the next one 99D-1 for  21 drains, vents, pumpout and blowdown systems.  22 Q. Okay. So if we were wanting to find out  23 more about the design issues associated to flares  24 and blowdowns, we would go back to these specs  25 noted here?</p>

34 (Pages 130 to 133)

<p style="text-align: right;">Page 134</p> <p>1 A. You would go to these Amoco engineering 2 specifications, yes. Unless that engineering -- 3 unless BP has issued a new engineering technical 4 practice which would supersede this now. 5 Q. Or the -- 6 A. That, I don't know the answer to. 7 Q. Do you know when a blowdown system was 8 last designed and utilized at a -- for new 9 construction at any Amoco facility? 10 A. I am not aware of one. I am not aware of 11 a new blowdown stack. 12 Q. Are you aware of any blowdown -- blowdown 13 stacks being designed and constructed with new 14 construction at any time in your tenure at BP going 15 back to the mid '70s? 16 MR. BROWN: Objection, form. 17 Q. (BY MR. COON) I say BP, I am talking 18 about BP and Amoco. 19 A. New blowdown stacks, no, I am not. 20 Q. How many new units have you seen go up at 21 Whiting over the years? 22 MR. BROWN: Objection to form. 23 A. I would say, you know, I -- I am not -- 24 brand-new grassroots units, probably three. 25 Q. (BY MR. COON) And what years did those</p>	<p style="text-align: right;">Page 136</p> <p>1 A. No, I am not familiar with the changes 2 that occurred on the NDU or the new construction of 3 an NDU at Texas City, no. 4 Q. (BY MR. COON) Are you familiar with any 5 new construction projects in any of the other 6 business units in North America over the years? 7 A. Not that I can recall. 8 (Discussion off the record.) 9 A. Could I clarify that? 10 Q. (BY MR. COON) Yes, sir. 11 A. You asked me am I aware. Well, I would 12 be aware that Texas City built a resid 13 hydroprocessor in the mid '80s or late '80s. I am 14 not aware of any of the details, the design, the 15 construction or was part of any of those 16 construction teams. But, I mean, you know, I can 17 read a, you know, note that says, you know, we are 18 going to build a new unit in Texas City so that's 19 the extent of my awareness. 20 Q. Okay. 21 A. So I wanted to clarify that. 22 Q. Thank you, sir. 23 Now, with respect to process 24 safety standard Number 6, we will go back and look 25 at it, again.</p>
<p style="text-align: right;">Page 135</p> <p>1 go up? 2 A. Now, you're going to test my memory. 3 Q. Ballpark? 4 A. We built a CAT feed hydrotreating unit 5 in -- around 1985-ish. 6 Q. Does that system have a flare? 7 A. Yes, it goes to a flare. 8 Q. Okay. Next one? 9 A. We built a distillate desulfurization 10 unit in middle '90s, '94, '95. 11 Q. Does that one go to a flare or blowdown? 12 A. It goes to a flare. 13 Q. Okay. 14 A. And we are just building and completing, 15 and hopefully it's running today, at Whiting a 16 distillate -- a new DHT, a distillate hydrogen 17 heating unit, and it goes to a flare. 18 Q. Are you aware of other grassroots 19 construction at other business units of BP over the 20 years? 21 MR. BROWN: Objection, form. 22 Q. (BY MR. COON) For instance, the NDU in 23 2003 at Texas City? 24 A. No, I am -- 25 MR. BROWN: Objection, form.</p>	<p style="text-align: right;">Page 137</p> <p>1 A. Yes, sir. 2 Q. And, again, in referencing it, it appears 3 that this went into effect around 1977. 4 We are in agreement on that? 5 A. Yes. 6 Q. Is it fair to say that one of the topics 7 that is discussed in PSS Number 6 is to shift away 8 from the utilization of blowdown drums and instead 9 utilize flares in new construction? 10 MR. BROWN: Objection, form. 11 A. As indicated in the blowdown Section E, 12 the first bullet, "New blowdown stacks which 13 discharge directly to the atmosphere are not 14 permitted." 15 Q. (BY MR. COON) And we understand today 16 that that was due to a couple of considerations. 17 One was safety issues and the other was 18 environmental. That was -- that was at least two 19 considerations for that rule, was it not? 20 MR. BROWN: Objection, form. 21 A. When I became process safety director in 22 '93, this -- this was already in this document. So 23 I don't have history on how this got into the 24 document, but your assumption is reasonable, yes. 25 Q. (BY MR. COON) Okay. And based on that</p>

35 (Pages 134 to 137)

<p style="text-align: right;">Page 138</p> <p>1 assumption, to your knowledge, are you aware of any 2 new construction at Amoco facilities on units since 3 1977 in which a blowdown system was utilized 4 instead of a flare? 5 MR. BROWN: Objection, form. 6 A. I am not -- I am not aware of any new 7 blowdown stacks that were built at facilities. 8 Q. (BY MR. COON) Okay. Now, after the 1986 9 version of PSS6 -- is that the one that you have in 10 front of you? 11 A. No, I believe -- well, which year did you 12 say? 13 Q. Which year's copy -- 14 A. I have the -- 15 Q. -- do you have there in front of you? 16 A. The latest date on this is October 20th, 17 1994. 18 Q. Do you know if that document has been 19 revised since then? 20 A. No, I do not know. 21 Q. Okay. Now, you told us earlier that you 22 had some role in one of the revised drafts. 23 Was that the '94 draft? 24 A. I would have been in the job in the -- 25 the -- the position in -- in the process safety</p>	<p style="text-align: right;">Page 140</p> <p>1 A. Okay. 2 Q. Okay. I have the draft of it. So if you 3 don't mind, let's utilize the one that you have. 4 The one you have, which is 123, is the final 5 version of the 1994 revisions; is that correct? 6 (Tenders documents.) 7 A. Oh. 8 Yes, to the best of my knowledge, 9 it is. 10 Q. And you are not aware of any other 11 revisions taking place to PSS Number 6 up and 12 through March of 2005? 13 MR. BROWN: Objection, form. 14 A. What I am aware of is there are no -- no 15 other revisions made to this document when I left 16 the process safety directors position in April of 17 1997. 18 Q. (BY MR. COON) Okay. And if we can now go 19 to the page that you referenced, which is the 20 section dealing with blowdown systems. That is 21 Section E starting at page 7. 22 A. Okay. 23 Q. I think that's what you referenced a few 24 minutes ago, wasn't it? 25 A. Yes.</p>
<p style="text-align: right;">Page 139</p> <p>1 directors position when the -- when the '94 2 revision would have been made, yes. 3 Q. And what changes were made in the 4 March 1, 1994 draft? 5 MR. BROWN: Objection, form. 6 A. I would have to go back and compare the 7 '94 draft to the '90 draft to answer that question. 8 Q. (BY MR. COON) Okay. We may have an 9 opportunity to do that at a break, but -- 10 A. Okay. 11 Q. -- we will make better use of our time 12 while we are on the air. 13 Let's go back and talk about that 14 version you have, that Section F. 15 That dealt with the blowdown 16 system? 17 A. Section E? 18 Q. I am sorry. What section was that? 19 A. Section E, blowdowns -- 20 Q. Section E? 21 A. -- systems. 22 Q. Okay. Well, the copy that I have here 23 doesn't have it in the same place. So let's make 24 sure we have the -- I am walking with you in the 25 same document.</p>	<p style="text-align: right;">Page 141</p> <p>1 Q. Okay. Now, Section E, if we follow along 2 says, "Blowdown systems" -- and this includes the 3 system such as the F-20 that was utilized at the 4 ISOM; is that right? 5 A. Correct. 6 Q. "Including the piping collection systems 7 from equipment relief devices, drains and vents, to 8 the blowdown drum, the blowdown drum itself and the 9 atmospheric stack. Number 1, new blowdown stacks 10 which discharge directly to the atmosphere are not 11 permitted." 12 And I think you read that for us a 13 couple of minutes ago, didn't you? 14 A. Yes. 15 Q. And it pretty much says what it means 16 there. So it is pretty straightforward 17 interpretation of that one, isn't it? It doesn't 18 leave a lot to debate, just new construction, don't 19 use it. 20 A. Correct. 21 Q. And this would be talking about, for 22 instance, the F-20 at the ISOM unit at Texas City? 23 A. Yeah, that -- that was a blowdown system. 24 Q. Okay. Now, this rule, I take it, would 25 have been in effect, to the best of your knowledge,</p>

36 (Pages 138 to 141)

<p style="text-align: right;">Page 142</p> <p>1 in 1997?</p> <p>2 A. Yes.</p> <p>3 Q. Okay. Were you aware that the blowdown</p> <p>4 stack at the ISOM unit in 1997 was, in fact,</p> <p>5 replaced with another one?</p> <p>6 A. No, I was not.</p> <p>7 Q. And that blowdown stack, the ISOM unit,</p> <p>8 to your understanding did discharge directly to the</p> <p>9 atmosphere?</p> <p>10 MR. BROWN: Objection, form.</p> <p>11 A. I was aware that -- well, blowdown stacks</p> <p>12 normally do vent to the atmosphere, yes. I am</p> <p>13 certainly aware of that.</p> <p>14 Q. (BY MR. COON) And --</p> <p>15 A. Is there some other part of your</p> <p>16 question?</p> <p>17 Q. Yes, sir.</p> <p>18 You understand from the fatal</p> <p>19 report that the F-20 blowdown stack utilized at the</p> <p>20 ISOM did discharge directly to the atmosphere?</p> <p>21 A. Yes, yes.</p> <p>22 Q. And that wasn't just by accident.</p> <p>23 That's what it was designed to do?</p> <p>24 A. It was designed to vent to the atmosphere</p> <p>25 is my understanding, yes.</p>	<p style="text-align: right;">Page 144</p> <p>1 Do you think there is a subjective interpretation,</p> <p>2 a difference between the two?</p> <p>3 MR. BROWN: Objection, form.</p> <p>4 A. Yeah, I believe there could be a</p> <p>5 difference in interpretation. I mean, to explain</p> <p>6 that a little bit, you know, something new kind of</p> <p>7 means to me that it doesn't exist today. It's new.</p> <p>8 It's not been renewed. It's new.</p> <p>9 And so I believe, you know, when I</p> <p>10 read this, the intent appears to me that I am not</p> <p>11 going to build a new blowdown stack. Now, if the</p> <p>12 blowdown system is corroded, becomes unserviceable,</p> <p>13 I am going to go in and fix it or repair it to</p> <p>14 whatever extent it is. I suppose one could</p> <p>15 interpret it that way and decide that repairing</p> <p>16 parts or fixing parts or replacing parts of the</p> <p>17 blowdown system was not installing a new blowdown</p> <p>18 system.</p> <p>19 Q. (BY MR. COON) Okay. Do you know whether</p> <p>20 or not in 1997 they replaced the whole blowdown</p> <p>21 stack or just repaired it?</p> <p>22 A. I don't know what they did in 1997 in</p> <p>23 Texas City.</p> <p>24 Q. Have you ever bought a new car?</p> <p>25 A. Yes, sir, I have.</p>
<p style="text-align: right;">Page 143</p> <p>1 Q. And PSS Number 6, this one that was in</p> <p>2 effect at the time that the vent stack was replaced</p> <p>3 in '97 does say, "New blowdown stacks which</p> <p>4 discharge directly to the atmosphere are not</p> <p>5 permitted"?</p> <p>6 A. That's what it says.</p> <p>7 Q. Did you ever understand why it was that</p> <p>8 BP Texas City would have made a decision to put a</p> <p>9 new blowdown stack in the ISOM unit in 1997 that</p> <p>10 did discharge directly to the atmosphere?</p> <p>11 MR. BROWN: Objection, form.</p> <p>12 A. Well, I wasn't involved in any of those</p> <p>13 decisions and didn't even know that the -- that</p> <p>14 work was going on in '97.</p> <p>15 Q. (BY MR. COON) Okay.</p> <p>16 A. Having said that, to address your</p> <p>17 question, was this a new blowdown stack or a</p> <p>18 replacement of an in kind existing blowdown stack?</p> <p>19 Q. Do you believe there would be a</p> <p>20 subjective distinction between the two?</p> <p>21 A. I believe there are people that would see</p> <p>22 a subjective difference in the two, yes.</p> <p>23 MR. DEAN: Object to his</p> <p>24 responsiveness.</p> <p>25 Q. (BY MR. COON) Again, the question is:</p>	<p style="text-align: right;">Page 145</p> <p>1 Q. Did you ever tell people when you bought</p> <p>2 it you bought a new car or did you tell them you</p> <p>3 bought a replacement car?</p> <p>4 A. I usually tell them I buy a new car.</p> <p>5 Q. Have you ever bought a new refrigerator</p> <p>6 or dishwasher for your house?</p> <p>7 A. Yes, I have.</p> <p>8 Q. Did you tell people that you were buying</p> <p>9 a new dishwasher or refrigerator or did you tell</p> <p>10 them you bought a replacement one?</p> <p>11 A. I probably told them I bought a new one.</p> <p>12 Q. Let's go in the next section here.</p> <p>13 Blowdown systems. Number 2, it says, "When size of</p> <p>14 the existing facility is outgrown or when major</p> <p>15 modifications are made to the existing facility,</p> <p>16 existing blowdown systems, which are still</p> <p>17 necessary, should be replaced with connections to</p> <p>18 depressor via another processing unit hydrocarbon</p> <p>19 recovery system or a flare."</p> <p>20 Did I read that correctly?</p> <p>21 A. I believe so.</p> <p>22 Q. Did you know anything about the history</p> <p>23 of the ISOM unit in which this paragraph could be</p> <p>24 taken into consideration and transferring the ISOM</p> <p>25 unit over to a flare?</p>

37 (Pages 142 to 145)

<p style="text-align: right;">Page 146</p> <p>1 MR. BROWN: Objection, form.  2 A. I don't have any information about the  3 size of the blowdown system other than what I have  4 read in the report. The service load on the  5 blowdown system, I had no idea to know whether that  6 particular blowdown system was outgrown or what  7 major modifications were contemplated or completed  8 on that blowdown stack or that blowdown system.  9 Q. (BY MR. COON) Did you know anything about  10 the Clean Streams project, environmental project  11 around Texas City in 2002, 2003?  12 A. I was not involved in that.  13 Q. Did you ever hear anything about it?  14 A. I heard a little bit about it as it  15 relates to Whiting.  16 Q. How did it relate to Whiting?  17 A. Well, I recall that there was something  18 that happened in Texas City with regards to the BQ  19 levels of benzene and maybe it was in the water  20 stream or water streams. And I think they were  21 potentially around blowdown stacks at Texas City.  22 It could have been other areas, but it was benzene  23 in a sewer system. And I know that when that was  24 found at Texas City, the word through the  25 environmental community was that all of the sites</p>	<p style="text-align: right;">Page 148</p> <p>1 MR. BROWN: Objection, form.  2 A. We looked back into our database at  3 Whiting around our incidents database after the  4 Texas City. I was not aware of any prior to. We  5 went back and looked in our incidents database and  6 really couldn't find any document of incidents at  7 Whiting where we had significant releases out of  8 our blowdown systems.  9 Q. (BY MR. COON) Were you ever made aware  10 that one had occurred in Texas City in 1991 that  11 resulted in a citation by OSHA?  12 MR. BROWN: Objection, form.  13 A. I heard about that at some point in time.  14 I can't remember when I heard about it, but it was,  15 you know, I -- I was not involved with the process  16 safety effort with Amoco at that time. I may have  17 heard about it anecdotally, but I wasn't involved  18 in it.  19 Q. (BY MR. COON) Okay. Do you recall  20 hearing this back around the time that it occurred,  21 back in the '90s?  22 A. No, not especially. I think it was  23 more -- well, sometime in the '90s is when I heard  24 about it. I just don't recall when.  25 Q. Okay. Do you know if there was any</p>
<p style="text-align: right;">Page 147</p> <p>1 needed to check other streams at their facilities  2 to be sure that there weren't some -- some benzene  3 containing streams that we hadn't accounted for,  4 example, at Whiting and we did some additional  5 testing of some water streams at Whiting as a  6 result of what we heard in Texas City.  7 Q. Have there been any efforts to convert  8 prior to the explosion -- let me rephrase.  9 Prior to the explosion in March,  10 was there any efforts made to convert vent stack  11 blowdown drums at Whiting to a flare?  12 MR. BROWN: Objection, form.  13 A. There is -- there was a project at  14 Whiting that was completed in 2001 or 2002 that  15 took an atmospheric relief system not through a  16 blowdown system but took it through a quenched drum  17 and into a flare system that used to go to the  18 atmosphere, but we have not done any special  19 projects to get out of blowdown systems at Whiting  20 until now.  21 Q. (BY MR. COON) Were you ever aware of any  22 circumstances or situations at Whiting where there  23 were unanticipated releases of combustible vapors  24 or liquids out of any of the atmospheric release  25 systems, that is, upsets of some sort?</p>	<p style="text-align: right;">Page 149</p> <p>1 effort undertaken by Amoco at that time to go back  2 and rereview some of the safety issues associated  3 with atmospheric release systems like the F-20s  4 based on that OSHA citation?  5 MR. BROWN: Objection, form.  6 A. I am not aware of -- I wouldn't be  7 knowledgeable about that or what efforts may or may  8 not have been done to look at those systems.  9 Q. (BY MR. COON) Were you aware of the  10 history of similar upsets that have occurred at the  11 ISOM unit over the years that OSHA was unaware of  12 and had not reported on them?  13 A. No, I am not.  14 MR. BROWN: Objection, form.  15 THE WITNESS: I am sorry.  16 A. No, I am not.  17 Q. (BY MR. COON) In your review of the CSB  18 reports or other sources, do you recall seeing  19 where there were four or more prior incidents that  20 were documented at Texas City on the ISOM unit,  21 vapor clouds emitting from the F-20 in such  22 sufficient amounts as to cause a vapor cloud at  23 ground level and a potential for an explosion?  24 A. There was information that I recall in  25 the report, yes.</p>

38 (Pages 146 to 149)

Page 150	Page 152
<p>1 Q. Is that from the CSB report or other 2 reports? 3 A. I don't recall which report it was in. I 4 do remember reading that there were some other 5 incidents around this blowdown stack but as a 6 result of the investigative work that's been going 7 on. 8 Q. Were you made aware of a similar instance 9 during at one of the other adjacent units that we 10 have mentioned not only vapors but liquids emitted 11 from an open vent system around October, 2004? 12 MR. BROWN: Objection, form. 13 A. No. 14 Q. (BY MR. COON) Were you ever made aware 15 of a prior history of not only vapors but liquids 16 emitting from the F-20 blowdown at the ISOM unit? 17 A. No. 18 Q. Mr. Sorrels, you talked about these 19 quench blowdown systems. So I want to go to the 20 next notation we had on the blowdown system. If 21 you follow me, we were on page 7 blowdown systems. 22 We were talking about Number 2? 23 A. Right. 24 Q. It goes to the next page Number 3, it 25 says, "When a quenched blowdown system is required,</p>	<p>1 (Recess taken.) 2 THE VIDEOGRAPHER: Tape 4 of the 3 deposition of Stan Sorrels. The time is 2:48, and 4 we are back on the record. 5 Q. (BY MR. COON) That's '94? 6 A. That's '94. 7 Q. That's the draft of the one we just 8 talked about, I believe. That would mean that I do 9 not, sir. 10 Mr. Sorrels, on a break I handed 11 you a copy of another exhibit -- 12 THE VIDEOGRAPHER: Sir, you don't 13 have your mike on. 14 MR. COON: I didn't know anybody 15 wanted to listen to me. 16 Q. (BY MR. COON) Mr. Sorrels? 17 A. Yes. 18 Q. During a break I provided you with a 19 couple of other documents. 20 A. Yes. 21 Q. Can you identify the one that you have in 22 your hand, sir? 23 A. This looks like Amoco Process Safety 24 Standard Number 6, flares, blowdowns, pressure 25 relief found in drain systems for process units and</p>
Page 151	Page 153
<p>1 a liquid separator should be provided with the 2 vapor discharging to a recovery system or a flare." 3 Did I read that correctly? 4 A. That's correct. 5 Q. Okay. Can you tell us what quenched 6 blowdown systems are, what we are talking about 7 there? 8 A. A quench system is typically one where 9 the -- the material that's coming into the system 10 is hot or in a vapor form and you want to condense 11 it into a liquid. So you quench it, you cool it 12 down with some -- some other liquid. 13 So what you do is you, in a sense, 14 reduce vapor into liquid by cooling it and then 15 deal with the liquid as more liquid. So you have 16 less gases, less material in the gas -- in the gas 17 or the vapor phase to deal with for the vent. 18 Q. Do you know what if any quenching system 19 were utilized on the ISOM F-20? 20 A. No, I didn't. 21 MR. COON: We will take a break 22 here. I think we are about at the end of the tape. 23 THE WITNESS: Okay. 24 THE VIDEOGRAPHER: Off the record 25 at 2:40.</p>	<p>1 it looks like it's dated March 27th, 1986. 2 Q. Okay. Would that have been the 3 predecessor version of the PSS Number 6 that we 4 talked about before the break? 5 A. No, it wouldn't have been. The one we 6 spoke about at the break was March of 1994, I 7 believe -- sometime in '94. There is a revised 8 version December 10th, 1990, as well. 9 Q. Right, and maybe you misunderstood my 10 question. 11 A. I am sorry. 12 Q. We talked earlier in PSS Number 6 about 13 the various revisions that we were aware of? 14 A. Yes. 15 Q. And the one I handed you during the break 16 is a copy -- 17 A. Oh. 18 Q. -- of one of those revisions? 19 A. Yes, it's the '86 revision. 20 Q. Okay. If I could have that briefly, sir. 21 A. Sure. 22 (Tenders documents.) 23 Q. And as we understood from the discussion 24 we had before the break, there were several 25 versions of PSS6.</p>

39 (Pages 150 to 153)

<p style="text-align: right;">Page 154</p> <p>1 You had the original one in '77 2 and over the years, there were several changes made 3 regarding certain different aspects of the 4 PSS Number 6, correct? 5 A. Correct. 6 Q. We discussed those to some degree, but 7 you did not have the copies in front of you. What 8 I want to do, since you did not know the details of 9 the various changes that might have been made over 10 the years was to go back and at least get a copy of 11 the one I had handy, which was the '86 version and, 12 again, draw your attention to some of the language 13 that was contained in it. 14 A. Uh-huh. 15 Q. And then, again, it talked about the 16 blowdown drums. This time it is Section C and with 17 respect to Number 1, "the new blowdown stacks which 18 discharge directly to the atmosphere are not 19 permitted." 20 So that language was there, not 21 only in the '94 version that we talked about awhile 22 ago that -- 23 A. Correct. 24 Q. -- also went back at least to 1986? 25 A. Correct.</p>	<p style="text-align: right;">Page 156</p> <p>1 to the '86 version that said pretty much, I think, 2 the same thing that the '94 version did. Again, 3 this is just to clarify that this language was 4 there for a long time. 5 Under Blowdown System, C, we have, 6 "Number 3, when a quenched blowdown system is 7 required, a liquid separator should be provided 8 with the vapor discharging to a recovery system or 9 a flare." 10 And that is verbatim to the same 11 language that was included in the '94 version; is 12 that correct? 13 A. Yes. 14 Q. Okay. So unless something was different 15 in '77, we know that that language at least goes 16 back 20 years prior to this explosion and, 17 potentially, it went back 30 years prior to this 18 explosion as it related to no longer utilizing 19 blowdown drums and, also, the issues as it related 20 to the quench blowdown system requirements? 21 MR. BROWN: Objection, form. 22 A. What we know is that in 1986, we know 23 that your comment about 20 years is correct. 24 Q. (BY MR. COON) Yes, sir. 25 A. I can't speak to what was in there in</p>
<p style="text-align: right;">Page 155</p> <p>1 Q. And to the best of your knowledge, that 2 language went back to the original '77 version, 3 didn't it? 4 MR. BROWN: Objection, form. 5 A. I would have no idea what was in the '77 6 version, whether it goes back beyond '86 or not. I 7 would have no knowledge to that. 8 Q. (BY MR. COON) Okay. Well, the '86 9 version -- when we looked at the '94 version, it 10 talked about any revisions -- the only revision 11 that was noted in the history at the end of it was 12 that there was a change made to reflect an 13 important alarm for vacuum tower vent gas system. 14 Do you recall that? 15 A. In '94? 16 Q. Yes, sir. 17 A. Yes, sir, I recall that. 18 Q. Well, no, actually, 1986. That was what 19 was discussed as the revision that was made in '86? 20 A. Oh yes, that's correct. That's correct. 21 Q. It didn't say anything in the '86 22 revision that it also reflected any changes as it 23 related to the blowdown systems, did it? 24 A. Not in this note here, it doesn't. No. 25 Q. Okay. I also want to call your attention</p>	<p style="text-align: right;">Page 157</p> <p>1 '97. I do agree there isn't a note in 1986 2 suggesting there was a change other than the one 3 that is noted. And it doesn't reflect there were 4 any changes to this language. So, you know, I 5 don't disagree with that part. 6 Now, you had another piece of your 7 statement about that -- that you made that I wanted 8 you to clarify. 9 Q. Okay. You let me know what it was and I 10 would be happy to clarify it. Otherwise, I think 11 we could move on with the answer you just gave us. 12 A. Could -- could somebody go back and read 13 that question you asked me, then? 14 Q. I am not adverse to it, but I don't think 15 we really need to. 16 A. Okay. Well, if it's not an issue. I 17 mean, that's the part of what I agree with. 18 MR. BROWN: Go ahead and read it 19 back just to make sure he is comfortable in his 20 answer. 21 (Discussion off the record.) 22 (The requested testimony was read 23 by the reporter.) 24 A. Okay. My -- my issue around the 25 statement was along the lines of no longer using</p>

40 (Pages 154 to 157)



<p style="text-align: right;">Page 158</p> <p>1 blowdown drums. The PSS6 does not prohibit the use 2 of blowdown drums. That was my comment that I 3 wanted to address based on your statement. 4 Q. (BY MR. COON) All right. I think you 5 clarified that with some of your earlier 6 commentary. 7 A. Okay. That's fine. 8 Q. Next -- 9 MR. COON: I want to just put this 10 in the record. I am not sure if it's there before, 11 Counsel. It's 463. I think this is the first time 12 we have offered it. We have been trying to avoid 13 redundancy, but this is the Facility Siting 14 Screening Workbook that was identified by 15 Mr. Sorrels earlier, something that he was the 16 author of. 17 (Exhibit Number 463 marked for 18 identification.) 19 Q. (BY MR. COON) Mr. Sorrels, again, just 20 so we can put this into the record. I wanted to 21 clarify a couple of things. 22 The Facility Siting Screening 23 Workbook that we had as Exhibit 463, was there 24 anything that you ever did to provide revisions to 25 this document, sir?</p>	<p style="text-align: right;">Page 160</p> <p>1 A. Yes, I recall that document. 2 Q. Okay. Now, as I understand that was a 3 request to Whiting to go back and look at the 4 history of any potential vapor or liquid releases 5 out of the vent stacks that were utilized and 6 blowdown drums that were utilized at the Whiting 7 facility? 8 A. That wasn't what my -- my interpretation 9 was. 10 Q. What was it then? 11 A. I am looking -- let me read it, again. 12 Right. I remember this document. 13 Yes, yes, yes. Uh-huh. 14 Yes, I do. 15 Q. Okay. Was there any request at Whiting 16 to trace your own history of prior upsets 17 associated with the F-20s or other vent stacks in 18 use at Whiting? 19 MR. BROWN: Objection, form. 20 A. This is the only information that I am 21 aware of. Yeah, in fact, I had actually forgotten 22 part of this. When you handed me this, I thought 23 that it was the request during the investigation 24 with regards to interpreting process safety 25 standard 6 and it is that. But, then, it's also</p>
<p style="text-align: right;">Page 159</p> <p>1 A. Nothing that I have done. 2 Q. Okay. Awhile ago, Mr. Sorrels, you said 3 that after the explosion, y'all went back and you 4 looked to see what, if anything, you had in some of 5 your own records that would have reflected any 6 history of similar vapor or liquid releases out of 7 any of the blowdown drums. 8 Do you recall that? 9 A. People at Whiting did that. I didn't 10 personally do that -- 11 Q. Okay. 12 A. -- for the Whiting business unit. 13 Q. Okay. Well, just for the record since I 14 think this is what you were talking about, we have 15 464. 16 (Exhibit Number 464 marked for 17 identification.) 18 Q. (BY MR. COON) This is a memo to a 19 Gregory Crum from you, and then forwarded onto 20 Mr. Broadribb at Texas City regarding blowdowns at 21 Whiting. 22 Do you recall seeing that document 23 before, sir? 24 A. Let me take a look. 25 Q. (Tenders document.)</p>	<p style="text-align: right;">Page 161</p> <p>1 some information about major incidents at Whiting 2 with regards to -- and Mr. Lash, who works in our 3 safety group, provided this information, which I 4 forwarded on to Mike Broadribb. 5 Q. (BY MR. COON) Okay. In determining 6 plant by plant whether or not there had been any 7 prior history of ground level vapor clouds or 8 liquid releases out of any of the vent stacks, do 9 you know whether or not if any of the facilities 10 went back and talked to the unit operators as 11 historians of whether or not such events had 12 occurred? 13 MR. BROWN: Objection, form. 14 A. I can -- I can tell you something at 15 Whiting along those lines. 16 Q. (BY MR. COON) Okay. 17 A. And I can only speak to Whiting. 18 After the tragedy at Texas City, 19 we did spend some time, as I mentioned, looking at 20 our blowdown stacks that we have currently. And 21 there was some conversation with operating people 22 in some of the units where these blowdown stacks 23 exist and at one of the units where there is a 24 blowdown stack, some of the folks that were there 25 that had been there a long time described an</p>

41 (Pages 158 to 161)

Page 162

1 incident where there had been liquid coming out of  
 2 a blowdown stack at that unit during some sort of  
 3 upset condition.  
 4 Now, we didn't have any  
 5 documentation that that had ever occurred at  
 6 Whiting, but that was a recollection of an  
 7 operating person there and it's a long time ago in  
 8 that. I mean, this would have been people that had  
 9 been around 25, 30 years, and "Oh, I remember," you  
 10 know, that kind of conversation. But we didn't  
 11 have any documentation to support that.  
 12 Q. Did you have any logs that went back and  
 13 tracked the operations of whichever unit that was  
 14 that would have gone back through the whole history  
 15 of any upsets or other events that that particular  
 16 unit from the time it had been built?  
 17 A. Not that I am aware of.  
 18 Q. Do you recall whether or not OSHA had  
 19 ever remitted any citations to facilities other  
 20 than BP Texas City regarding atmospheric releases  
 21 out of open vent systems that had formed vapor  
 22 clouds or liquids to ground?  
 23 A. Certainly, I am not aware of any at  
 24 Whiting.  
 25 Q. With respect to major incidents, has the

Page 163

1 Whiting facility ever had one?  
 2 MR. BROWN: Objection, form.  
 3 A. Had a major incident?  
 4 Q. (BY MR. COON) Yes, sir.  
 5 A. Of any kind?  
 6 Q. Yes, sir.  
 7 A. Yes, we have.  
 8 Q. Any idea of how many over the years?  
 9 MR. BROWN: Objection, form.  
 10 A. Not off the top of my head.  
 11 Q. (BY MR. COON) Do you know whether or not  
 12 any of the units have blown up?  
 13 A. We have had fires on our units before.  
 14 We have not destroyed any units. I mean, we have  
 15 had to rebuild from fire damage, occasionally.  
 16 That's occurred but I -- you know, when you say  
 17 blown up, I am not sure how you define that.  
 18 Q. Anything like the ISOM unit at Texas City  
 19 where the infrastructure sustained significant  
 20 damage?  
 21 A. No, not to my recollection at Whiting.  
 22 Not -- not in the recent history of Whiting.  
 23 Q. How many fires a year would you typically  
 24 see at Whiting over, say, the last 15 or 20 years  
 25 that you have been working there, off and on?

Page 164

1 MR. BROWN: Objection, form.  
 2 A. Well, I need to ask you to define and  
 3 tell me what a fire is what you are talking about.  
 4 Even the smallest fire?  
 5 Q. (BY MR. COON) I'm just talking about  
 6 where something is burning.  
 7 A. Where something is burning and we have  
 8 called the fire department to come? Would that be  
 9 a threshold?  
 10 Q. I --  
 11 A. There wasn't so small that an operator  
 12 put it out with a hand fire extinguisher.  
 13 Q. If you can distinguish between the two,  
 14 that would be really preferred.  
 15 A. No I really can't. The only ones that I  
 16 would remember -- I, you know, I am going to guess  
 17 and this is totally a guess, believe me -- maybe  
 18 one -- maybe one significant fire a year and not a  
 19 big fire, but I am talking about something where we  
 20 would roll the fire trucks and go to a unit and --  
 21 and -- and it may be out by the time they get  
 22 there, but it may not be.  
 23 Q. Did you know how Whiting related to BP  
 24 Texas City when you compared any of the safety  
 25 factors such as fires or fatalities or OSHA

Page 165

1 recordables? Do you know where Whiting compared  
 2 generally speaking to BP Texas City over the years?  
 3 MR. BROWN: Objection, form.  
 4 A. Over what timeframe would you say?  
 5 Q. (BY MR. COON) We'll just say the  
 6 timeframe that you have been associated with  
 7 Amoco/BP.  
 8 MR. BROWN: Objection, form.  
 9 A. Well, in terms of OSHA injury rates the  
 10 last -- let's just say in the last five years, I  
 11 would say that Whiting has had a better -- a lower  
 12 OSHA incident injury rate than Texas City has had.  
 13 Q. (BY MR. COON) What do you think about  
 14 like over the last three decades of during your  
 15 tenure?  
 16 A. Comparable.  
 17 Q. Comparable. What would you say about the  
 18 fatalities issues? Do you know how many Texas City  
 19 has had over the years?  
 20 A. No, I don't.  
 21 Q. Do you know that the number is more than  
 22 two dozen over the last three decades before the  
 23 explosion of --  
 24 A. 2000.  
 25 MR. BROWN: Objection.

<p style="text-align: right;">Page 166</p> <p>1 Q. (BY MR. COON) -- March 2005, over two 2 dozen over the last 30 years in a number of 3 isolated incidents? 4 MR. BROWN: Objection, form. 5 A. No, I didn't know that. 6 Q. (BY MR. COON) Okay. Is that a 7 surprisingly high number to you? 8 A. Any time you have even one fatality, it 9 should be a surprisingly high number to everybody. 10 Q. How many has Whiting had over the last 30 11 years? 12 A. Gosh, I don't know. I don't know the 13 exact number. We have had fatalities. 14 Q. Do you average one a year or one every 15 five years? 16 MR. BROWN: Objection, form. 17 Q. (BY MR. COON) Or every ten years? 18 A. I would say in the last ten years, we 19 have averaged one every four years. 20 Q. Now, Whiting has also been involved in 21 one or more matters that I have heard about in 22 which a fatality occurred off-site as a result of 23 an upset that occurred inside one of the units. 24 One of them in particular, as I 25 recall, was -- I understood there was a little boy</p>	<p style="text-align: right;">Page 168</p> <p>1 A. Well, it didn't occur at Whiting, not to 2 my knowledge. 3 Q. You would agree that the startup/shutdown 4 times are the times of the highest risk at a 5 petrochemical facility? 6 A. I believe that, yes. 7 Q. Mr. Sorrels, I had a little remiss 8 earlier, but I wanted to show you, sir, a couple of 9 other documents and we will gladly mark them 465 10 and 466. 11 (Exhibit Numbers 465 and 466 12 marked for identification.) 13 Q. (BY MR. COON) But this one is a BP, HSSE 14 organization, pre-23, March, 2005. 15 And first, do you know why they 16 picked that date March 23, 2005? 17 A. I could guess. 18 Q. What would that be? 19 A. That's prior to the tragedy in Texas 20 City. 21 Q. Okay. Because the next document I have 22 is Exhibit 466, which says BP, current HSSE 23 organization, post-23, March, 2005. 24 A. Okay. 25 Q. And without going through every page of</p>
<p style="text-align: right;">Page 167</p> <p>1 that was maybe sleeping in his bed and there was an 2 explosion or something that -- he was killed 3 off-site at his personal residence. 4 Do you recall anything about that, 5 when it happened or the circumstances? 6 A. No. Whiting had a devastating event in 7 1955, which you are probably aware of, where there 8 was an explosion of a hydroformer at the Whiting -- 9 at the Whiting refinery in 1955. And that was a 10 huge event. It was a brand-new unit, brand-new 11 technology. It was all in the process of startup 12 and it had a catastrophic event that occurred that 13 caused an explosion and it affected the community, 14 affected the refinery. It shut down the refinery 15 for a long period of time. At the refinery -- 16 parts of the refinery were rebuilt. 17 That may be -- during that 18 incident in 1955, which would have been 50 years 19 ago, there may have been someone -- that could have 20 occurred then, but not in the time that I have 21 worked with Amoco/BP, you know, around Whiting. I 22 can't recall anything like that. 23 Q. Okay. I seem to recall hearing it 24 occurred much more recently than that, but I could 25 be mistaken.</p>	<p style="text-align: right;">Page 169</p> <p>1 this, basically, we have a -- within that document 2 are a number of graphs of flow charts that show the 3 corporate hierarchy of BP? 4 A. Yes. 5 Q. And if we just -- if I could have that 6 one back, sir. I'll just -- 7 A. Oh, sure. 8 Q. I will compare them -- 9 A. Sure. 10 Q. -- pre and post. 11 Okay. This is the safety and 12 operations layout immediately before the explosion. 13 You have Lord Browne at the top and you have three 14 people at the second level and two more underneath 15 him, correct? 16 A. (Nods head.) 17 Q. And then after the explosion, we still 18 have the same three people reporting to Lord 19 Browne. And then, underneath that, there appears 20 to be two additional -- there appear to be two 21 changes. One is senior group vice president is 22 called safety and operations, John Mogford, and 23 that second square here is group vice president 24 HSSE, Greg Coleman. 25 So before we talk about the things</p>

43 (Pages 166 to 169)

<p style="text-align: right;">Page 170</p> <p>1 below them, that's the only change that you can see  2 pre and post as it related to the corporate safety  3 and operations structure?  4 It has Lord Browne at the top,  5 correct?  6 A. Yes.  7 Q. These three departments are the same pre  8 and post, correct?  9 A. Yes.  10 Q. And we have the same two underneath it,  11 as we do down here; but this one is the same as  12 this one, (indicating), but this one has changed.  13 This says "Senior group vice president, safety and  14 operations, John Mogford" and the other one had  15 said "group vice president, HSSE, Greg Coleman."  16 Do you know why that change was  17 made?  18 MR. BROWN: Objection, form.  19 A. Well, what I have heard is the reason,  20 that change was made to provide more rigor within  21 BP with regards to connecting up safety and  22 operations and that's, basically, what I have  23 heard.  24 Q. (BY MR. COON) And what was your  25 understanding as to why more rigor needed to be</p>	<p style="text-align: right;">Page 172</p> <p>1 though, I take it?  2 A. I have heard about them, yes.  3 Q. Has it changed anything with respect to  4 who you report to and what you report?  5 MR. BROWN: Objection, form.  6 A. I report to the same individual at the  7 business unit that I did on March 23rd, 2005, the  8 business unit leader. I would say that it has  9 changed what we report because, at Whiting, we've  10 established what we call a program office. Which I  11 think most of the BP refineries have a program  12 office now as a result of March 23rd, which is  13 pulling together a lot of initiatives across  14 Whiting with regards to safety and operations and  15 reporting those in -- on a regular basis within BP.  16 Q. (BY MR. COON) Who captures that  17 information in the program office?  18 A. Our program office manager is Mike Morris  19 at Whiting.  20 Q. What's his title?  21 A. Program office manager. He reports  22 directly to the business unit leader.  23 Q. Is this a newly created position at  24 Whiting?  25 A. Yes, it is.</p>
<p style="text-align: right;">Page 171</p> <p>1 applied to safety and operations after the  2 March 23rd, 2005 explosion?  3 A. Well, I am not an expert on the  4 background of all the people on that slide, but  5 what I had heard from where -- from my role was,  6 that there was not a lot of operating experience at  7 the senior levels of the organization.  8 Q. Would that leave some gaps in certain  9 levels of management with respect to the  10 understanding of what happened in the field?  11 MR. BROWN: Objection, form.  12 A. Well, I think you need -- it's my  13 judgment. I think you need a balance of people  14 with -- certainly at -- at all levels of the  15 organization with -- and if you are a large  16 operating company by BP -- like BP is, it would  17 strike me that you would want some experience,  18 operating experience at the senior level of the  19 organization.  20 Q. (BY MR. COON) And as I understand it --  21 first of all, have you seen this layout of how the  22 corporation was to restructure from London on down  23 after this explosion of March 23?  24 A. No.  25 Q. You have seen all these things take place</p>	<p style="text-align: right;">Page 173</p> <p>1 Q. Is it your understanding that the other  2 business units in North America were given a  3 similar position of someone as a program office  4 manager as a result of this episode of 2005?  5 A. I --  6 MR. BROWN: Objection, form.  7 A. I know there is a program manager at  8 Texas City and at Carson refinery. I am not sure  9 if there is a full-time program manager at  10 Cherry Point in Toledo or if that is part of some  11 existing position's role.  12 Q. (BY MR. COON) Okay. Let's go to the  13 next page of the chart -- again, this is  14 pre-explosion.  15 We had Mr. Manzoni who was here  16 (indicating) in safety and operations reporting to  17 Lord Browne?  18 MR. BROWN: Objection, form.  19 Q. (BY MR. COON) That's what this means  20 here, doesn't it? Doesn't that indicate a chain of  21 communications here to here (indicating)?  22 MR. BROWN: You said safety and  23 operations. It says, "refining and marketing."  24 MR. COON: Okay. I am just  25 talking about corporate safety and operations.</p>

44 (Pages 170 to 173)

<p style="text-align: right;">Page 174</p> <p>1 MR. BROWN: I apologize. I 2 withdraw it. 3 Q. (BY MR. COON) Okay. So we have 4 Mr. Manzoni reporting, here, to Lord Browne? 5 A. Correct. 6 Q. And then if we compare that chart to the 7 post, you still have the same thing, which is 8 Mr. Manzoni reporting to Lord Browne -- this being 9 the post March? 10 A. Yes. 11 Q. Okay? 12 A. Yes. 13 Q. But underneath it, we now have this 14 section called -- see slide 3. And if we go to the 15 next page, we now have Mr. Manzoni and a number of 16 people that report to him through this chain. All 17 these guys, all these folks here would now report 18 through this new flow. 19 Is that the way this would read -- 20 if you have Mr. Manzoni here (indicating), then 21 these are the people that would report to him and 22 this is the way they would report up through the 23 hierarchy? 24 MR. BROWN: Objection, form. 25 A. That's correct.</p>	<p style="text-align: right;">Page 176</p> <p>1 then? 2 A. Yes. 3 Q. And this would be you as the HSSE manager 4 reporting to the Whiting BUL, being Mr. -- 5 Sajkowski? 6 A. Sajkowski. 7 Q. Sajkowski, who then reported to 8 Mr. Gower? 9 A. Correct. 10 Q. And the structure for that level of 11 reporting after the explosion remained the same? 12 A. That's correct. 13 Q. Have there been any additional changes to 14 that organizational structure since the explosion? 15 MR. BROWN: Objection, form. 16 A. Not that I am aware of. I would only be 17 aware of what's been announced, not what's being 18 contemplated. 19 MR. COON: Let's go off the record 20 just a minute. 21 THE VIDEOGRAPHER: Off the record 22 at 3:21. 23 (Recess taken.) 24 THE VIDEOGRAPHER: 3:28, we are 25 back on the record.</p>
<p style="text-align: right;">Page 175</p> <p>1 Q. (BY MR. COON) And pre -- once you got to 2 Mr. Manzoni, you just have Mr. Hoffman reporting to 3 Mr. Manzoni up until the time of the explosion. 4 And then after the explosion, you have Mr. Hoffman 5 still reporting over here (indicating) on this 6 side; but you have this side over here called group 7 vice president, HSSE technology refining and 8 marketing, CJ Warner. 9 Do you know why this reporting 10 system was now created to go up through Mr. Manzoni 11 after the explosion? Was that again more of the 12 desire and attempt to get safety and operation 13 information up to the top of the corporate level? 14 MR. BROWN: Objection, form. 15 A. I would assume so. 16 Q. (BY MR. COON) Then, if you went to -- 17 prior to the explosion, we have Mr. Gower, regional 18 vice president, North America. 19 Do you know Mr. Gower? 20 A. Yes, I know Mr. Gower. 21 Q. And the flowchart coming from Mr. Gower 22 indicated you had five business units and the BULs 23 for each of them and then you have the HSSE manager 24 for each of them reporting directly up to the BUL. 25 Is that how that structure worked</p>	<p style="text-align: right;">Page 177</p> <p>1 Q. (BY MR. COON) Mr. Sorrels, we wanted to 2 turn our attention to the facility siting issues 3 that we touched on earlier. Okay? 4 A. Yes. 5 Q. And first of all, we have identified from 6 Document 463 that you were involved back in the mid 7 '90s with assisting in the promulgation of what was 8 called the Facility Siting Screening Workbook with 9 Amoco, correct? 10 (Exhibit Number 467 marked for 11 identification.) 12 A. Correct. 13 Q. And now that we want to talk more about 14 that subject matter, I want to, also, show you 15 Document 463, which is called the Amoco PPS 16 Refining Facility Siting reference manual? 17 MR. BROWN: What exhibit is that, 18 Counsel? 19 MR. COON: This is 467. 20 Q. (BY MR. COON) And I will put it up here 21 so we can all look at it. 22 Do you recall seeing that document 23 before? 24 A. Yes, I do. 25 Q. Okay. And the author is here. By</p>

45 (Pages 174 to 177)

<p style="text-align: right;">Page 178</p> <p>1 Stanley W. Sorrels. 2 That is you, sir? 3 A. I would take exception that I am the 4 author of this document. 5 Q. Okay. It says, "By Stanley W. Sorrels, 6 director refining process safety and Matthew L. 7 Smorch, coordinator refining process safety," does 8 it not? 9 A. When was this document issued? 10 Q. I was going to ask you about all these 11 questions. 12 A. Okay -- because I don't believe that 13 document was issued while I was in that position. 14 Q. Okay. 15 A. And I don't know if that document was 16 ever issued. 17 Q. Have you ever seen this document? 18 A. What that document, as I recall, was -- 19 was a compilation of references that was used to 20 support the information that was presented in the 21 Facility Siting Screening Workbook. So, if you 22 will, it was not a document for distribution to the 23 refinery. It was a reference document as, I think, 24 it is titled. 25 Q. Okay.</p>	<p style="text-align: right;">Page 180</p> <p>1 explanation around some of the information that is 2 in the -- in the workbook. 3 When I was in the process safety 4 director's position, it was kind of a work in 5 progress document, constantly adding to, changing, 6 you know, putting in information, things such as 7 that. 8 When I had left the position, I 9 was not aware that this document had my name on it 10 or this document had been issued. 11 Q. Did you know Mr. Smorch, the other person 12 listed there? 13 A. Yes, I did. 14 Q. Have you ever seen that document before? 15 A. I have seen parts of the document before 16 and, yes, in the last -- yes, I -- I have seen 17 parts of the document before. Certainly, some of 18 the things in the document I have seen before. 19 Q. Okay. 20 A. Absolutely. 21 Q. In my cursory review of that particular 22 document and it's voluminous, but it appeared to 23 have a lot of reference materials, articles dealing 24 with vapor cloud explosions and charts and graphs 25 and bibliographies. All sorts of things.</p>
<p style="text-align: right;">Page 179</p> <p>1 A. That document was not issued under my 2 name while I was in that position. 3 Q. Okay. Well, this is the document, sir, 4 that we have received from BP in response to the 5 subpoena that was attached to your deposition to 6 produce certain documents that you had something to 7 do with. 8 A. That's fine. 9 Q. So I can't speak for what it is other 10 than what it says. So... 11 A. I understand. 12 Q. That's part of the reasons you are here 13 today. 14 A. Okay. 15 Q. So you can answer our questions. 16 A. Yes, sir. 17 Q. In looking at that document and reviewing 18 it, can you tell us what it is and why it has your 19 name on it? 20 A. Well, what I can tell you is a document, 21 a reference document was -- was developed in 22 conjunction with the Facility Siting Screening -- 23 the Amoco Facility Siting Screening Workbook. The 24 intent of the document was to be the reference that 25 would provide additional context around -- an</p>	<p style="text-align: right;">Page 181</p> <p>1 Fair summary? 2 MR. BROWN: Objection, form. 3 A. I mean, I would have to go through and 4 review it but it's a compilation of reference 5 materials. 6 Q. (BY MR. COON) Okay. Is this information 7 that you and the other gentleman listed on the 8 front page accumulated to help formulate the 9 recommendations associated with the Facility Siting 10 Screening Workbook? 11 MR. BROWN: Objection, form. 12 A. The person on the front page, 13 Mr. Smorch -- first of all, let me back up. 14 There were three different 15 coordinators of refining process safety that 16 contributed into this book at some point in time. 17 Q. (BY MR. COON) Who were -- 18 A. Mr. Smorch was one of those. 19 Q. Who were the other two? 20 A. Mr. Lash. 21 Q. And Mr. Lash was the person listed on the 22 facility siting workbook? 23 A. Correct. 24 Q. Correct? 25 A. Correct, that Mr. Lash -- W. Lash.</p>

46 (Pages 178 to 181)

<p style="text-align: right;">Page 182</p> <p>1 And the other one was a gentleman 2 by the name of Dale Crumpler. 3 Q. Where is he from? 4 A. He was Amoco. 5 Q. Okay. 6 A. He was in process safety when I arrived 7 in to the position in 1993. Dale was the one that 8 began this work. Dale does no longer work for 9 Amoco. 10 Q. Okay. Now, this reference material we 11 had -- that is still on the monitor now, 12 Exhibit 463 -- 13 A. Uh-huh. 14 Q. -- on top of the Facility Siting 15 Screening Workbook, was this the first product done 16 by Amoco with respect to trailer siting, facility 17 siting -- 18 A. He was the -- yes, I think that's a fair 19 way to characterize it. 20 Q. Do you know whether or not there were any 21 pre-existing rules, policies or procedures dealing 22 with facility siting before this work of April, 23 1995? 24 A. It seems as if I recall, there are -- 25 there were things in Amoco's -- spacing</p>	<p style="text-align: right;">Page 184</p> <p>1 of this is that a lot of the turnaround projects 2 have been taken over by outside contractors -- 3 A. Uh-huh. 4 Q. -- who can provide a lot of extra 5 manpower and get it done without either making the 6 existing workforce work around the clock, and 7 often, even get it done quicker because of the 8 constraints of the existing workforce. 9 Is that a fair statement -- 10 MR. BROWN: Objection, form. 11 Q. (BY MR. COON) -- that you have a lot 12 more contractor involvement in turnarounds than you 13 did a couple of decades ago? 14 A. I can't speak to the relative use of 15 contracting, whether that had increased or 16 decreased for the turnarounds that were going on 17 for Amoco at the time. I don't think that was the 18 driver for the development in this workbook. 19 Q. Do you think consideration to locating 20 these temporary trailers on site to better 21 facilitate ease of access to the jobsite by the 22 contractors was a factor? 23 A. Oh -- 24 MR. BROWN: Objection, form. 25 A. There is no question that the</p>
<p style="text-align: right;">Page 183</p> <p>1 requirements in Amoco engineering specs. So if you 2 were going to build facilities, how close you would 3 put certain things to hydrocarbon sources and that 4 sort of thing. I believe some of those engineering 5 specs are referenced in that Facility Siting 6 Screening Workbook. 7 Q. Do you know why it would have been 1995 8 before the first formal work dealing specifically 9 with this issue would have been undertaken by 10 Amoco? 11 MR. BROWN: Objection, form. 12 A. No, I don't. 13 Q. (BY MR. COON) Had there been a 14 significantly greater frequency of utilization of 15 temporary buildings in the more recent years at the 16 various units as a result of changes that were 17 taking place in the business units regarding new 18 construction? 19 MR. BROWN: Objection, form. 20 Q. (BY MR. COON) Or even turnarounds or any 21 other reason? 22 MR. BROWN: Objection, form. 23 A. Nothing comes to mind. 24 Q. (BY MR. COON) Okay. My casual 25 observation from living in a city that does a lot</p>	<p style="text-align: right;">Page 185</p> <p>1 petroleum -- that the petrochemical industry uses a 2 lot of trailers for situations that you mentioned, 3 turnarounds, projects, temporary buildings in 4 petroleum -- in petrochemical facilities and have 5 for a long, long time. That is not a new practice. 6 It's a practice that's widespread in the industry. 7 Q. (BY MR. COON) And is it something that 8 has become more prevalent over the years? 9 MR. BROWN: Objection, form. 10 A. I can't speak to the industry on that 11 issue. 12 Q. (BY MR. COON) Twenty years ago, was it 13 more common to have the trailers that the 14 contractors worked out of off-site or on-site? 15 MR. BROWN: Objection, form. 16 A. Well, my sense is that there has always 17 been a great desire to have trailers close to the 18 work because it -- it facilitates the planning 19 process for the project. It keeps workers close to 20 the jobsite and it just makes for a more efficient 21 use of the people to have them close to the 22 facility. 23 Q. (BY MR. COON) That was what I was going 24 to use, the word efficient. 25 It is more efficient to have the</p>

47 (Pages 182 to 185)

<p style="text-align: right;">Page 186</p> <p>1 contractors be able to access places to work out of 2 if they need office space and things of that 3 nature? 4 A. That's correct. 5 Q. And by being on-site, they are closer to 6 the BP personnel whom are already, for the most 7 part, usually on-site? 8 A. I would agree with that. That's a -- 9 that is a general industry trend that everybody 10 wants to be close -- close to the business and 11 close to the facility in which the work is being 12 performed. 13 Q. Okay. And in being more efficient, 14 obviously, the goal there is efficiency lends to 15 cost savings? 16 A. Efficiency lends to productivity, and -- 17 and I am sure cost savings are part of it. 18 Q. And the downside of bringing in temporary 19 buildings for all these folks to work out of is 20 that you have to take into consideration the very 21 things you did with this Facility Siting Screening 22 Workbook, which is that these trailers are often 23 not as sturdy as a permanent building, which makes 24 them temporary in the first place and that you are 25 working in an area that has some risk of a blast;</p>	<p style="text-align: right;">Page 188</p> <p>1 A. Taking a quick look through it, it would 2 appear to be, yes. 3 Q. Were there other industry consultants 4 that you compared notes with or talked to before 5 formulating this particular workbook? By industry 6 consultant, we could span that to mean people that 7 are just in this business? Let me break it down. 8 First, are there people in the 9 business of putting together workbooks for facility 10 siting -- 11 MR. BROWN: Objection, form. 12 Q. (BY MR. COON) -- if you know? 13 A. Yeah, I would like to answer that. 14 The -- Amoco hired EQE International, which is a 15 consulting firm, to put together all of the 16 structural and vulnerability curves and provide the 17 technical basis for -- for that information for 18 this workbook. That was the same contractor that 19 supported the development of API 752. We chose -- 20 Q. And the API 752 deals with what? 21 A. Facility siting. 22 Q. And API 752 went into effect in about 23 what year? 24 A. I think it was in 1995. 25 Q. And is that what, in fact, precipitated</p>
<p style="text-align: right;">Page 187</p> <p>1 and therefore, you have to take those temporary 2 buildings and their structural integrity into 3 account when you locate them within the fence, 4 correct? 5 MR. BROWN: Objection, form. 6 A. I think whenever you locate a building in 7 the refinery, whether it's temporary or permanent, 8 you need to take the conditions -- the site 9 specific conditions into account as well as the 10 strength of the building. 11 Q. (BY MR. COON) And that's what this 12 Facility Siting Screening Workbook that you did in 13 '95 attempts to address? 14 A. That's correct. 15 Q. And the first time that you are aware of 16 Amoco taking a concerted effort or making a 17 concerted effort to do something of the breadth and 18 scope that this workbook entails? 19 MR. BROWN: Objection, form. 20 A. That's correct. 21 Q. (BY MR. COON) And the documents that you 22 have in front of you, which are the ones marked 23 467, is that some of the underlying work product 24 that you utilized in formulating your screening 25 workbook?</p>	<p style="text-align: right;">Page 189</p> <p>1 Amoco's decision to conduct a more broad scale 2 review of trailer siting issues, which is your 3 workbook? 4 A. Amoco needed to address facility siting 5 as part of the PHA portion of OSHA 1910.119. It 6 was specifically signaled out that the PHA 7 uncovered processes needed to address facility 8 siting. I think the industry was struggling as to 9 what that meant. They created -- API created the 10 752 document. Amoco created a screening workbook 11 to help the locations look at their -- their 12 buildings. 13 Q. And Amoco's effort to comply with OSHA 14 1910 and follow the guidelines of API 750, they 15 retained or picked you to assist in putting 16 together this notebook? 17 MR. BROWN: Objection, form. 18 A. Yeah, in my role as process safety 19 director in Amoco, I was asked to coordinate the 20 development of the -- of this workbook. 21 Q. (BY MR. COON) Okay. Did you have any 22 underlying experience in this area? Did you ever 23 have anything to do with trailer siting? 24 A. No. 25 Q. In your effort to get up to speed on the</p>



<p style="text-align: right;">Page 190</p> <p>1 subject matter and formulate this workbook, what 2 did you do other than review the reference 3 materials that we have in front of us as 467? 4 A. Can I clarify my earlier comment? 5 Q. Yes, sir. 6 A. When you asked me kind of if I had any 7 experience in trailer siting, what I know is that 8 working as an operating person in a plant as a 9 superintendent, I certainly was involved with 10 turnarounds, and I certainly saw trailers come in 11 and get sited around the facility for turnarounds 12 and projects. 13 So I had awareness to how the 14 plant uses trailers. Okay? I did not have the 15 technical background with regards to trailer siting 16 as a -- as a technical discipline. Okay? So I 17 want to just clarify that with you. 18 Now, I am sorry. I'm ready for -- 19 what was your other -- 20 Q. That's fine. 21 A. Okay. 22 Q. I appreciate the additional commentary. 23 A. Okay. 24 Q. Had you had any prior experience in 25 explosive, blast analysis, things of that nature?</p>	<p style="text-align: right;">Page 192</p> <p>1 siting was one of those -- one of those 2 requirements. 3 Q. Was what now? 4 A. Facility siting was one of the 5 requirements in the OSHA PSM regulation and I was, 6 in my role as process safety director -- 7 Q. Okay. 8 A. -- working with the refineries on all 9 matters related to compliance with the process 10 safety management regulation by OSHA. So it was 11 just a natural extension of what I was already 12 doing. 13 Q. Okay. And how did Mr. Lash get involved? 14 A. Mr. Lash worked for me as a process 15 safety engineer. 16 Q. So you picked him? 17 A. He worked for me. He was in a role. I 18 didn't pick him. He was there when I came to the 19 job but... 20 Q. So he came with the territory -- 21 A. He came with the territory -- 22 Q. -- so you put him to work? 23 A. -- just like I did. 24 Q. And can you tell us what you guys did to 25 try to get your arms around the subject matter and</p>
<p style="text-align: right;">Page 191</p> <p>1 A. No, I did not. 2 Q. Did the other gentleman, Mr. Lash, have 3 any experience in blast analysis? 4 A. Not to my knowledge. 5 Q. Did he have any specific prior knowledge 6 in trailer siting issues? 7 A. Not to my knowledge. 8 Q. Okay. All right. Now, who told you that 9 you needed to put together this screening workbook? 10 A. The vice president of refining for Amoco. 11 Q. Who was that? 12 A. The vice president of refining for Amoco 13 at that time. 14 Q. Yes, sir. Who was that? 15 A. Dick Evans. 16 Q. Mr. Evans? 17 A. Richard Evans, yes. 18 Q. Okay. I think you told me that -- 19 A. He was my boss at the time. 20 Q. Okay. Do you know why Mr. Evans picked 21 you? 22 A. In my role there at that time, you know, 23 I was working with the plants in implementing or 24 working with them on compliance with the 25 requirements of the OSHA PSM regulation. Facility</p>	<p style="text-align: right;">Page 193</p> <p>1 come up with this screening workbook? 2 A. Sure. 3 We participated on the API 752 4 development. So we participated on the 5 committee -- the subcommittee within API on behalf 6 of Amoco. They developed API 752. 7 So that gave us a window to the 8 industry's views and expert views around facility 9 siting, what other companies were going to do and 10 understood the methodologies that were put forth in 11 API 752. 12 Q. And API, being the American Petroleum 13 Institute -- 14 A. Correct. 15 Q. -- the panel that was selected was 16 comprised, I take it, of other industry 17 representatives, people from Exxon or Chevron or 18 Texaco or -- 19 A. Yes, it was comprised of industry 20 representatives and -- and an EQE International 21 Process Safety Consultant was hired by API to 22 coordinate the development of API 752. 23 Q. Okay. And do you know whether or not any 24 of those other panel members worked for companies 25 that already had existing trailer siting or</p>

<p style="text-align: right;">Page 194</p> <p>1 facility siting handbooks or guidelines?  2 A. The chairman of the subcommittee that  3 developed API 752 is always another company person.  4 In this case, it turned out to be a gentleman by  5 the name of Chuck Fryman. Chuck has an HSE manager  6 for BP U.S. He was based in Cleveland and Chuck  7 was the chairman of the subcommittee that developed  8 752.  9 Q. And did they have pre-existing trailer  10 siting materials?  11 A. Chuck shared with the committee some  12 documents around building siting that were risk  13 based which had a lot of influence on the committee  14 that developed API 752.  15 Q. And Chuck worked for -- you said BP?  16 A. Yes, he did. BP U.S. in refining and he  17 worked out of Cleveland -- the Cleveland, Ohio,  18 office for BP.  19 Q. And the information that he had taken  20 with him helped provide the framework for 752?  21 A. It was -- it was a significant  22 contribution to the ultimate framework of 752. It  23 was a risk-based approach to building siting.  24 Q. Okay. In addition to the information  25 that you obtained from those meetings, where else</p>	<p style="text-align: right;">Page 196</p> <p>1 technical group in Naperville and his name was Bob  2 Mancini. Okay?  3 Bob was a long time Amoco employee  4 that did many risk studies for Amoco, and Bob did a  5 lot of work with CCPS. He was on various CCPS  6 committees, contributed significantly to some of  7 the books that are out there by CCPS around a whole  8 host of process safety issues. He was really the  9 technical person with regards to all the risk data  10 and the modeling tools, you know, the vapor cloud  11 modeling tools and all that sort of thing. So Bob  12 was the tech cam engine around all that stuff.  13 Q. Okay. Any other sources of information?  14 We have Mr. Mancini, the consulting company, EQE,  15 work that you did with API. Some other documents  16 that you have identified in 467.  17 MR. BROWN: Objection, form.  18 Q. (BY MR. COON) Any other main areas that  19 you procured --  20 A. We --  21 Q. -- to formulate your screening workbook?  22 A. We -- we had a working group of people  23 that developed this document which consisted of  24 people we have already talked about plus people  25 from the Amoco refineries. So each of the Amoco</p>
<p style="text-align: right;">Page 195</p> <p>1 did you get information?  2 A. Okay. We hired EQE. Amoco hired EQE to  3 provide all the structural, the non-process related  4 technical information for the documents. So the  5 building strength information, how to calculate the  6 building strengths, the vulnerability analysis for  7 occupants in buildings depending on strength, the  8 curves that you see in the document related to  9 vulnerability in building strength, all the tables  10 that you see in there with regards to wall height,  11 wall thickness, you know -- so, you know, all of  12 that came from EQE. And, I believe, some of those  13 or most of those documents are probably in this  14 document in some form or fashion. So...  15 Q. And in document 467?  16 A. Yeah, 467. They should be in there. But  17 EQE because we had had -- we had -- they had been  18 recognized by their work on API as a -- as -- as a  19 consultant that had expertise in this area around  20 buildings that we hired them to provide that  21 technical information for the facility siting  22 workbooks -- screening workbook for Amoco. So that  23 was the building piece.  24 The risk piece, Amoco had a risk  25 expert that worked for Amoco, worked in our</p>	<p style="text-align: right;">Page 197</p> <p>1 refineries had a representative involved in helping  2 develop the workbook.  3 Q. Do you recall who it was at the Texas  4 City facility that participated in this program?  5 A. No, I don't. I want to say it was  6 Bill Ralph, but I am not positive about that. So I  7 am not sure.  8 Q. Okay. And about how long did you meet  9 with these groups and consult with EQE and go to  10 API meetings before you were able to put together  11 the material that now comprises the April, '95  12 screening workbook?  13 MR. BROWN: Objection, form.  14 A. I would say that the Amoco screening  15 workbook was a product that was developed over  16 probably a year and a half or more.  17 Q. (BY MR. COON) Were there drafts of it  18 that went to different people for approval before  19 putting together the final product we have here as  20 Exhibit 463?  21 A. I know that the final draft was approved  22 by the business unit leaders or the plant managers  23 and Amoco. It was reviewed with them in a meeting,  24 and they accepted it as the document to use for  25 facility siting in their plants.</p>

<p style="text-align: right;">Page 198</p> <p>1 Q. Okay. Did you provide the briefing to 2 the plant managers for the various -- 3 A. I believe I did, yeah. 4 Q. And once you received the approval from 5 the various plant managers, did you need to take it 6 anywhere upstairs for approval? 7 A. I needed to take it to my boss. 8 Q. Mr. Evans? 9 A. At the time it was Mr. Kozinski. 10 Mr. Evans had retired. Mr. Kozinski was in that 11 role. 12 Q. Okay. He was vice president at that time 13 in 1995? 14 A. Correct. We made a final draft copy 15 available to Mr. Kozinski for his final approval. 16 Q. Okay. And I take it Mr. Kozinski 17 approved it? 18 A. Mr. Kozinski brought it back in my office 19 and said, "Issue it." 20 Q. Do you know whether or not he needed to 21 receive approval from anyone that he had to report 22 to? 23 A. No, I don't know that. 24 Q. Do you know whether or not this Facility 25 Siting Screening Workbook was utilized at business</p>	<p style="text-align: right;">Page 200</p> <p>1 API 752." So we believed that was the industry's 2 agreement and that was the industry's collective 3 best thinking at the time. 4 MR. COON: All right. With that, 5 we will break for a tape change. 6 THE VIDEOGRAPHER: Off the record 7 at 3:56. 8 (Recess taken.) 9 THE VIDEOGRAPHER: Tape 5 of the 10 deposition of Stan Sorrels. The time is 4:02. We 11 are back on the record. 12 Q. (BY MR. COON) Mr. Sorrels, I wanted to 13 go back to page 7 of your screening workbook, the 14 bottom of page 7. 15 We talked earlier about this safe 16 distance criteria and you told us earlier today 17 about the woodframes that would be typically, like 18 mobile home type trailers. That's kind of what we 19 are talking about here on this -- this kind you can 20 roll in, roll out? 21 A. (Nods head.) 22 Q. And those are -- would kind of fall 23 within the general category of the type that were 24 utilized by Merit and Fluor located next to the 25 ISOM at the time of the explosion.</p>
<p style="text-align: right;">Page 199</p> <p>1 units outside of North America? 2 A. No, I do not. It -- to my knowledge, it 3 was only provided to the Amoco refineries and not 4 other business units within Amoco at the time. 5 Q. Did Amoco have operating refineries 6 outside the United States in '95? 7 A. No. 8 Q. Do you know what, if any, substantive 9 differences there were between Amoco Facility 10 Siting Screening Workbook and those that were being 11 promulgated by the various other representatives of 12 the API group that you were working with? 13 A. As we were developing API 752 -- in other 14 words, API was developing 752, they were -- most of 15 the major oil companies were represented on that 16 committee. I mean, Exxon was there. Mobil was 17 there. BP led the committee. Amoco were there. 18 Texaco showed up. I mean, all the majors were 19 there. 20 There was -- there was a wide 21 diverse at this of opinion about what API 752 22 should -- should include and not include. It's 23 very difficult for me to know whether -- you know, 24 our goal at Amoco was to set that aside and say, 25 "We want to develop a document that -- that mirrors</p>	<p style="text-align: right;">Page 201</p> <p>1 They would fall pretty much under 2 that category, wouldn't they, to the best of your 3 knowledge? 4 A. If they are conventionally built 5 trailers, yes. 6 Q. Yes, sir. 7 Now, I want to bring your 8 attention to the bottom here. 9 Well, first of all, up here 10 (indicating) you do not understand the details of 11 how these numbers were ascertained -- 12 A. No, I -- 13 Q. -- from the consultant, do you? 14 A. No, I didn't develop those numbers. 15 Q. They used a lot of statistical 16 information, blast analysis information, pressure 17 information, things like that? 18 A. A combination of a number of variables. 19 Q. And those are all areas that are pretty 20 much well outside your areas of expertise? 21 A. That's correct. 22 Q. Did Amoco have anybody in-house with 23 areas of expertise similar to those of the 24 consultants that you could utilize or did utilize 25 as an in-house voice on the subject matter?</p>

51 (Pages 198 to 201)

<p style="text-align: right;">Page 202</p> <p>1 MR. BROWN: Objection, form.  2 A. Well, the person that -- that -- that we  3 used internally to -- to -- to bounce off all the  4 technical issues was Bob Mancini. I mean, Bob was  5 not a structural expert. That's why we brought in  6 EQE, but for things like -- like -- like this, this  7 would have been something that Bob would have  8 gotten involved in and provided technical  9 information around them. I mean, this was -- this  10 is what he did. This is the kind of work that he  11 provided to Amoco.  12 Q. (BY MR. COON) Okay. Do you know if he  13 had that type of personal prior experience by his  14 background and training or if it was just something  15 that he was familiar with because BP had done  16 something similar to that in the past with their  17 own outside consultants?  18 MR. BROWN: Objection, form.  19 A. Bob has a Ph.D. in numerous -- I think he  20 has multiple Ph.D. degrees and he is -- was  21 considered an industry expert in this whole area of  22 risk, risk analysis, vapor cloud explosions, risk  23 management; and as I mentioned earlier, he had  24 provided a wad of technical review for various CCPS  25 publications. So we really felt like we had</p>	<p style="text-align: right;">Page 204</p> <p>1 injuries/fatalities."  2 Did I read that correctly?  3 A. That's how I read it.  4 Q. Do you know if this information had been  5 gleaned from personal accounts from Mr. Mancini or  6 others?  7 A. The people who would have had that  8 information was EQE. EQE was the building  9 structural expert. EQE was the one that provided a  10 lot of depth and background in this area. So I  11 would need to defer to them as the likely source of  12 that kind of information.  13 Q. Okay. And do you know whether or not EQE  14 or Mr. Mancini or anyone else who contributed to  15 this, including those persons on the API  16 committees, had personal experiences to measure  17 some of these issues or if it was all done from  18 modeling?  19 MR. BROWN: Objection, form.  20 A. No, I can't answer that question.  21 Q. (BY MR. COON) Okay. Next, I handed  22 you -- I think I handed you a copy of the EQE  23 report. This is -- this one is dated March, 1997.  24 Did you have an opportunity to  25 look at that briefly during the break, sir?</p>
<p style="text-align: right;">Page 203</p> <p>1 somebody there who was -- who was as good as there  2 was in the industry.  3 Q. (BY MR. COON) Okay. Now, with vapor  4 cloud explosions, which is what this analysis is  5 about, right?  6 A. Right.  7 Q. The acronym is BCE?  8 A. Correct.  9 Q. When they talk about VCE, they are  10 talking about vapor cloud explosion?  11 A. That's correct.  12 Q. Okay. Underneath the safe distance  13 criteria, I want to call your attention to this  14 right down here. It says, "The minimum safe  15 distance for wood buildings, pawns, trailers, is  16 somewhat less than the standards for other types of  17 buildings."  18 And that's reflected if you look  19 at the numbers here (indicating), right; 350 versus  20 450 versus 700?  21 A. Correct.  22 Q. It says, "Data from actual events  23 indicate that trailers tend to roll in response to  24 a vapor cloud explosion and walls and roofs do not  25 collapse on occupants resulting in fewer serious</p>	<p style="text-align: right;">Page 205</p> <p>1 A. Yes, I did.  2 Q. Are you familiar with that document?  3 A. No, I am not.  4 Q. Never seen it before?  5 A. No.  6 Q. Now, EQE International is the company  7 that assisted in preparing your -- the information  8 that you relied on for the facility notebook that  9 we just talked about?  10 A. That's correct.  11 Q. And the title of this is siting  12 evaluation of several occupied buildings at the  13 Amoco Texas City refinery for vapor cloud  14 explosion, fire and toxic material hazards, dated  15 March, 1997, correct?  16 A. That's correct.  17 Q. Do you know what precipitated this study  18 by EQE at the BP Amoco Texas City facility?  19 A. Well, based on my -- my quick review of  20 the document during the break, there were certain  21 types -- if in the Amoco screening workbook, and  22 keep in mind, that workbook is a screening  23 notebook. It is not a quantitative risk  24 assessment. It is a screening workbook.  25 Q. What is the difference?</p>

<p style="text-align: right;">Page 206</p> <p>1 A. Well, it's to identify buildings -- it's 2 to identify buildings of the concern, and it also 3 has boundaries by which that document -- that 4 screening workbook does not apply. For example, 5 multistory buildings. Okay. If a building was 6 over three stories, that workbook does not apply. 7 I believe one of the buildings that is in that 8 study when I glanced through it was a four-story 9 building. So -- so that workbook does -- the 10 screening workbook can't be applied to a building 11 over three stories.</p> <p>12 For a building over one story, the 13 floor strength has to be -- has to meet certain 14 criteria. In the workbook -- the Amoco screening 15 workbook, it says that if the building is two or 16 three stories, the floor has to meet certain -- has 17 to be built to a certain specification. If it's 18 not or you can't verify that it is, then this 19 workbook doesn't apply. One of those buildings 20 might have fallen in that category.</p> <p>21 It looked like the crude unit 22 control room, which I think is a single story 23 building according to that, just looked like it had 24 a lot of occupants in it, and there are concerns 25 about its location and the number of people that</p> <p style="text-align: right;">Page 207</p> <p>1 were working out of it.</p> <p>2 Q. Okay.</p> <p>3 A. So the purpose of the screening workbook 4 was to identify buildings that needed further study 5 that the workbook said, "Hey, look, you know, you 6 need to go get an expert to study these buildings." 7 And we recommended that EQE be the consultant that 8 if -- if Texas City or Whiting or anybody else had 9 buildings when they used the workbook that didn't 10 fit the criteria or buildings of concern, then they 11 should do a contract directly with EQE and have 12 them come out and send their experts and go through 13 a building review.</p> <p>14 And it looks as if based on what I 15 see in that document you showed me that that's what 16 Texas City did, that they hired EQE to come out to 17 Texas City and do a site -- a site review of those 18 buildings and they provided a report.</p> <p>19 Q. Okay. So they wanted to have some 20 buildings looked at that they did not believe 21 properly fit within the general criteria of your 22 screening workbook?</p> <p>23 A. Or --</p> <p>24 MR. BROWN: Objection, form.</p> <p>25 A. Or when they went through the workbook</p>	<p style="text-align: right;">Page 208</p> <p>1 there was a level of risk concern around a 2 building. In other words, the workbook highlighted 3 it and said, "Oh, this building has need -- needs a 4 lot more further study," you know.</p> <p>5 Q. (BY MR. COON) Because --</p> <p>6 A. Because maybe it's a highly occupied 7 building. It's close in. It's -- it's -- when you 8 go through and look at its risk, it's not a very 9 strong building, it's a control room sitting in the 10 middle of a unit with a lot of people in it and, 11 you know, you need to take a real close look at 12 this building.</p> <p>13 Q. Okay.</p> <p>14 A. It looked like one of those in that list 15 kind of fell into that general category of highly 16 occupied, close in, take another -- take a closer 17 look at this building.</p> <p>18 Q. And it indicated in the introduction that 19 Bill Ralph, PHM --</p> <p>20 MR. COON: Bless you.</p> <p>21 MR. BROWN: Excuse me.</p> <p>22 Q. (BY MR. COON) It indicated that Bill 23 Ralph was PHM superintendent for Amoco Texas City 24 and would have been the contact.</p> <p>25 And in looking at that, does that</p> <p style="text-align: right;">Page 209</p> <p>1 refresh your recollection whether or not Mr. Ralph 2 was the contact with respect to the work that you 3 did that resulted in the screening workbook of 4 April, '95?</p> <p>5 A. No, not -- not really. I can't recall 6 when Bill took over the position at Texas City as 7 PHM superintendent. That's my problem.</p> <p>8 Q. Were there any buildings over at the 9 Whiting facility that needed similar follow up work 10 like what was done in the Texas City?</p> <p>11 A. Yes, yes. Whiting has two four-story 12 office buildings that at the time Whiting 13 contracted with -- at least I am aware of those 14 two -- that there may have been others at Whiting, 15 but Whiting contracted with EQE to come to Whiting 16 and do a study for Whiting on those two buildings.</p> <p>17 Q. And, again, as I understand from what you 18 told me this morning, all of this was done from 19 Amoco looking at things from a risk analysis 20 standpoint instead of consequence analysis?</p> <p>21 MR. BROWN: Objection, form.</p> <p>22 A. There are some -- there are some 23 consequence based things in the building checklist 24 if you have reviewed the building checklist, but -- 25 but to go into the section of the report that you</p>
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53 (Pages 206 to 209)

Page 210

1 are into and consequence analysis and VCEs, which  
 2 is where you are at, that -- that requires the risk  
 3 screening, yes. Yes. Yes, it does.  
 4 Q. (BY MR. COON) Now, we have one other  
 5 pretty voluminous document. It's called The  
 6 Facility Siting Screening Project Guidelines and  
 7 Results and the author was Peter Chang, Texas City,  
 8 Texas, summer, 1995.  
 9 Have you seen that document  
 10 before?  
 11 A. No.  
 12 Q. Were you aware that Texas City had  
 13 Mr. Chang take your workbook and go out and compare  
 14 its screening criteria with those structures that  
 15 actually existed at the Texas City facility at the  
 16 time?  
 17 A. I don't know Mr. Chang, but I would have  
 18 expected that someone at Texas City would have  
 19 had to have gone out and done that, yes.  
 20 Q. Okay. Do you know whether or not the  
 21 other plants undertook the same type of follow-up  
 22 as a result of your screening workbook to see where  
 23 they fit with the particular buildings on their  
 24 facilities?  
 25 A. I know Whiting did.

Page 211

1 Q. Do you know who they utilized?  
 2 A. I believe Whiting used Middough  
 3 Engineering Company. They are a -- they are an  
 4 engineering firm that I believe is based in the  
 5 midwest. I have never worked with them, but I  
 6 believe they hired Middough to come out and take  
 7 the screening workbook and go out and do the  
 8 analysis, building by building, in the refinery at  
 9 Whiting. I believe that's true.  
 10 Q. And to provide that level of screening  
 11 analysis, do you believe that it was important to  
 12 have somebody with a significant amount of  
 13 experience in the area to go out and look at your  
 14 workbook and compare it to the various physical  
 15 structures and determine which ones fell within the  
 16 general criteria of your workbook versus those that  
 17 needed some additional outside consulting?  
 18 MR. BROWN: Objection, form.  
 19 A. Well, I do believe that it would -- it  
 20 would have been -- I mean, each site made that  
 21 determination as to who they were going to use to  
 22 go out and do that -- use the workbook and do the  
 23 screening. There are some -- there is some  
 24 information in that that you have to be -- you have  
 25 to go learn about and a lot of it has to do with

Page 212

1 the building, how it was built, you know, what's  
 2 its -- you know, what's in the walls, what's in the  
 3 floor, what's in the ceiling.  
 4 So you -- you need to go -- you  
 5 need to have enough knowledge to know where to go  
 6 get that kind of information. Usually, that's in  
 7 the engineering department at the particular  
 8 refinery. They have construction drawings on the  
 9 buildings that are built there and so forth.  
 10 Q. (BY MR. COON) Well, you took your work  
 11 serious, didn't you?  
 12 A. Absolutely.  
 13 Q. Okay. And you would have hoped and  
 14 expected that the various individual facilities  
 15 would have undertaken the same level of importance  
 16 to the work product as it related to facility  
 17 siting as you did?  
 18 A. Yes, I would like to see that.  
 19 Q. And, for instance, once you sent out the  
 20 screening workbooks, you would have wanted the  
 21 various plants to have qualified engineers and  
 22 other personnel who could understand the issues and  
 23 deal with them in a material responsible fashion?  
 24 MR. BROWN: Objection, form.  
 25 A. Yes, I would.

Page 213

1 Q. (BY MR. COON) You wouldn't want a  
 2 project like this to get sloughed on the desk of  
 3 some college summer intern.  
 4 MR. BROWN: Objection, form.  
 5 Q. (BY MR. COON) Fair statement?  
 6 A. Well, as I said before, I think that was  
 7 a choice that's made by each refinery. It's not my  
 8 choice to decide how they were going to do it, you  
 9 know?  
 10 Q. Yeah, but you wouldn't do something like  
 11 that, would you? Give it to some college kid?  
 12 Have him go work on it?  
 13 MR. BROWN: Objection, form.  
 14 Q. (BY MR. COON) Or would you?  
 15 A. I believe that college summer interns  
 16 that work in refineries usually have a mentor.  
 17 Q. I am sorry. Usually have a what?  
 18 A. Have a mentor.  
 19 In other words, you don't bring in  
 20 a college -- summer -- summer college engineer in  
 21 training, so to speak, still in school and set them  
 22 loose in a refinery to do much of anything. I  
 23 mean, you -- the refinery is not the place to start  
 24 practicing. So I think you -- they -- they come in  
 25 with a mentor. They are tagged to a knowledgeable

<p style="text-align: right;">Page 214</p> <p>1 individual and they'll work with that knowledgeable  2 individual. There are probably some things they  3 can do; but there is probably a lot of learning and  4 that's why they are -- they are summer interns and  5 they are not taking a lead role on a lot of things.  6 That would be my view about summer interns.  7 Q. Okay. Absent good mentoring, somebody  8 with a lot of oversight, would you assign a job  9 like that of this importance to a summer college  10 intern to handle as he saw or she saw fit?  11 A. I think I gave you my answer to the  12 question.  13 Q. Well, I thought you said that you would  14 expect them to have mentors. I am saying if they  15 did not have a lot of oversight, instruction and  16 guidance, would you be comfortable having summer  17 interns handling projects of this magnitude without  18 a lot of guidance and supervision and instruction?  19 A. I think that you need to have someone  20 knowledgeable at some -- at some level of knowledge  21 to effectively use this workbook.  22 Q. Okay. Do you know whether or not all of  23 the other plants followed up with your workbook and  24 had either somebody in-house or an outside  25 consultant come in and ascertain which buildings</p>	<p style="text-align: right;">Page 216</p> <p>1 it come with any attachments by way of explanation  2 as to what the materials contained and how -- how  3 they were to be utilized.  4 MR. BROWN: Objection, form.  5 A. The -- the direction that I was given by  6 the refining leadership -- both the vice president  7 and the -- and the Amoco plant managers was that  8 they wanted a workbook that was largely simple and  9 self-contained that would provide a consistent  10 approach across the five Amoco refineries. They  11 didn't want five approaches or four approaches or  12 whatever. They wanted consistency and they wanted  13 something that was fit for purpose.  14 So we approached it in that  15 manner.  16 Q. (BY MR. COON) Was there anything that  17 came with it that was an explanation to the various  18 plants as to what they needed to do to follow up on  19 the screening criteria, such as the utilization of  20 outside consultant or other personnel with  21 sufficient qualifications and experience to  22 ascertain what other structures at each particular  23 facility may fall outside the screening criteria  24 and need independent and additional follow-up?  25 MR. BROWN: Objection, form.</p>
<p style="text-align: right;">Page 215</p> <p>1 needed follow-up review?  2 A. I knew at the time that all five Amoco  3 refineries used that workbook. I do know there  4 were some building issues at some of the other  5 Amoco refineries as well. I know there were some  6 buildings that were of concern at Mandan and there  7 were some buildings of concern at Yorktown  8 refinery. I had heard that as a result of this  9 screening of the workbook.  10 I left the position about the time  11 that that work was done at Texas City. I left the  12 process safety directors position in the spring of  13 '97. That workbook was done in the spring of '97.  14 So I -- I didn't continue to follow that work. But  15 I did hear that -- I do know that all the Amoco  16 plants used that workbook to screen buildings.  17 Q. Do you know whether or not the work  18 product at any of the other plants was remitted  19 back to you?  20 MR. BROWN: Objection, form.  21 A. Other than information that I heard by  22 exception, none of the work product was remitted  23 back to me that I can recall.  24 Q. (BY MR. COON) When you remitted the  25 screening workbook out to the various plants, did</p>	<p style="text-align: right;">Page 217</p> <p>1 A. Yeah, there is -- there are some notes  2 and in the workbook itself suggesting that they  3 should seek -- if they're looking for -- it says,  4 "If facility siting reference manual contains  5 information and can be consulted if further insight  6 is required on a particular subject. The general  7 office process safety group can be contacted to a  8 -- to obtain a copy of this reference book."  9 So, in other words, we didn't  10 provide the reference book; but we became a  11 resource to say, "If there is something in here you  12 need help with, we do have a reference book. We do  13 have some of these documents. We would be happy to  14 work with you and help you."  15 There is also, I believe,  16 somewhere in here -- and I can't recall where it  17 is -- about seeking additional expertise outside of  18 BP --  19 Q. (BY MR. COON) Okay.  20 A. -- that, you know, that I recall.  21 Q. Do you recall reading in the Mogford,  22 that is the fatal report, a section dealing with  23 trailer siting guidelines and referencing the Amoco  24 workbook? We called it the Facility Siting  25 Screening Workbook.</p>

55 (Pages 214 to 217)

Page 218

1 A. Yes, I do.  
 2 Q. And it appears from Mr. Mogford's report,  
 3 that there was still reliance on your work product  
 4 in April, 1995, in ascertaining whether trailers  
 5 were -- are properly within compliance of the  
 6 policies in place at Amoco and BP in 2005?  
 7 MR. BROWN: Objection, form.  
 8 A. I read that. I didn't understand it.  
 9 Q. (BY MR. COON) Okay. You understand that  
 10 Mogford did not reference anything by way of  
 11 policies and procedures dealing with trailer siting  
 12 at the Texas City facility other than your work of  
 13 April, 1995?  
 14 MR. BROWN: Objection, form.  
 15 A. I didn't see any other -- I didn't see  
 16 any other references, correct.  
 17 Q. (BY MR. COON) Okay. It would be fair to  
 18 infer from that that there was no such further  
 19 refinement from your work for them to reference.  
 20 Is that a fair conclusion to make?  
 21 MR. BROWN: Objection, form.  
 22 A. Yes.  
 23 Q. (BY MR. COON) And do you recall the  
 24 conclusions that the fatal report came to as it  
 25 related to comparing the trailer siting involved in

Page 219

1 this case and the policies as set out in your  
 2 handbook of April, 1995?  
 3 A. I am sorry. Would you repeat that?  
 4 Q. Yes, sir.  
 5 Do you recall the conclusions that  
 6 were reached in the fatal report as it related to  
 7 comparing the trailers and their siting in this  
 8 case with the guidelines you set out in the April,  
 9 '95 handbook?  
 10 A. As described in the Mogford Report?  
 11 Q. Yes, sir.  
 12 A. I've -- yes, I have read the Mogford  
 13 Report and understand what it says in that area,  
 14 yes.  
 15 Q. And what is your understanding as to the  
 16 conclusions of the fatal report as it related to  
 17 the trailer siting in this case and in the  
 18 compliance or lack thereof with your 1995 book?  
 19 A. What appeared as if there -- it wasn't  
 20 clear to me that the Facility Siting Screening  
 21 Workbook was fully utilized in this particular  
 22 case.  
 23 Q. And, in fact, Mr. Mogford's conclusion  
 24 was that under these circumstances the trailer  
 25 siting was not compliant with signed procedures?

Page 220

1 MR. BROWN: Objection, form.  
 2 A. So maybe he and I are saying the same  
 3 thing.  
 4 Q. (BY MR. COON) Okay. And from your  
 5 understanding of what happened in this case as it  
 6 relates to the trailers and the siting, you would  
 7 agree with his conclusion in that regard?  
 8 A. My interpretation of what I have read in  
 9 the report is that the use of the Facility Siting  
 10 Screening Workbook was incomplete.  
 11 Q. And, in fact, it was your understanding  
 12 that with respect to a management of change as to  
 13 the Merit trailer in this case, one had never been  
 14 completed, and therefore, that trailer had never  
 15 been commissioned for occupancy.  
 16 You understood that from reading  
 17 the report?  
 18 A. What I read in the report is that the MOC  
 19 was incomplete.  
 20 Q. And therefore, the trailers should not  
 21 have been occupied?  
 22 A. The trailer, I -- I -- he does not go  
 23 into the policy of Texas City in terms of -- of who  
 24 is responsible for commissioning in any great  
 25 detail, and he doesn't explain what constitutes

Page 221

1 commissioning in Texas City.  
 2 Q. Okay. Assuming commissioning means the  
 3 same as what you were familiar with at Whiting,  
 4 that is the MOCs were completed, in this case you  
 5 did understand the MOC had not been completed?  
 6 MR. BROWN: Objection, form.  
 7 Q. (BY MR. COON) That there were  
 8 outstanding PHAs.  
 9 You understood that, did you not?  
 10 A. That's what I read --  
 11 MR. BROWN: Objection, form.  
 12 A. That's what I read in the report.  
 13 Q. (BY MR. COON) And assuming that to be  
 14 true and the same commissioning requirements were  
 15 entailed at BP Texas City as Whiting, this trailer  
 16 being the Merit trailer should not have been  
 17 occupied at the time of the explosion?  
 18 A. At Whiting, the commissioning occurs when  
 19 MOC is completed.  
 20 Q. And this MOC had not been completed?  
 21 A. That's what the report says.  
 22 Q. Assuming the report is accurate and the  
 23 MOC had not been completed, you would agree that  
 24 the trailers should not have been operated in March  
 25 of 2005?



<p style="text-align: right;">Page 222</p> <p>1 A. If you make that the assumption that the 2 policies between Whiting and Texas City are the 3 same, okay. And that's the assumption that you are 4 making, then I would tell you at Whiting that that 5 commissioning would not occur until the MOC was 6 complete. That is what our policy says. 7 Q. Okay. I understand that. You take it to 8 the next step, assuming it hasn't been 9 commissioned, it is not supposed to be occupied? 10 A. That's correct. 11 Q. So at Whiting, if you have an MOC and 12 it's not complete, there are outstanding issues, it 13 is not commissioned, correct? 14 A. That's correct. 15 Q. And if it's not commissioned, you cannot 16 occupy it; is that correct? 17 A. If the intent is to occupy, that's 18 correct. 19 Q. And in this case, you understand the 20 Merit trailer was there with the intent of 21 occupation? 22 A. Okay. 23 Q. You understand that, do you not? 24 A. That's my impression reading the report, 25 yes.</p>	<p style="text-align: right;">Page 224</p> <p>1 understanding from this report as to who at BP was 2 responsible for allowing people to work out in 3 those trailers when they had not been commissioned? 4 A. No, I did not. 5 Q. In your role as head of HSSE at Whiting, 6 if you had a trailer out there that had not been 7 commissioned and BP management at some level had 8 knowledge that they were being occupied, who would 9 you hold responsible for that? 10 MR. BROWN: Objection, form. 11 A. Well, if -- if -- if myself, as a 12 management person at Whiting, had -- had had 13 knowledge that there was a trailer occupied without 14 commissioning, I would personally intervene in 15 that, and stop that as soon as I knew about it and 16 I would address it. I wouldn't allow it to go on. 17 Q. (BY MR. COON) And that's what someone at 18 HSSE at Texas City could do, such as Mr. Barnes? 19 A. If he was aware of it. 20 MR. BROWN: Objection, form. 21 THE WITNESS: Excuse me. 22 Q. (BY MR. COON) Okay. You understand in 23 this case, Mr. Barnes knew those trailers had been 24 there for months and that people had been in them 25 and had no idea as to whether or not they had been</p>
<p style="text-align: right;">Page 223</p> <p>1 Q. And so you take that one step further and 2 we say, I am going to ask you to presume that the 3 commissioning requirements were the same at Texas 4 City as they were at Whiting. That is, they don't 5 get commissioned until the MOCs were all approved 6 and that you don't get occupied until it's 7 commissioned. Assuming those same things occur at 8 Texas City as at Whiting. Okay? 9 A. (Nods head.) 10 Q. The same presumptions that the rules 11 apply the same and that the interpretation is the 12 same. 13 That being the case would you 14 agree with Mr. Mogford's conclusion that the 15 trailers should not have been occupied at the time 16 because there were outstanding issues associated 17 with the MOCs and they had not been commissioned? 18 MR. BROWN: Objection, form. 19 A. I don't like to get into making decisions 20 around assumptions or offering my opinion around 21 assumptions. What I will say is that I agree with 22 the Mogford Report that commissioning should occur 23 at the time that the MOC is complete. I do agree 24 with the comment in the Mogford Report. 25 Q. (BY MR. COON) Did you get an</p>	<p style="text-align: right;">Page 225</p> <p>1 commissioned and had not inquired? 2 MR. BROWN: Objection, form. 3 Q. (BY MR. COON) Were you aware of that? 4 A. I was not aware of that, no. 5 Q. Are you aware that to this day, nobody 6 has accepted responsibility for being charged with 7 making sure those trailers were not occupied until 8 they were commissioned? 9 MR. BROWN: Objection, form. 10 A. No, I am not aware of that either. 11 Q. (BY MR. COON) From your standpoint as 12 head of HSSE at Whiting, if you had trailers 13 occupied by contractors on a particular unit, who 14 would you say was the main line of responsibility 15 for making sure that those trailers are not 16 occupied until they are commissioned? 17 A. Well -- 18 MR. BROWN: Objection, form. 19 A. At Whiting we had an MOC policy that 20 includes a section on building siting, and in 21 there, there was a PHA that has to be completed as 22 part of the MOC for building siting. At -- if 23 that -- if that building or if that trailer is 24 located in a safe zone, for example, you know -- 25 now we are talking about pre-March 23rd, 2005,</p>

57 (Pages 222 to 225)

<p style="text-align: right;">Page 226</p> <p>1 correct?</p> <p>2 Q. (BY MR. COON) Okay.</p> <p>3 A. We are not talking about today because we</p> <p>4 have a very different trailer policy today. But</p> <p>5 all I am saying is that in that world at that time</p> <p>6 the MOC policy at Whiting would have required you</p> <p>7 to complete the MOC and get authorization by an</p> <p>8 asset superintendent who owned that -- who is</p> <p>9 responsible for that asset -- they are the</p> <p>10 commissioner of that MOC.</p> <p>11 There is -- the only time HSSE at</p> <p>12 Whiting gets involved in building siting is if, as</p> <p>13 you go through the building checklist, their --</p> <p>14 it's clear that the occupancy is above a certain</p> <p>15 threshold or the location is above a certain</p> <p>16 distance that it should be and then a safety risk</p> <p>17 engineer gets involved in doing the PHA.</p> <p>18 Q. All right. Well, if you know the</p> <p>19 trailers are out in a location, they have been</p> <p>20 there for months and they have been full of people</p> <p>21 for months and they have never been commissioned</p> <p>22 and somehow they just got there and got occupied</p> <p>23 and nobody is admitting responsibility for allowing</p> <p>24 them to be there, where do you go to look to</p> <p>25 ascertain as head of HSSE who should have been</p>	<p style="text-align: right;">Page 228</p> <p>1 "Why did you let this happen" or do you ask someone</p> <p>2 in between?</p> <p>3 MR. BROWN: Objection, form.</p> <p>4 Q. (BY MR. COON) And if so, who is it?</p> <p>5 A. In Whiting, the asset superintendent for</p> <p>6 that area is responsible for MOCs for that area.</p> <p>7 And so that trailer siting comes under the MOC</p> <p>8 policy. So I would immediately start with asset</p> <p>9 superintendent for that area.</p> <p>10 In the meantime, I would be -- I</p> <p>11 would certainly make sure that that trailer becomes</p> <p>12 unoccupied right away.</p> <p>13 Q. And anyone responsible in management that</p> <p>14 is made aware of that subject and has the authority</p> <p>15 to take the people that are in there and ask them</p> <p>16 to move out? It doesn't require the asset</p> <p>17 superintendent? Someone such as yourself that just</p> <p>18 is made aware of the fact can ask them to get out</p> <p>19 until the trailer is commissioned, correct?</p> <p>20 MR. BROWN: Objection, form.</p> <p>21 A. At Whiting, you betcha.</p> <p>22 Q. (BY MR. COON) Can even hourly people</p> <p>23 have the authority to do something like that?</p> <p>24 A. If they know that the trailer has not</p> <p>25 been commissioned, then they certainly should go to</p>
<p style="text-align: right;">Page 227</p> <p>1 responsible for making sure that they were not</p> <p>2 occupied?</p> <p>3 Do you go to the MDL? Do you go</p> <p>4 to the plant manager? Do you go to the head of</p> <p>5 HSSE? Do you go to the janitor? Who do you go to?</p> <p>6 MR. BROWN: Objection, form.</p> <p>7 A. Well, I am not familiar with what the</p> <p>8 roles and responsibilities for this particular</p> <p>9 issue are in the policy at Texas City.</p> <p>10 Q. (BY MR. COON) Well, let's take Whiting.</p> <p>11 A. I know what it is at Whiting.</p> <p>12 Q. Let's take Whiting.</p> <p>13 A. I don't know what it is at Texas City.</p> <p>14 Q. Okay. You have a trailer like this</p> <p>15 located on your facility at Whiting that hasn't</p> <p>16 been commissioned. It's been there for months and</p> <p>17 people have been climbing in and out of it, like</p> <p>18 ants and you find out about it --</p> <p>19 A. I find out about it?</p> <p>20 Q. -- you find out about it.</p> <p>21 Who do you first go to for</p> <p>22 responsibility?</p> <p>23 A. The --</p> <p>24 Q. Do you go ask the plant manager, "Why did</p> <p>25 you let this happen" or do you ask the janitor,</p>	<p style="text-align: right;">Page 229</p> <p>1 their supervisor and get people out of that</p> <p>2 trailer, yes.</p> <p>3 MR. COON: How much tape is left?</p> <p>4 THE VIDEOGRAPHER: 25 minutes.</p> <p>5 MR. COON: Let's go off the record</p> <p>6 just a minute.</p> <p>7 THE VIDEOGRAPHER: Off the record</p> <p>8 at 4:37.</p> <p>9 (Recess taken.)</p> <p>10 THE VIDEOGRAPHER: The time is</p> <p>11 4:44. We are back on the record.</p> <p>12 Q. (BY MR. COON) Mr. Sorrels, we are going</p> <p>13 to turn our attention now, sir, to another topic</p> <p>14 that I understand you have experience with.</p> <p>15 (Discussion off the record.)</p> <p>16 Q. (BY MR. COON) This has to do with</p> <p>17 staffing issues and I showed you a few documents</p> <p>18 while we took a break just so you could get a</p> <p>19 flavor for some of the subject matter.</p> <p>20 Did you have an opportunity to</p> <p>21 kind of thumb over them real quick?</p> <p>22 A. Yes, I did.</p> <p>23 Q. We will take them in sequential order.</p> <p>24 Well, it's my understanding that</p> <p>25 sometime in the '90s -- again from reviewing these</p>

58 (Pages 226 to 229)

<p style="text-align: right;">Page 230</p> <p>1 documents at other depositions and other discovery  2 in the case that Amoco was looking at ways of  3 altering its staffing associated to the operation  4 of the Texas City facility.  5 Did you have some understanding of  6 that?  7 MR. BROWN: Objection, form.  8 A. I have understanding that Amoco was  9 undertaking some organizational change at all their  10 refineries with relating to how they run their  11 operations.  12 Q. (BY MR. COON) So the staffing issues and  13 the attempts to find manners of reducing staff at  14 the Texas City facility was not something that was  15 unique to that particular facility? It was  16 something that was occurring at all the facilities  17 that Amoco owned?  18 MR. BROWN: Objection, form.  19 A. I am not -- those documents don't suggest  20 that the intention is to reduce staff.  21 Q. (BY MR. COON) Okay.  22 A. That's -- that -- that was not my -- my  23 intention of writing that document back in the  24 middle '90s at all.  25 Q. Okay. Well, we will explore that more as</p>	<p style="text-align: right;">Page 232</p> <p>1 near term, even maybe by the end of the year or  2 early next year and we will certainly move to -- to  3 do our reviews associated with that.  4 Q. And the follow-up question to that was,  5 do you have an ongoing role in that regard?  6 A. In developing that document?  7 Q. Yes, sir.  8 A. People on my staff have contributed to  9 that document in terms of comments and feedback and  10 through them, I -- I can use that as the vehicle to  11 comment and offer -- offer suggestions as well.  12 Q. Okay. And at this time do you have plans  13 in offering such suggestions and promulgation of  14 any final new policy?  15 A. I am certainly going to offer some input,  16 sure.  17 Q. And when do you think this policy will  18 take effect?  19 A. I would hope that it occurs -- it's  20 completed and in -- it's completed this year, the  21 policy is complete this year.  22 Q. And the other area that we talked a lot  23 about today had to do with PSS Number 6.  24 In that regard in wrapping up, are  25 there other issues associated with PSS Number 6,</p>
<p style="text-align: right;">Page 231</p> <p>1 we go through it.  2 A. Okay.  3 Q. The things that we really want to talk to  4 you most about were three things. We understood  5 you had some interesting historical information  6 relating to the trailer siting. We have covered a  7 lot of that.  8 A. Uh-huh.  9 Q. And let me back up and follow-up there.  10 Do you have any other plans to do  11 any other work on trailer siting issues at this  12 time?  13 A. Does BP have any plans or do I have any  14 plans?  15 Q. First, do you -- let me rephrase.  16 Does BP have any plans to do more  17 information on trailer siting?  18 A. Yes. BP is in the process of putting  19 together a permanent building siting document that  20 all the plants are going to use to follow-up on the  21 temporary building siting document that they  22 provided in final form early this year. So, yes,  23 we -- we're -- we are participating on commenting  24 on those documents as they become available from BP  25 and suspect that that will get finalized in the</p>	<p style="text-align: right;">Page 233</p> <p>1 now, that are in review?  2 MR. BROWN: Objection, form.  3 A. I think the issues we spoke about were  4 mainly around blowdown stacks and flares. At  5 Whiting, we are very much in the middle, as I  6 mentioned to you of a study -- a deep study of all  7 of our existing blowdown stacks and how that would  8 relate to our relief systems, including our flares  9 and --  10 Q. (BY MR. COON) Is that -- I am sorry?  11 A. And that is a big piece of work that is  12 very, very active right now at Whiting.  13 Q. And is that likely to result in  14 significant revisions to PSS Number 6?  15 MR. BROWN: Objection, form.  16 A. I suspect that PSS Number 6 will be  17 superseded by -- by BP documents soon, if not  18 already.  19 Q. (BY MR. COON) And any ideas as to the  20 shape of this new document, in terms of what it is  21 going to say?  22 A. No, I --  23 MR. BROWN: Objection, form.  24 A. No, but I do suspect it will come out  25 through an engineering -- BP engineering technical</p>

<p style="text-align: right;">Page 234</p> <p>1 practice.  2 Q. (BY MR. COON) Any anticipation it's  3 going to mandate immediate removal of vent stacks  4 and blowdown drums?  5 A. I can't comment on that. I don't know.  6 Q. Is there any decision with respect to the  7 removal of the blowdown drums at the various  8 facilities conditioning part on financial  9 considerations that is a cost associated with  10 removing them, shutting down units and transferring  11 any reliefs to flares?  12 MR. BROWN: Objection, form.  13 A. I think we have to see at Whiting the  14 results of the engineering study to see what's  15 possible and then we will be able to look at the  16 options available. As I mentioned earlier, the  17 project is in the select phase. So we are still  18 looking at a variety of options with regards to  19 the -- the future or lack thereof of blowdown  20 stacks and how those relief systems find their way  21 into a safe location, whether they be a flare or  22 whether they be back into a process unit in some  23 fashion and a safe way and then what to take to  24 make all that happen and what the timeframe that  25 could happen in. So we are still very deep in --</p>	<p style="text-align: right;">Page 236</p> <p>1 And one of the things that was  2 occurring that was significant during HIPRO was  3 that we were putting board operators in -- in  4 centralized control rooms, not at the process  5 units. So, in other words, historically, the  6 process units had the control board operator in the  7 control building on the unit with all the other  8 operators.  9 And HIPRO actually took those  10 control board operators, took them in to a central  11 control facility at -- at -- at the plants and gave  12 them different supervision. So they no longer  13 reported to the people -- the operations  14 superintendents and managers. They reported into  15 this optimization organization. Okay?  16 Q. Okay. What is HIPRO, that acronym?  17 A. High Performance Organization.  18 Q. What is the difference between high  19 performance organization and high reliability  20 organization --  21 MR. BROWN: Objection, form.  22 Q. (BY MR. COON) -- if you know?  23 A. I -- I really don't know.  24 Q. Have you heard of any efforts to convert  25 any of the BP facilities to what you called HROs or</p>
<p style="text-align: right;">Page 235</p> <p>1 in that study.  2 Q. (BY MR. COON) Okay. We are talking about  3 what's possible. We are not talking about from an  4 engineering standpoint. It's certainly at this  5 juncture not something that from an engineering  6 standpoint is impossible, is it, sir?  7 MR. BROWN: Objection, form.  8 A. I haven't seen the results of the  9 engineering study. I mean, I am reasonably  10 confident that there are options, there are  11 engineering options to operating units without  12 blowdown stacks.  13 Q. (BY MR. COON) Okay. Let's talk about  14 this third area we are going to cover some ground  15 with you today, and this deals with staffing  16 issues.  17 A. Okay.  18 Q. When were you first involved in big  19 picture review of staffing needs at any plant?  20 A. Well, the first involvement that I can  21 recall in the whole issue around staffing was kind  22 of in 1996, maybe '05, '06 -- somewhere in that  23 timeframe, the timeframe of those documents and  24 Amoco was going into a new organization they were  25 calling HIPRO.</p>	<p style="text-align: right;">Page 237</p> <p>1 high reliability organizations, and if so, what's  2 involved in that?  3 MR. BROWN: Objection, form.  4 A. No, I have not heard that.  5 Q. (BY MR. COON) Were you unaware of any  6 attempts by BP management at the London level to  7 try and convert the Texas City facility to what's  8 called a high reliability organization in the last  9 few years?  10 A. BP has expressed an intent of converting  11 all their refining operations to what they have  12 called high reliability organizations, HROs. Not  13 just Texas City, but, I mean, the entire refining  14 group.  15 Q. Are high reliability organizations and  16 high performance organizations synonymous?  17 MR. BROWN: Objection, form.  18 Q. (BY MR. COON) Are those synonymous  19 terms?  20 A. I -- I can't answer that. I don't really  21 know. I mean, the conversation that we have had in  22 BP has been around high reliability -- highly  23 reliability organizations, HROs.  24 Q. Okay. Let's talk about the mid '90s and  25 this HIPRO program.</p>

60 (Pages 234 to 237)

<p style="text-align: right;">Page 238</p> <p>1 Was this something that was 2 brought to you by management or a consultant or 3 industry or where? 4 A. I was not on a committee within Amoco 5 that was looking at reorganizing into the HIPRO 6 model that Amoco was looking at. But when there 7 was serious discussions and those serious 8 discussions -- it kind of got to the point, We kind 9 of know what we want to do, and there was going to 10 be some significant organization changes around the 11 location of operators. There was a concern raised 12 about whether or not there would be enough people 13 at a process unit without the board operator at the 14 process unit to handle emergency situations because 15 during an emergency, obviously, that board operator 16 participates, but if he or she is at the unit, they 17 can do more things at the unit than they can if 18 they are sitting remotely in front of a computer. 19 Q. Well, is there some list of the various 20 things that HIPRO was to deal with? And we are 21 talking about staffing, particularly within 22 staffing, we are now talking about board 23 operations? 24 A. There could be. I don't have that 25 document what the HIPRO organization was intending</p>	<p style="text-align: right;">Page 240</p> <p>1 that subject with HIPRO was one of the issues to 2 try to effectuate reductions of staff on units to 3 facilitate some savings? 4 A. That's -- 5 MR. BROWN: Objection -- 6 A. That's not my understanding. 7 (Exhibit Numbers 468 through 474 8 marked for identification.) 9 Q. (BY MR. COON) Okay. Well, I don't know 10 how far back, sir, we have documents but I have 11 some of them from around May of '96. It's one I 12 showed you earlier. I will show this one first. 13 This is Exhibit 469 and it looks 14 like there was two notes; one to and one from, but 15 let me go here. This is James Koller at Chicago 16 refinery. 17 Do you know Mr. Koller? 18 A. Mr. Koller worked on Al Kozinski's staff. 19 He would -- 20 Q. It's dated May 3, '96? 21 A. Uh-huh. 22 Q. Okay. Then here is his comments. And at 23 the top of it, again, regarding unit staffing, this 24 is author Stanley Sorrels in Chicago. 25 This is you, sir, is it not?</p>
<p style="text-align: right;">Page 239</p> <p>1 to be in Amoco. I don't have that. I don't know 2 that I have ever really seen that. 3 Q. And do you know where this information 4 was coming from that was providing guidance to 5 Amoco as to what was involved as a high performance 6 organization? 7 A. No, I didn't. 8 MR. BROWN: Objection, form. 9 Q. (BY MR. COON) Do you have any idea as to 10 whether the document was something that was fully 11 internalized or externalized or utilized as a new 12 industry model? 13 MR. BROWN: Objection, form. 14 A. No. 15 Q. (BY MR. COON) Okay. Now, with respect 16 to one of the components, which I understood to be 17 unit staffing issues. 18 Is that a fair statement? Is that 19 the -- 20 A. Yes. 21 Q. -- appropriate vernacular when we are 22 talking about that? 23 A. That's fine. 24 Q. When we are talking about unit staffing 25 and you were involved somewhere in the mid '90s on</p>	<p style="text-align: right;">Page 241</p> <p>1 A. Correct. 2 Q. Dated May 6th. 3 Was this a memo here to you that 4 you respond to? 5 A. I received that note from Jim Koller 6 about unit staffing. 7 Q. Okay. That's this one? 8 A. That's that one. 9 Q. Okay. 10 A. And I think -- 11 Q. Okay. So if we started out in this 12 particular -- I guess this is an early e-mail? 13 A. Uh-huh, yes. 14 Q. This is one from Mr. Koller that says, "I 15 read your note and need your thoughts." He says, 16 "One part of HIPRO is to review unit staffing. We 17 did a couple of paper pilots in Texas City and 18 Whiting that showed opportunities for reductions." 19 Is he talking about staff 20 reductions? 21 A. I don't know. That's his note, not mine. 22 Q. Well, what would be your understanding or 23 interpretation of the e-mail sent to you when he 24 was advising you that they were looking at unit 25 staffing and they saw some pilots that showed</p>

61 (Pages 238 to 241)

<p style="text-align: right;">Page 242</p> <p>1 opportunities for reductions?  2 MR. BROWN: Objection, form.  3 A. What my reaction to that was that I  4 didn't know what pilots were done at Texas City and  5 Whiting. I didn't participate in those pilots or  6 what method was used to make a determination that  7 there showed opportunities for reductions.  8 Q. (BY MR. COON) And the opportunities for  9 reductions they are talking about there under unit  10 staffing is reduction in the number of staff, not  11 the reduction in the number of units?  12 A. I read that as the number of staff, yes.  13 Q. And one of the things that was being  14 discussed here by Mr. Koller is that as Amoco  15 looked at the potential for reductions in staff,  16 one of the considerations was safety. In fact,  17 there is -- I think right here it says, "Now, we  18 are getting more serious about this study,  19 basically apply to all units. To me, ultimately,  20 this will be a safety issue."  21 A. That's how I read it.  22 Q. And he is soliciting your support. It  23 says, "What do you think about getting your process  24 safety committee involved?"  25 A. Correct.</p>	<p style="text-align: right;">Page 244</p> <p>1 right?  2 A. Correct.  3 MR. BROWN: Could you move it over  4 a little bit?  5 MR. COON: Sure. I will scoot it  6 over a little bit. How is that?  7 MR. BROWN: Perfect.  8 Q. (BY MR. COON) Okay. And in this e-mail  9 it says, "I will lead the team to develop a work  10 product." So you agreed to work with Mr. Koller  11 through your department to help them provide some  12 answers to the questions they had associated with  13 these opportunities to affect staffing reductions?  14 A. I didn't agree to work with Mr. Koller.  15 What I agreed to do was to put together a team of  16 people to develop the criteria for looking at unit  17 staffing.  18 Q. Okay.  19 A. And I say in there that, you know, that I  20 will include team members in Whiting, from Texas  21 City, from the general office and I used a  22 consultant as well.  23 Q. Okay. Do you know what the pilot  24 programs were that he referenced in his e-mail of  25 May 3?</p>
<p style="text-align: right;">Page 243</p> <p>1 Q. And you were in charge of process safety  2 at that time?  3 A. Correct.  4 Q. And so, basically, Mr. Koller is saying,  5 "We have done these pilots. We are looking at  6 staffing reductions. Safety considerations come  7 into play and we would like to solicit your  8 participation"?  9 A. That's correct.  10 Q. Your response to that --  11 A. Okay. Could you go back?  12 Q. -- is this e-mail?  13 A. I wanted to point something in that note,  14 but I apologize for interrupting.  15 Q. Go ahead.  16 A. Could you go back to Mr. Koller's note?  17 Q. Okay.  18 A. The troublesome thing with Mr. Koller's  19 note it says in the, I think, the third sentence,  20 "These studies were based on some criteria." What  21 is some criteria? I have no idea what some  22 criteria is. Now, hold that thought and go to my  23 note.  24 Q. Okay. And then your response is -- and  25 this is what you are telling him back on May 6th,</p>	<p style="text-align: right;">Page 245</p> <p>1 A. No, I do not.  2 Q. Do you know if it involved in particular  3 board operations?  4 A. I don't know that.  5 Q. Okay. And then, we have the next one,  6 which is Exhibit 470 and there is talk here. Again  7 this is Mr. Koller to you and others and it looks  8 like you are soliciting participants, Mr. Gleason,  9 Mr. Cannon?  10 A. Correct. Mr. Gleason was at Texas City.  11 Mr. Cannon was at Whiting.  12 Q. Why were these two particular facilities  13 picked for this project?  14 A. They had the largest number of  15 individuals. They had -- they had the -- they had  16 a wider range of units with different type of  17 staffing requirements and any of the units that  18 existed at Texas City covered the units that  19 existed at Mandan -- Salt Lake and Mandan. There  20 was nothing -- so -- so there was a good place to  21 get input from those two plants because they  22 covered the waterfront and the type of facilities  23 that we wanted at an Amoco refining.  24 Q. Mr. Sorrels, do you have any idea or  25 understanding as to how each unit, or better yet,</p>

<p style="text-align: right;">Page 246</p> <p>1 each facility had determined how many people they  2 needed to properly and safely operate their units  3 from the times those various facilities were built,  4 say, going back to, say, Whiting, 1889 all the way  5 up to when you started working in 1975. Let's talk  6 about that 75 year timeframe. Okay?  7 A. (Nods head.)  8 Q. How did people at Whiting -- management  9 at Whiting know how many people they needed to  10 safely conduct the business that they were engaged  11 in?  12 MR. BROWN: Objection, form.  13 Q. (BY MR. COON) Were there any guidelines  14 or criteria?  15 MR. BROWN: Objection, form.  16 A. There may have been. I don't recall any  17 specific criteria or guidelines around how to staff  18 a process unit.  19 Q. (BY MR. COON) When, to your knowledge,  20 were the first guidelines or criteria established  21 at BP or Amoco dealing with specific numbers of  22 people or specific jobs?  23 A. I -- in terms of Amoco, let's just start  24 with Amoco. I am not aware that there was a  25 document that said, "Here's the number of people</p>	<p style="text-align: right;">Page 248</p> <p>1 required?  2 A. I think, historically, that's --  3 MR. BROWN: Objection, form.  4 A. -- that's probably right.  5 Q. (BY MR. COON) Did any of that change at  6 any point over the years as a result of outside  7 benchmarking criteria or industry accepted norms  8 for operations?  9 MR. BROWN: Objection, form.  10 A. Not to my knowledge, not within Amoco.  11 MR. COON: Okay. Let's take a  12 break here.  13 THE VIDEOGRAPHER: Okay. Off the  14 record at 5:06.  15 (Recess taken.)  16 THE VIDEOGRAPHER: Tape 6 of the  17 deposition of Stan Sorrels. The time is 5:13. We  18 are on the record.  19 Q. (BY MR. COON) Mr. Sorrels, have you  20 heard anything about something called the Solomon  21 studies or the Solomon benchmarks?  22 A. Yes, I have.  23 Q. What do you know about them?  24 A. I know Solomon is a company that does  25 benchmarking studies for the refining and</p>
<p style="text-align: right;">Page 247</p> <p>1 you need on a hydrocracker" or "Here is the number  2 of people you need on the CAT cracker" or -- I am  3 just not aware of a document like that.  4 You know, my -- my sense is when I  5 came to work for the industry and Amoco in 1974  6 there was a -- there was some staff there and at  7 the various units that I worked on and there seemed  8 to be at least at that time a reasonable approach  9 toward -- toward workload. I mean, there was --  10 there was a series of work requirements for a job.  11 There was a job description for an outside job on  12 the CAT cracker.  13 And there was reasonableness  14 around and understanding around, you know, how long  15 it would take to perform the duties that were  16 requested of that particular role. And then, you  17 know, depending on how long it would take to  18 perform those duties you might need one person, you  19 might need two people, you might need three people.  20 But I don't know that I ever recall a staffing  21 document that spells out in Amoco, nor have I seen  22 one in BP that I can recall.  23 Q. Would it be fair to state that a lot of  24 common sense applied to having good ideas as to how  25 many people were needed to do the jobs that were</p>	<p style="text-align: right;">Page 249</p> <p>1 petrochemical industry.  2 Q. What kind of benchmarking?  3 A. Performance benchmarking.  4 Q. Does that include the evaluations of the  5 number of persons needed to perform certain  6 functions at a typical refinery or chemical plant?  7 THE VIDEOGRAPHER: Brent, your  8 mike.  9 A. I don't know that I am familiar enough  10 with the Solomon study to make that assumption, but  11 I do know that staffing numbers are included in the  12 Solomon -- in the Solomon study.  13 Q. (BY MR. COON) Have you ever seen any of  14 the numbers that the Solomon study puts out with  15 respect to the number of persons that it believes  16 are the appropriate benchmarking for conducting any  17 particular activity at a particular -- at a typical  18 refinery?  19 MR. BROWN: Objection, form.  20 A. No, I have not.  21 Q. (BY MR. COON) When do you believe these  22 Solomon benchmarks came out?  23 MR. BROWN: Objection, form.  24 A. Solomon has been doing benchmarking  25 studies in the industry for a long time, 20, 20 to</p>

<p style="text-align: right;">Page 250</p> <p>1 20 -- 25 years.  2 Q. Do you know when or if Amoco ever started  3 referencing Solomon benchmarking standards and  4 ascertaining whether they had too many or not  5 enough personnel assigned to any particular craft  6 or job at any of their facilities?  7 MR. BROWN: Objection, form.  8 A. I don't know if -- no, I can't answer  9 that question. I don't know.  10 Q. (BY MR. COON) Was there a department in  11 Chicago that dealt with those type of activities  12 while you were stationed there?  13 MR. BROWN: Objection, form.  14 A. There was a -- there was a person who  15 worked on the vice president's staff who was --  16 Q. (BY MR. COON) What was his or her name?  17 A. I believe it was Jim Koller.  18 Q. How do you spell the last name?  19 A. K-o-l-l-e-r.  20 Q. Okay. Is that the same Koller that we  21 have as James Koller on these e-mails that we  22 looked at?  23 A. Correct.  24 Q. Okay. Did you have some understanding in  25 these communications of the summer of 1996 that</p>	<p style="text-align: right;">Page 252</p> <p>1 MR. BROWN: Objection, form.  2 A. Yes, to my knowledge.  3 Q. (BY MR. COON) And as a result of these  4 e-mails, it looks like some items started being  5 generated under your signature. Give me a second.  6 I want to give you first, 471. This is called  7 "Guidelines for Assessing Minimum Unit Staffing  8 Levels to Meet Process Safety Standards -- or  9 Process Safety Requirements," excuse me.  10 And this is you here at the  11 bottom?  12 A. That's me.  13 Q. Okay. And you sent this to all these  14 folks up here?  15 A. Those are, or were, the refinery process  16 safety committee chairmen at each of the five Amoco  17 refineries.  18 Q. Okay. What was this about and why did  19 you send it to these guys?  20 A. Well, I agreed as noted in the previous  21 e-mails that you shared that I would use a team of  22 people to put together a guideline as to how to  23 look at minimum safety requirement -- safety  24 requirements -- staffing requirements for safety.  25 And I worked with that team of</p>
<p style="text-align: right;">Page 251</p> <p>1 Mr. Koller was looking at applying some of the  2 Solomon benchmark references to the number of  3 personnel that should be utilized at various Amoco  4 facilities?  5 MR. BROWN: Objection, form.  6 A. What year was that?  7 Q. (BY MR. COON) '96?  8 A. I can't recall. No, I can't recall that.  9 Q. Do you recall if or when Solomon  10 benchmarking was ever utilized by Mr. Koller or  11 other persons similarly situated on behalf of  12 Amoco?  13 A. Certainly, there were staffing numbers  14 that came out of the Solomon study that people  15 discussed. It was one of the criteria that came  16 out of that study. So it was there for  17 conversation.  18 Q. And did this conversation predate the  19 time Mr. Koller and you were conversing about some  20 of these similar issues in '96?  21 A. Oh, I have no idea.  22 Q. Was this 1996 timeframe the first time  23 that you were engaged in the subject matter of  24 potential staff reductions at facilities that you  25 did not work at?</p>	<p style="text-align: right;">Page 253</p> <p>1 people. We created that document. It was reviewed  2 with the refineries and that was the document that  3 was communicated to the five RPSC chairmen.  4 Q. And were you able to put this together in  5 less than a month because it looks like May 6, '96  6 was when you heard from -- when you communicated  7 back to Mr. Koller and then June 3rd, we have the  8 guideline document?  9 A. Yeah, I --  10 Q. Was this something you were already  11 working on or something you started running up the  12 flag pole after May 6th?  13 MR. BROWN: Objection, form.  14 A. Something we began after May 6th.  15 Q. (BY MR. COON) Okay. Then I have in  16 June, Exhibit 473, some additional documents. This  17 is called "Reference Documents."  18 Again, sent to the same people?  19 A. Uh-huh.  20 Q. And after that we have September of '96,  21 a rather large document. This one is called as to  22 Texas -- this was a Texas City document. The cover  23 indicates it is from Mr. Ralph to Mr. Carter in  24 September. And again, it's talking about from the  25 summer to the fall of '96, the process hazards</p>

64 (Pages 250 to 253)



<p style="text-align: right;">Page 254</p> <p>1 management group under the direction of RPSC  2 facilitated process safety staffing reviews.  3 Is this -- and it goes on to say,  4 "The reviews were conducted in accordance with the  5 guidance document issued by Stan Sorrels, director  6 of process safety."  7 So it appears this was a follow-up  8 to things we discussed in Exhibits 472 and 73?  9 A. That's correct.  10 Q. This is from Mr. Ralph and it's entitled  11 "The Process Safety Staffing Assessment Texas City  12 Business Unit, September 26th, '96."  13 Did you ever read this?  14 A. No.  15 Q. Do you know if any other unit other than  16 Texas City put together a similar staffing  17 assessment as a result of what you distributed in  18 Exhibits 471, 2 and 3?  19 A. I don't recall seeing any other documents  20 from -- from the other parties.  21 I do recall, however, that the  22 RPSC chairmen in each of the plants were to use the  23 document that I provided, that the team of people  24 worked on and developed to do staffing studies for  25 safety means and requirements at their sites. I am</p>	<p style="text-align: right;">Page 256</p> <p>1 identification.)  2 Q. (BY MR. COON) And this is an October,  3 1996 document. Again, this is from you to these  4 individuals dated October 24, '96?  5 A. Okay.  6 Q. It's called "Refining Business Group  7 Staffing Study Paper." It says, "Attached is a  8 draft copy of the paper."  9 A. Okay.  10 Q. And when you flip it over, you have a  11 staffing study discussion. Again, this is  12 referencing 1994 Solomon data for non-supervisory  13 process personnel on an FTE basis.  14 What's an FTE basis?  15 A. Full-time equivalent.  16 Q. And there are some charts again  17 referencing Solomon equipment personnel and I want  18 to show you this one.  19 There is a chart here and we  20 actually have Texas City indicated on it.  21 Can you explain to us what this  22 EDC is here and why it is that Texas was marked  23 here and what average is and what a calculated  24 first quartile is under Solomon equipment personnel  25 standards?</p>
<p style="text-align: right;">Page 255</p> <p>1 not sure if all of them did it or not but that was  2 the document that they were supposed to use.  3 Q. Okay. And then we have just before this  4 study came out by Mr. Ralph a document to a number  5 of individuals from you. It's from you to all  6 these folks up here (indicating), dated August 30,  7 called "Operator Staffing Study."  8 And this pretty much sets out  9 simple instructions as to what this operator  10 staffing study was to entail, does it not?  11 A. No, what that note is, is that note is  12 saying -- it's a reminder note that says if you do  13 operator staffing studies and if you make any  14 changes, it says that you make those changes since  15 they are covered by OSHA PSM any staffing changes  16 must be handled through the management of change  17 process. So if your study -- if that Texas City  18 study suggested there is going to be any staffing  19 changes, they have to use the MOC process and, in a  20 nutshell, this means that changes in procedures,  21 operating, emergency safe off and so forth, along  22 with the routine duty list need to be included in  23 that review. That was a reminder note.  24 Q. Okay. Then we next have 475.  25 (Exhibit Number 475 marked for</p>	<p style="text-align: right;">Page 257</p> <p>1 MR. BROWN: Objection, form.  2 A. I suppose those lines represent --  3 calculating first quartile. I assume those  4 represent Solomon data.  5 Q. (BY MR. COON) Okay. Do you have any way  6 of interpreting that data or would you defer this  7 to someone else?  8 A. It calculated first quartile is likely  9 the -- the -- gosh. I better not say. I don't  10 really recall.  11 Q. Okay. Let's go to one of these pages  12 here. This is the utilization opportunities posted  13 position reductions.  14 And by posted position reductions,  15 we are talking about the opportunities for  16 reduction in staff, correct?  17 A. Yes.  18 Q. And if we go to Texas City, there is a  19 notation here that there are four board, five  20 outside, nine near term -- as we look underneath  21 these columns -- and then three board, two outside,  22 five long term.  23 This is all what we are talking  24 about for Texas City?  25 A. Uh-huh.</p>

Page 258

1 Q. In particular, right here, correct?  
 2 A. Yeah.  
 3 Q. And up here at the top, in order to look  
 4 at the top right here each one of these units or  
 5 each one of these facilities, when you look up here  
 6 to the implementation timeframe, and we can see at  
 7 the top here, we are talking about the near  
 8 timeframe being '97, '98 and then long term being  
 9 1999 plus, thereafter?  
 10 A. Okay.  
 11 Q. Right?  
 12 A. Sure.  
 13 Q. And then we look underneath that to see  
 14 what the near term position reductions could be and  
 15 then the long term position reductions could be?  
 16 A. Okay.  
 17 Q. Is that correct?  
 18 A. That's how I read it.  
 19 Q. Okay. And what we have at Texas City as  
 20 a result of the Solomon positioning is that near  
 21 term -- there could be a posted position reduction  
 22 of nine over this timeframe and that long term  
 23 there could be an additional five.  
 24 Is that the way that's read?  
 25 A. That's the way --

Page 259

1 MR. BROWN: Objection, form.  
 2 A. That's the way I would read it.  
 3 Could I make a couple of other  
 4 comments about that document further?  
 5 Q. (BY MR. COON) If we have time after  
 6 while.  
 7 A. Okay.  
 8 Q. I want to try to run you through the rest  
 9 of these real quick.  
 10 (Exhibit Number 476 marked for  
 11 identification.)  
 12 Q. (BY MR. COON) Okay. Next, I have what's  
 13 marked as 476 and this is about that same timeframe  
 14 October of '97. This is from Mr. Ralph and he is  
 15 the superintendent of PHM down at Texas City at the  
 16 time, correct?  
 17 A. Uh-huh, yes.  
 18 Q. And it doesn't have a distribution list  
 19 here but he's talking about process safety staffing  
 20 assessment, Texas City business unit and references  
 21 a copy of the process safety staffing assessment  
 22 report and let's go to it. There is your  
 23 distribution list there. I was looking for that.  
 24 So you, apparently, distributed  
 25 this to some person in charge or at some level of

Page 260

1 authority in all these different units?  
 2 A. That's what it appears.  
 3 Q. And this would be in response to the  
 4 studies, determinations or conclusions regarding  
 5 board operations needs in each of those areas?  
 6 A. I don't know that.  
 7 (Exhibit Number 477 marked for  
 8 identification.)  
 9 Q. (BY MR. COON) Okay. Let's go to 477 and  
 10 these would be several management of change  
 11 documents.  
 12 Have you seen these management of  
 13 change documents before, Mr. Sorrels?  
 14 A. These are at Texas City?  
 15 Q. Yes, sir.  
 16 A. No, I wasn't at Texas City at this time.  
 17 Q. Okay. Were you ever provided with any of  
 18 the MOCs from Texas City or any other business unit  
 19 that was responding to these Solomon benchmarks and  
 20 making efforts to reduce the number of their board  
 21 operators?  
 22 A. Not that I can recall.  
 23 (Exhibit Number 478 marked for  
 24 identification.)  
 25 Q. (BY MR. COON) But then this is

Page 261

1 consistent with what I understood you to say awhile  
 2 ago, which is that before a facility could  
 3 effectuate any reduction in the number of board  
 4 operators at a unit, they would have to go through  
 5 a management of change and that's what your earlier  
 6 letter admonished them to do, is that correct?  
 7 A. Yes, I encouraged them to use the  
 8 management of change process if they decided to  
 9 make any changes.  
 10 Q. And as you review -- if you would thumb  
 11 through this real quick. This appears to be a list  
 12 of MOCs to effectuate a reduction of staff for  
 13 board operations, is it not?  
 14 For instance, if you look at the  
 15 ISOM AU2 control room on this one, 478, it talks  
 16 about produce asset operator minimum staffing from  
 17 two to one.  
 18 And did you understand that as a  
 19 result of this MOC that the board operations in the  
 20 ISOM AU2 unit was reduced from two persons in the  
 21 maintain control room to one?  
 22 MR. BROWN: Objection, form.  
 23 A. No, I would have no reason to know that.  
 24 I wasn't working at Texas City at the time and I  
 25 wasn't on the process safety position. I was in

Page 262

1 the Whiting unit.  
 2 Q. (BY MR. COON) Did the Whiting unit do  
 3 some of the same work that Texas City was doing  
 4 going out and reducing the number of board  
 5 operators at various units?  
 6 MR. BROWN: Objection, form.  
 7 A. I was not in that area at the time. I  
 8 don't know the answer to that.  
 9 Q. (BY MR. COON) Do you know if while you  
 10 were at Whiting any effort was made to reduce  
 11 number of staff in any of the units?  
 12 A. There were efforts to look at staffing at  
 13 the units at Whiting.  
 14 Q. Were any efforts actually initiated to  
 15 reduce the number of staff in accordance to Solomon  
 16 benchmark guidelines?  
 17 MR. BROWN: Objection, form.  
 18 A. I don't know if they were -- I don't know  
 19 if they were driven by Solomon benchmark guidelines  
 20 and I can't recall any -- any -- any reductions at  
 21 Whiting off the top of my head.  
 22 Q. (BY MR. COON) All right. Were you aware  
 23 that with respect to the ISOM unit the reduction  
 24 from two board operators to one was something that  
 25 the local union hall had objected to --

Page 263

1 A. No.  
 2 Q. -- out of safety concerns?  
 3 A. No, it's not.  
 4 Q. Were you aware that after this reduction  
 5 from two board operators to one in the ISOM unit  
 6 that at some point there was a grievance filed by  
 7 the union because they would not even staff two  
 8 operators during startup operations at the ISOM  
 9 unit?  
 10 MR. BROWN: Objection, form.  
 11 A. No, I was not.  
 12 (Exhibit Number 479 marked for  
 13 identification.)  
 14 Q. (BY MR. COON) I will show you  
 15 Exhibit 479. This was regarding grievance  
 16 Number 00126, responsive letter from George Carter,  
 17 dated February, 2001. This is the first time that  
 18 you were made aware that the union actually grieved  
 19 the decision of BP Texas City not to at least have  
 20 two staff on during any startup or shutdown  
 21 processes on the ISOM unit?  
 22 A. Yes, I was not aware of that.  
 23 Q. Were you aware that under any of the MOCs  
 24 regarding the reduction from two to one in the  
 25 boardroom that there was still consideration made

Page 264

1 to the necessity of keeping two board operators on  
 2 staff during startup and shutdown procedures?  
 3 A. No.  
 4 Q. Were you aware that after the NDU was  
 5 tied in to that same boardroom in 2003 that BP  
 6 Texas City continued to operate that control room  
 7 with one board operator?  
 8 A. No.  
 9 Q. Do you know that this was done over the  
 10 objections of the local union hall out of concerns  
 11 of safety associated with the responsibilities of  
 12 one board operator having to watch all of those  
 13 units, including in periods in startup and  
 14 shutdown?  
 15 MR. BROWN: Objection, form.  
 16 A. I am not aware of those.  
 17 Q. (BY MR. COON) This is all news to you?  
 18 A. All news to me. I have never worked at  
 19 Texas City.  
 20 Q. Were you ever made aware that Mr. Trapp,  
 21 as the ISOM supervisor person, went to management  
 22 and requested reconsideration by management to the  
 23 position of not having two board operators in the  
 24 unit at least when anything was going into startup  
 25 and shutdown?

Page 265

1 A. No, I was not.  
 2 MR. BROWN: Objection to form.  
 3 Q. (BY MR. COON) Were you ever made aware  
 4 of a decision by management to not concede to the  
 5 concerns of labor or even some of the lower  
 6 management people at Texas City in not providing  
 7 two board operators to that unit after the NDU was  
 8 tied in?  
 9 A. I am not aware of any of that.  
 10 Q. Mr. Sorrels, I am going to pass you, sir.  
 11 I know there is a couple of other attorneys who  
 12 want to ask you questions and we are running out of  
 13 time.  
 14 So in concluding, have you  
 15 understood the questions I have asked you today,  
 16 sir, unless you have indicated otherwise?  
 17 A. I believe so.  
 18 Q. Have you answered all of them to the best  
 19 of your knowledge and capabilities?  
 20 A. I have.  
 21 Q. Okay. And at this time then I will pass  
 22 you, sir. Thank you.  
 23 \* \* \*  
 24 EXAMINATION  
 25 Q. (BY MR. STEVENSON) Sir, I have a few

<p style="text-align: right;">Page 266</p> <p>1 questions for you.  2 You said earlier that there are  3 blowdown stacks that are still in use at Whiting;  4 am I correct?  5 A. That's correct.  6 Q. And that there is currently an  7 engineering study that is ongoing concerning those  8 blowdown stacks and the systems in which they  9 operate; is that true?  10 A. That's correct.  11 Q. Who is the engineering company that is  12 performing this study?  13 A. Jacobs Engineering.  14 Q. Jacobs Engineering?  15 A. Out of Houston.  16 Q. And who is the -- the individual at BP  17 that engaged Jacobs Engineering to do that work?  18 A. I don't know the answer to that.  19 Q. Well, were you involved in that decision?  20 A. No, I was not.  21 Q. What is the title of this analysis or  22 engineering study that is currently ongoing? How  23 do you refer to it?  24 A. I don't know the official title. We  25 refer to it as the engineering study to review</p>	<p style="text-align: right;">Page 268</p> <p>1 we sometimes do use contractors to do HAZOPs. We  2 have used ABS.  3 Q. You have used who? ABS?  4 A. We have used ABS for some HAZOP work.  5 Q. Have you conferred with any other experts  6 in the industry concerning use of the blowdown  7 stacks at the Whiting facility?  8 A. I have not personally, no.  9 Q. Do you know of anyone at Whiting BP that  10 has done so?  11 A. I am not aware of it. It's not saying  12 that it hadn't been done, but I am not aware of it.  13 I am not the gatekeeper for that engineering  14 project.  15 Q. Well, you are an expert in process  16 safety, are you not?  17 A. I am knowledgeable in process safety.  18 Q. Well, are you aware of terminology that  19 is used in the industry called pressure relief  20 system analysis? Do you know what that terminology  21 means?  22 A. Not as you have described it, no.  23 Q. Well, do you know of an analysis which  24 will consider overpressure protection in each  25 component of a particular unit? Are you aware of</p>
<p style="text-align: right;">Page 267</p> <p>1 blowdown stack operations at Whiting.  2 Q. Okay. When was the decision made to do  3 that study?  4 A. Sometime in the summer of 2005.  5 Q. As a result of what, sir?  6 A. It was a result of taking a closer look  7 at our blowdown stack operation after the tragedy  8 at Texas City on March 23rd, 2005.  9 Q. And had there ever been a similar study  10 commissioned by BP at Whiting before the summer of  11 2005 to examine that issue?  12 A. We include the blowdown stacks on the  13 process units in the HAZOPs that we do on those  14 units. So we include the blowdown systems that are  15 on -- that are on the covered processes. They are  16 part of the HAZOPs reviews that occur every five  17 years.  18 Q. Okay. That HAZOP review is done  19 internally by P -- BP; am I correct?  20 A. Sometimes it's done by BP employees.  21 Sometimes it's done by the contractor.  22 Q. Okay. What outside contractors have had  23 involvement in that type of study prior to Jacobs  24 Engineering?  25 A. I am just talking in a general sense that</p>	<p style="text-align: right;">Page 269</p> <p>1 that concept, sir?  2 A. In the concept, I am familiar with the  3 concept.  4 Q. And are you aware of companies, experts  5 in the industry, that perform that type of  6 analysis?  7 A. No, I am not.  8 Q. You don't know any of those companies?  9 A. I have --  10 MR. BROWN: Objection, form.  11 A. I have never been involved with any of  12 those companies nor do I --  13 Q. (BY MR. STEVENSON) Well, who is the  14 expert at BP, BP Whiting, that would make a  15 decision to confer with experts in that arena?  16 MR. BROWN: Objection, form.  17 A. The gatekeeper for that project's name is  18 Mark Winters. He is our manager of engineering and  19 technology.  20 Q. (BY MR. STEVENSON) Mark Winters?  21 A. Winters.  22 Q. Do you know if BP Whiting has ever  23 engaged such a pressure relief system analysis or  24 consideration of overpressure protection in your  25 units?</p>

68 (Pages 266 to 269)

<p style="text-align: right;">Page 270</p> <p>1 MR. BROWN: Objection, form.  2 A. I couldn't answer that question. I don't  3 know.  4 Q. (BY MR. STEVENSON) No knowledge, one way  5 or another?  6 A. No.  7 Q. How much is this study that's being done  8 by Jacobs Engineering costing BP?  9 A. I can't answer that question. I am not  10 the gatekeeper for the project.  11 Q. Well, you -- you had knowledge that the  12 preliminary numbers to replace the blowdown stacks  13 and run to a flare at approximately a hundred  14 million dollars.  15 Did I hear your testimony  16 correctly?  17 A. Yeah, I didn't -- the question that you  18 asked me was a different one.  19 Q. Why?  20 A. I interpreted it differently. You asked  21 me what the study costs not what the project costs.  22 Q. I understand that's a different question.  23 A. Correct.  24 Q. You had familiarity --  25 A. Correct.</p>	<p style="text-align: right;">Page 272</p> <p>1 Q. (BY MR. STEVENSON) Who?  2 A. Mark Winters, the gatekeeper.  3 Q. Is he the only one?  4 A. I have talked to one of the lead  5 engineers on the study.  6 Q. Who?  7 A. Her name is Cheryl Deitmer.  8 Q. Spell the last name, please.  9 A. D-e-i-t-m-e-r.  10 Q. Okay. How about any of the engineers  11 from Jacobs? Have you talked to them?  12 A. No, I have not talked to them.  13 Q. Have you seen any of their preliminary  14 findings?  15 A. No, I have not.  16 Q. Have you seen any documentation generated  17 by Jacobs?  18 A. With regards to blowdown stacks?  19 Q. Yes, sir, with regard to this study that  20 you have told us about that was commissioned in the  21 summer of 2005.  22 A. No, I have not.  23 Q. Have you seen any e-mails any commentary  24 from any of the folks that you worked with at BP  25 concerning any of the findings or preliminary</p>
<p style="text-align: right;">Page 271</p> <p>1 Q. -- with cost if the conclusion is that  2 you need to replace those blowdown drums?  3 A. That's correct.  4 Q. Do you have any familiarity with the  5 rough estimate of the cost of the study that has  6 been undertaken?  7 A. No, that I do not.  8 Q. No idea whether it's a million,  9 \$2 million? Five? Ten or more?  10 A. I have not heard a number on the cost of  11 the study work.  12 Q. Well, how many engineers are up at your  13 facility now doing the study?  14 MR. BROWN: Objection, form.  15 A. Jacobs Engineering is largely doing the  16 study.  17 Q. (BY MR. STEVENSON) Yes, sir, how many  18 people --  19 A. They are doing the engineering work and I  20 have no idea how many engineers Jacobs has employed  21 in this study.  22 Q. Have you talked to anybody that's  23 involved in this study?  24 MR. BROWN: Objection, form.  25 A. Yes, I have.</p>	<p style="text-align: right;">Page 273</p> <p>1 findings about reporting?  2 A. Yes, I have seen e-mails.  3 Q. From whom?  4 A. People at Whiting, from Mark Winters,  5 from Cheryl Deitmer, about the -- the progress of  6 the work with Jacobs on the study at a very high  7 level as they -- as they are progressing. What  8 they are beginning to look at -- not what they are  9 finding but what they are beginning to look at in  10 the scope of the study, yes.  11 Q. Have you made any recommendations --  12 preliminary recommendations on what they envision  13 doing to resolve this problem with the blowdown  14 stacks?  15 MR. BROWN: Objection, form.  16 A. I haven't seen any preliminary  17 recommendations --  18 Q. (BY MR. STEVENSON) Well, have you  19 heard --  20 A. -- from Jacobs.  21 Q. -- about any being made?  22 A. There has been conversation about  23 preliminary recommendations. If we were to  24 eliminate the blowdown stacks because I provided  25 you with a number which said that if we were to</p>

69 (Pages 270 to 273)

<p style="text-align: right;">Page 274</p> <p>1 eliminate them, the cost is likely to be over a 2 hundred million dollars. 3 So I have been involved in some of 4 those high level conversations but that's the kind 5 of conversations I have been in. Not any detailed 6 engineering. Not looking at options to get out of 7 them. Or not anything more than those kinds of 8 conversations. When are they going to be done? 9 What is the timing of the project? When are we 10 going to be at the decision point? Those are the 11 kind of conversations that I have been involved. 12 Q. And BP made a conscious decision on never 13 to hire Jacobs Engineering or, for that matter, 14 anyone else to consider the removal of these 15 blowdown drums prior to the summer of 2005. 16 Isn't that true, sir? 17 MR. BROWN: Objection, form. 18 A. Well, I am not aware of an ongoing study 19 or an active study about our blowdown stacks 20 operation prior to the timeframe that I gave you. 21 Q. (BY MR. STEVENSON) How many blowdown 22 stacks do you currently have in operation at 23 Whiting? 24 A. Seven blowdown stacks. 25 Q. Do you know the application for the F-20</p>	<p style="text-align: right;">Page 276</p> <p>1 MR. BROWN: Objection, form. 2 A. They have told you this was a hot 3 gasoline application? 4 Q. (BY MR. STEVENSON) Yes, sir. 5 Do you agree with that 6 characterization or not? 7 MR. BROWN: Objection, form. 8 A. Based on what I have read in the incident 9 report, I would say, yes, in F-20. 10 Q. (BY MR. STEVENSON) Sir, do you have any 11 blowdown stacks in use at the Whiting facility that 12 are being used in a hot gasoline application? 13 A. Not to my knowledge. 14 Q. Do you know of any other refinery in the 15 world, sir, that uses a blowdown stack in a hot 16 gasoline application, other than the Texas City 17 refinery did on March 23rd, 2005? 18 A. I am not aware of what other refineries 19 do in the world. 20 Q. So the answer to my question is "no"? 21 A. No. 22 MR. BROWN: Objection, form. 23 Q. (BY MR. STEVENSON) And this study that 24 you have told us about was commissioned in the 25 summer of 2003, right?</p>
<p style="text-align: right;">Page 275</p> <p>1 blowdown stack in Texas City? 2 MR. BROWN: Objection, form. 3 Q. (BY MR. STEVENSON) Do you know generally 4 what I am talking about? What application they 5 were using before? 6 MR. BROWN: Objection, form. 7 A. Yes, I -- I have read the incident 8 report. 9 Q. (BY MR. STEVENSON) All right, sir. 10 How do you characterize its 11 application? 12 A. In the incident report? 13 Q. In the incident report, in your -- 14 A. Are we talking about the F-20 incident, 15 how do I character that incident? 16 Q. No. 17 A. Or how do I character the use of blowdown 18 stack at Whiting? 19 Q. Let me get directly to the question. 20 A. Okay. 21 Q. Experts in the industry have told me that 22 this was a hot gasoline application for the F-20 23 blowdown drum. 24 Do you agree with that 25 characterization?</p>	<p style="text-align: right;">Page 277</p> <p>1 A. Thereabouts, yes. 2 Q. All right. Do you do relief valve 3 studies at Whiting? 4 MR. BROWN: Objection, form. 5 A. I think some -- some are done at Whiting. 6 Some are done through contractors when we modify 7 equipment or make changes, yes. 8 Q. (BY MR. STEVENSON) Why? Why don't you 9 do them? 10 A. I just said we do that. 11 Q. Why? 12 A. So we ensure that equipment is adequately 13 protected. 14 Q. But do you wait two decades to update 15 your relief valve studies? 16 MR. BROWN: Objection, form. 17 Q. (BY MR. STEVENSON) Do you? 18 A. I don't think I ever said our relief 19 valve studies weren't up-to-date. 20 Q. Okay. How often do you do them? 21 A. You mean the -- the objective is to keep 22 our relief valve studies current and up-to-date. 23 Q. How often do you that? 24 A. How ever often that takes. 25 Q. How often is that?</p>

70 (Pages 274 to 277)

Page 278

1 A. When changes are made.  
 2 Q. Every time?  
 3 A. Well, when we make changes in relief  
 4 systems, we should update our master -- our master  
 5 relief system --  
 6 Q. Why?  
 7 A. -- information.  
 8 Q. So you will know that it will work,  
 9 right?  
 10 A. So we know that it's fit for service and  
 11 it will provide adequate protection. That's  
 12 correct.  
 13 Q. And it will provide the protection a  
 14 relief system is designed to provide, correct?  
 15 That's why you do these studies, right?  
 16 A. That's correct.  
 17 Q. Okay. And that's what a prudent company  
 18 that's taking care of its employees and contractors  
 19 at the sites would do, right?  
 20 A. That's -- that's necessary, yes.  
 21 Q. Okay. You recognize, sir, that there was  
 22 not any updated relief valve studies done at Texas  
 23 City for two decades.  
 24 Do you realize that, sir, based on  
 25 the final report?

Page 279

1 MR. BROWN: Objection, form.  
 2 A. No, I don't.  
 3 Q. (BY MR. STEVENSON) You don't understand  
 4 that?  
 5 MR. BROWN: Objection, form.  
 6 A. Well, I don't know that.  
 7 Q. (BY MR. STEVENSON) Well, did you read  
 8 that?  
 9 A. I saw that in the report.  
 10 Q. Do you have any reason to disagree with  
 11 the conclusions of BP management on that issue?  
 12 A. Well, not everything I read in the report  
 13 do I necessarily have enough information to draw my  
 14 own personal conclusions around. And it is a  
 15 little bit of a stretch to think that BP has not  
 16 done any relief valve or relief system calculations  
 17 in the last 20 years.  
 18 Q. Why do you say that's a stretch?  
 19 A. I -- that would just very much surprise  
 20 me if that was truly the case, since that would be  
 21 something that I would like to verify myself --  
 22 Q. That would be in --  
 23 A. -- before I would be willing to accept as  
 24 a conclusion, personally.  
 25 Q. That would be inexcusable; wouldn't it,

Page 280

1 sir?  
 2 A. If there were changes made -- if, you  
 3 know, I think when changes are made, like we said,  
 4 then the relief systems have to be addressed.  
 5 Q. And there were changes made and you know  
 6 that based upon the final report, don't you?  
 7 MR. BROWN: Objection, form.  
 8 A. Changes made in what?  
 9 Q. (BY MR. STEVENSON) Changes made on that  
 10 system which would have necessitated relief valve  
 11 studies.  
 12 That's in the report, isn't it?  
 13 MR. BROWN: Objection, form.  
 14 A. Yes, I believe I read that in the report.  
 15 Q. (BY MR. STEVENSON) Now, who would you go  
 16 to to get an explanation from Texas City personnel  
 17 as to why those relief valve studies weren't done  
 18 for two decades?  
 19 A. Well, first of all, I -- as I said  
 20 earlier, I -- I question the two decade, the two  
 21 decade part, personally, but I think the -- I think  
 22 the engineering group would be the group that I  
 23 would probably go to to understand more about what  
 24 engineering studies have and haven't been done at  
 25 Whiting as they relate to relief systems.

Page 281

1 Q. And what engineer would you go to at  
 2 Texas City?  
 3 A. I don't know.  
 4 Q. To get an explanation?  
 5 A. I would just go to the engineering  
 6 technical manager at Texas City, whoever that is.  
 7 I don't know who that is.  
 8 MR. STEVENSON: Mr. Dean has some  
 9 questions for you. Thank you, sir. I will pass  
 10 the witness.  
 11 THE WITNESS: Sure.  
 12 \* \* \*  
 13 EXAMINATION  
 14 Q. (BY MR. DEAN) Are you hanging in there  
 15 or do you need a break?  
 16 A. I am ready to go.  
 17 Q. Finish it up.  
 18 A. (Nods head.)  
 19 Q. You had the job title in the recent or in  
 20 the distant past -- I don't know which -- the name  
 21 of process safety something or another; is that  
 22 right?  
 23 A. That's correct.  
 24 Q. Well, what was the title, job title?  
 25 A. Process safety director for Amoco

<p style="text-align: right;">Page 282</p> <p>1 refining.</p> <p>2 Q. And that was at Whiting?</p> <p>3 A. No, that was for Amoco.</p> <p>4 Q. Just in --</p> <p>5 A. Refining organization.</p> <p>6 Q. All right. So how is it back in the day</p> <p>7 of process safety director job title that you were</p> <p>8 only knowledgeable about process safety versus</p> <p>9 being an expert in process safety, if you have an</p> <p>10 explanation?</p> <p>11 A. Well, I didn't come into the job as an</p> <p>12 expert in process safety, you know, I --</p> <p>13 Q. Did you come out of it as an expert?</p> <p>14 A. Well, the reason I say I am knowledgeable</p> <p>15 today in process safety is I have been out of that</p> <p>16 role for over ten years or for nearly ten years and</p> <p>17 I certainly have not kept up with a lot of the</p> <p>18 current issues and the current thinking around</p> <p>19 process safety like a process safety expert would.</p> <p>20 So that's why I say today I am</p> <p>21 knowledgeable about process safety, but I certainly</p> <p>22 haven't kept up with it as a discipline of</p> <p>23 expertise like someone who that is their career,</p> <p>24 that is their job. That's why I answered the</p> <p>25 question the way I did.</p>	<p style="text-align: right;">Page 284</p> <p>1 A. That's correct.</p> <p>2 Q. A philosophy or explanation for that,</p> <p>3 isn't there, why you wouldn't see a new blowdown</p> <p>4 stack installed in any refinery or unit that you</p> <p>5 know of in the world over the course of three or</p> <p>6 four decades?</p> <p>7 A. No, the question that I answered was that</p> <p>8 in my experience at Amoco and BP, I haven't seen</p> <p>9 one. I can't tell you what any other company has</p> <p>10 done over the last four decades. That I can't</p> <p>11 answer.</p> <p>12 Q. Absolutely.</p> <p>13 So while you were at Amoco and now</p> <p>14 at BP, you don't keep up with what other major</p> <p>15 refiners are doing in the industry with respect to</p> <p>16 process safety and that was true even when you were</p> <p>17 process safety director for Amoco?</p> <p>18 MR. BROWN: Objection, form.</p> <p>19 A. Well, in my current role, I am the HSSE</p> <p>20 manager at the Whiting business unit. I have been</p> <p>21 so since mid -- since 19 -- the summer of '99. I</p> <p>22 am responsible for a lot of -- a lot of areas.</p> <p>23 Q. (BY MR. DEAN) All right. Well --</p> <p>24 A. Process is one of them, but I'm -- I am</p> <p>25 more of a manager of HSSE than I am an expert in</p>
<p style="text-align: right;">Page 283</p> <p>1 Q. And I appreciate that, sir.</p> <p>2 Would you agree based on the</p> <p>3 testimony you have given to members of the court so</p> <p>4 far that there really isn't a change over the</p> <p>5 course of four decades in the current thinking, to</p> <p>6 use your phrase, of the use or non-use of blowdown</p> <p>7 stacks open to atmosphere in refineries?</p> <p>8 MR. BROWN: Objection, form.</p> <p>9 A. Let me clarify. Are you talking about</p> <p>10 the industry?</p> <p>11 Q. (BY MR. DEAN) As you know it to be, yes,</p> <p>12 sir.</p> <p>13 A. I am just -- to be honest with you, I am</p> <p>14 just not knowledgeable about what the industry does</p> <p>15 with blowdown stacks.</p> <p>16 Q. You were knowledgeable enough to know</p> <p>17 that at -- that your experience with Amoco and BP,</p> <p>18 you have never seen a new one installed into a</p> <p>19 newly built unit over the course of four decades.</p> <p>20 Isn't that true, sir?</p> <p>21 A. I can't --</p> <p>22 MR. BROWN: Objection, form.</p> <p>23 A. Yeah, I can't recall ever seeing one</p> <p>24 built.</p> <p>25 Q. (BY MR. DEAN) And there's --</p>	<p style="text-align: right;">Page 285</p> <p>1 any one of those fields. Okay?</p> <p>2 Q. As a former process safety director, a</p> <p>3 man with that title getting paid a wage to perform</p> <p>4 duties associated with being a process safety</p> <p>5 director, what does it say to you, sir, that there</p> <p>6 hadn't been a new blowdown drum installed in a</p> <p>7 newly constructed unit on ever -- since, more or</p> <p>8 less, I was born in the late '60s?</p> <p>9 A. Well, I think --</p> <p>10 MR. BROWN: Objection, form.</p> <p>11 A. Well, I think that there is probably -- I</p> <p>12 mean, the view that I would have about that would</p> <p>13 just be that there are new techniques and new ways</p> <p>14 to provide adequate relief for systems that don't</p> <p>15 require blowdown stacks.</p> <p>16 Q. (BY MR. DEAN) "New" meaning back in the</p> <p>17 1970's, there were flares available and technology</p> <p>18 to service flares and connect up to flares to serve</p> <p>19 as relief devices for process units, true, as an</p> <p>20 example?</p> <p>21 A. Would you repeat that?</p> <p>22 Q. That when you suggest that it was new</p> <p>23 technology, we can go back to at least in the '70s</p> <p>24 when I think -- is that when you started in the --</p> <p>25 in the business?</p>

72 (Pages 282 to 285)



<p style="text-align: right;">Page 286</p> <p>1 A. '73.  2 Q. That it really wasn't new technology to  3 utilize the existence of flares to burn off relief  4 pressures of process units should the need arise --  5 A. Well.  6 Q. -- true?  7 A. I guess what I -- well, maybe I should  8 clarify what I was trying to say. I think there  9 has been improvements in technology that have  10 allowed new construction to either go to flare  11 systems or to find other ways to handle -- to  12 handle relief as opposed to going into blowdown  13 systems that relieve to atmosphere.  14 Q. Now, back to my question.  15 What does it say to you as a man  16 who used to be a process safety director that  17 that -- companies at least BP and formally Amoco --  18 would utilize that technology versus using blowdown  19 drums, which is technology that dated back to,  20 what, the '30s?  21 A. Well, I think -- I think what it says  22 is -- is that, you know, there's just -- what it  23 says is that the preferred technology today for  24 relief systems is not a blowdown system.  25 Q. Okay.</p>	<p style="text-align: right;">Page 288</p> <p>1 A. Well --  2 Q. As of -- as of your body of knowledge on  3 March 22nd, 2005, why not?  4 A. Well, I --  5 MR. BROWN: Objection, form.  6 A. -- I guess because I see two issues with  7 atmospheric blowdown stacks and I think we talked  8 about them earlier.  9 One has to do with environmental.  10 You know, they are uncontrolled environmental  11 emissions. And secondly, I think that there are  12 opportunities to take those to controlled systems,  13 "controlled" meaning a flare or controlled back  14 into the process and I think those are better  15 systems.  16 Q. (BY MR. DEAN) Because it's safer?  17 A. I think it's fundamentally safer, yes.  18 Q. And do you have any reason to believe  19 that BP as a corporation did not have that  20 knowledge when the new year of 2005 rang in?  21 MR. BROWN: Objection, form.  22 A. I don't know if BP had looked at this  23 issue in 2005 or not.  24 Q. (BY MR. DEAN) Up to its existence has the  25 company formally known as Amoco and into its</p>
<p style="text-align: right;">Page 287</p> <p>1 A. It's not an atmospheric blowdown system.  2 Q. That is true in the '70s.  3 You would agree, sir?  4 A. Well --  5 MR. BROWN: Objection, form.  6 A. -- I don't know about that. I can tell  7 you what I believe today.  8 Q. (BY MR. DEAN) That -- was it or was it  9 not true or can you tell us in the '70s that it was  10 the preferred technology to use something other  11 than blowdown drum open to the atmosphere?  12 A. Well, I think what Amoco did with Process  13 Safety Standard 6, saying there will be no new  14 blowdown drums, no new blowdown systems -- and they  15 did that sometime in the '80s and I'm trying to  16 come up with the exact date. I mean, when you  17 think about that, that's kind of making a statement  18 that, you know, we don't want to build any new ones  19 of these. Right?  20 Q. Right.  21 A. So, you know, and so -- and so that's  22 kind of my view. I didn't -- I don't want to see  23 any new blowdown drums built, no new blowdown  24 stacks constructed either. I agree with that.  25 Q. Why not?</p>	<p style="text-align: right;">Page 289</p> <p>1 existence as newly acquired BP or merged with BP in  2 the late '90s, you can't speak to what the body  3 known as BP Products knew or didn't know with  4 respect to relief systems and best available  5 technology?  6 MR. BROWN: Objection, form.  7 A. I didn't --  8 Q. (BY MR. DEAN) Certainly, that's not what  9 you are telling us, is it, sir?  10 MR. BROWN: Objection, form.  11 A. What I am telling you is I have been an  12 HSSE manager since 1989. The questions that you  13 are taking me down have to do with engineering.  14 Q. (BY MR. DEAN) Okay.  15 A. And technical design and design of  16 equipment. That is not an area I have ever worked  17 in for BP. So I can't speak to what conversations  18 went on in BP about those --  19 Q. That's fair.  20 A. -- about those issues.  21 Q. Certainly.  22 Part of HSSE is environmental,  23 true?  24 A. Correct.  25 Q. So to be the head of HSSE at Whiting for</p>

73 (Pages 286 to 289)

<p style="text-align: right;">Page 290</p> <p>1 BP, you should have some knowledge or be 2 knowledgeable about environmental reviews with 3 respect to relief systems. 4 Would that be a fair expectation? 5 A. I have some knowledge with that. Sure. 6 Q. And would -- is a component of that 7 knowledge you have acquired over the years in the 8 environmental arena that rules, regulations and 9 laws require refineries to use the best available 10 control technology when it comes to relieving 11 systems -- 12 MR. BROWN: Objection. 13 Q. (BY MR. DEAN) -- or relief systems? 14 MR. BROWN: Objection, form. 15 A. I would say that there is an expectation 16 on the part of government agencies that we evaluate 17 and the best available technologies when we build 18 new facilities. 19 Q. (BY MR. DEAN) That's what the law says 20 when you build new facilities and only when you 21 build new facilities do you use best available 22 control technology? 23 A. Well, I -- 24 MR. BROWN: Objection, form. 25 A. I am not sure that we go back into our</p>	<p style="text-align: right;">Page 292</p> <p>1 best available control technology. 2 You would agree, would you not, 3 sir? 4 A. In certain applications flares are best 5 available control technology. That's correct. 6 Q. And hot gasoline service, you would agree 7 as the head of HSSE at Whiting that the best 8 available control technology is a flare ten times 9 out of ten; would you not, sir? 10 MR. BROWN: Objection, form. 11 A. Well, before I answer your question, let 12 me say this. I would not want to see a hot 13 gasoline liquid stream head to a flare. Okay? 14 If the volumes that head to a 15 flare filled that flare up, the flare stack, like 16 it filled the blowdown drum at Texas City and in 17 Texas City's case, it spewed hot gasoline vapor and 18 ignited after some period of time, you would have a 19 tremendous fireball coming out of the top of that 20 flare because, now, you have a source of ignition 21 at the top of it. So you would have this raining 22 tail of fire, so to speak. 23 Q. (BY MR. DEAN) That is -- 24 A. So -- 25 Q. I am sorry?</p>
<p style="text-align: right;">Page 291</p> <p>1 existing facilities and upgrade everything all at 2 once toward best available control technology. 3 Q. (BY MR. DEAN) Have you ever seen that 4 acronym before -- 5 A. Yes -- 6 Q. -- best available control -- 7 A. Yes, I have. 8 Q. -- technologies? 9 A. Yes, I have. Uh-huh. 10 Q. Do you use it as BACT or do you use best 11 available control technology? 12 A. Oh, BACT is kind of the terminology. 13 Q. Okay. The -- in your experience in the 14 refining business over the course of some 30 15 years -- 16 A. Uh-huh. 17 Q. -- plus or minus, has the use of a 18 blowdown drum to serve as a relief device ever, in 19 your knowledge base, been considered a best 20 available control technology? 21 MR. BROWN: Objection, form. 22 A. I have never heard it spoken about in 23 those terms. 24 Q. (BY MR. DEAN) But flares are commonly 25 spoken about in those terms, specifically, being a</p>	<p style="text-align: right;">Page 293</p> <p>1 A. -- you would not want liquid hot gasoline 2 liquid to go to either a flare or a blowdown stack. 3 Q. And so in this scenario that you paint 4 that resembles something closer to hell, compare 5 and contrast the hell of hot gasoline going through 6 a flare and the hell of March 23rd, 2005? 7 MR. BROWN: Objection, form. 8 A. Well -- 9 Q. (BY MR. DEAN) Or can you make that 10 distinction? 11 A. That's hard to make a distinction. I 12 mean, I personally witnessed liquid come out of the 13 top of a flare years ago, not at an -- not at an 14 Amoco refinery, but it's quite a -- quite a 15 horrible sight. 16 Q. Well, can you utilize your knowledge of 17 environmental regulatory issues and your knowledge 18 base in process safety and come to any conclusion 19 as to what would be the most appropriate vessel or 20 system to use in a relief scenario in hot gasoline 21 service? 22 A. Well, I've -- I don't know the answer to 23 that but what I would say is that I think that some 24 of the options that -- that -- that are looked at 25 is to see if there are places to take those kind of</p>

74 (Pages 290 to 293)

<p style="text-align: right;">Page 294</p> <p>1 relief streams back into the process somewhere 2 where they best fit. 3 Q. All right. In a closed system? 4 A. In a closed system. 5 Q. Which was not the system in place in the 6 isomerization unit on March 23rd, 2005? 7 A. That's correct. 8 Q. All right. 9 A. Now, whether that's a possibility, I 10 don't know; but I know at Whiting as we are looking 11 at a lot of options around how we could get out of 12 blowdown stacks, we are looking at ways to recycle 13 some of the these relief systems back into the 14 process because some plants do that today. And 15 that's kind of a new approach and we are looking at 16 those. 17 Q. And that, too, would be a closed system? 18 A. That would be a closed system, yes. 19 Q. Okay. 20 MR. DEAN: And I will object to 21 the extent your answer was nonresponsive, your 22 prior answer. 23 Q. (BY MR. DEAN) Have you encountered at 24 Whiting a liquid overflow scenario of a drum open 25 to the atmosphere?</p>	<p style="text-align: right;">Page 296</p> <p>1 Is that not fair, sir? 2 A. I don't know that. You would have to ask 3 a bunch of people and find out. That's my opinion. 4 Q. All right. 5 All right. Are you familiar with, 6 from an environmental or process safety standpoint, 7 sir, the utility or use of a quench system in an 8 open to atmosphere blowdown stack? 9 A. I -- I am aware that some of those 10 systems have existed. 11 Q. Okay. 12 A. Yes. 13 Q. Are you knowledgeable, generally or 14 specifically, sir, what would be the environmental 15 requirement to engage a quench system if a certain 16 stream -- whether it would be relief or operation 17 or maintenance stream -- is going into the 18 maintenance drum? 19 MR. BROWN: Objection, form. 20 A. Well -- 21 Q. (BY MR. DEAN) Not being a pop quiz on 22 your knowledge of the law, I just -- 23 A. Yeah, I mean -- 24 Q. -- do you have a sense of it, given your 25 involvement of Process Safety Standard Number 6,</p>
<p style="text-align: right;">Page 295</p> <p>1 MR. BROWN: Objection, form. 2 A. Not that I can recall. 3 Q. (BY MR. DEAN) The -- you're up in 4 Whiting, Indiana? 5 A. Yes, Whiting, Indiana. 6 Q. You are in Indiana and you are reading 7 the report, the fatality report, and you come to 8 this understanding that here is this blowdown drum 9 open to atmosphere and hot gasoline service, and in 10 the context of what you have already told us, you 11 know of that not existing anywhere else? 12 A. Uh-huh. 13 Q. At least in BP or in the world, as far as 14 you know, can you give us a sense of your reaction 15 when you learned that? 16 A. I was surprised. 17 Q. Why? Please, sir. 18 A. Because I don't think that hot gasoline 19 streams -- I don't think that the best relief 20 systems for hot gasoline streams are blow -- are 21 atmospheric blowdown stacks. It's my personal 22 opinion. 23 Q. And we would be hard-pressed to find 24 anyone that would disagree with that opinion, based 25 upon your knowledge in the industry.</p>	<p style="text-align: right;">Page 297</p> <p>1 drafting? 2 MR. BROWN: Objection, form. 3 A. Well, quench systems would reduce the 4 vapor load going up the stack. So they would tend 5 to be -- so, obviously, they would be designed to 6 reduce emissions up the stack. 7 Q. (BY MR. DEAN) Right. 8 A. You know, I am really only personally 9 familiar with one of those kind of systems and that 10 is not at a BP refinery today. 11 Q. Okay. Do you know one way or another 12 whether the -- I am sorry -- how many blowdown 13 stacks open to the atmosphere at Whiting? 14 A. Seven. 15 Q. Do you know whether any of those seven 16 blowdown stacks at Whiting have quench systems? 17 A. No, I don't. 18 Q. And do you -- relative to your knowledge 19 of Process Safety Standard Number 6, sir, do you 20 know what went into the mix, if you will, about the 21 statement on page 8, "When a quenched blowdown 22 system is required, a liquid separator should be 23 provided with the vapor discharging to a recovery 24 system or flare"? 25 A. My opinion about that would be -- if it</p>

75 (Pages 294 to 297)

<p style="text-align: right;">Page 298</p> <p>1 was there when I -- you know, it's been in there a 2 long time. 3 Q. Right. 4 A. But my opinion would be, if you are going 5 to put in a quench system, you are going to be 6 adding liquid into the blowdown stack. You're 7 going to be adding liquid into the bottom of the 8 stack to quench. So you are going to add liquid to 9 the system. 10 So if you are going to add liquid 11 to the system, you better be able to separate it 12 and be able to remove it or it's just going to fill 13 the stack up. 14 Q. And what would be the systems in place to 15 remove it and separate it? 16 A. Level -- adequately -- as it says, an 17 adequately sized liquid separator -- 18 Q. Yes. 19 A. -- level -- level control systems, 20 probably automatic ones to pumping systems that 21 would take the liquid to a proper location. 22 MR. DEAN: Okay. I think we need 23 to change the tapes. And I want you to limit -- if 24 he promises me to keep answers concise, I will be 25 done in ten minutes.</p>	<p style="text-align: right;">Page 300</p> <p>1 of the splitter. 2 Q. (BY MR. DEAN) Okay. 3 A. The -- you know, just -- just the 4 activities associated with the timeline of that 5 startup is kind of where my mind focused. 6 Q. It was a badly supervised set of events. 7 You would agree, sir? 8 MR. BROWN: Objection, form. 9 A. Well, when I read the timeline in the 10 startup -- yeah, it was a -- it was a troubling, it 11 was a troubling startup for a lot of reasons. 12 Q. (BY MR. DEAN) And one of those is it was 13 certainly poorly supervised? 14 A. I can only kind of relate to Whiting and 15 what I would tell you is that I wouldn't want -- 16 and we at Whiting would have a supervisor there for 17 startup for a unit like that. 18 Q. Okay. Is there a raffinate splitter at 19 Whiting? 20 A. Yes, there is. 21 Q. And it relieves to a flare? 22 A. It relieves to a flare, yes. 23 Q. And how long has the raffinate splitter 24 at Whiting been relieving to a flare over the 25 course of its life, that you know of?</p>
<p style="text-align: right;">Page 299</p> <p>1 THE VIDEOGRAPHER: Okay. We're 2 off the record at 6:11. 3 (Recess taken.) 4 THE VIDEOGRAPHER: Tape 7 of the 5 deposition of Stan Sorrels. The time is 6:13. We 6 are back on the record. 7 Q. (BY MR. DEAN) When you reviewed the 8 fatality report of the Texas City explosion, sir, 9 did you find yourself being very knowledgeable 10 about the topics, criticisms and causes identified? 11 MR. BROWN: Objection, form. 12 A. Some I did. 13 Q. (BY MR. DEAN) And what areas that the 14 report addressed would you consider yourself more 15 than knowledgeable, a down right expert in? 16 MR. BROWN: Objection to form. 17 A. Well, I guess being, you know, as I 18 described this morning, me having an operating 19 background, I've certainly been involved in the 20 startup and shutdown of a lot of fractionating 21 towers over the years. And just -- just things in 22 the report around -- so -- so most of my -- most of 23 my -- the things that I related to I think that 24 kind of -- that I remember caught my attention were 25 really around the operating issues and the startup</p>	<p style="text-align: right;">Page 301</p> <p>1 A. I don't believe it's ever relieved 2 anywhere else. 3 Q. And do you -- I mean, if you are sitting 4 here in your memory banks, can you visualize the 5 raffinate splitter in Whiting, Indiana right now? 6 A. Yeah. 7 Q. Does it have an overhead line? 8 A. Yes, it does. 9 Q. Does it have -- obviously it has relief 10 valves -- 11 A. Yes, they do. 12 Q. -- on the overhead line. 13 Do you know where they are? 14 A. I could find them if I went out there. I 15 would follow the line to the overhead accumulator 16 drum. I -- and the relief valve headers off the 17 overhead accumulator drum. 18 Q. And is that -- is that high or low? 19 A. Very high. 20 Q. Yeah. There is a reason relief valves 21 are placed high, isn't there, based on your 22 knowledge -- maybe general knowledge of process 23 safety, is there not, sir? 24 A. Yeah, usually, they are placed high for 25 engineering reasons. That's correct.</p>

76 (Pages 298 to 301)

<p style="text-align: right;">Page 302</p> <p>1 Q. If you can explain in layman's terms, 2 what would those reasons be, sir, based on your 3 knowledge up there at Whiting and general knowledge 4 of process safety and operations? 5 A. Well, you want the relief valves -- I 6 will make it very clear. You want the relief 7 valves to relieve pressure via a vapor stream as 8 opposed to a liquid stream. 9 Q. And why is that? 10 A. Vapor liquid compositions can compromise 11 the relieving pressure of those valves. 12 Q. Can you put that in maybe terms of 13 non-refining personnel would understand? 14 A. The relief valve may not work properly if 15 it's subjected to liquid. 16 Q. Right. 17 And on the raffinate splitter in 18 Whiting, Indiana, as we sit here today, do you have 19 any knowledge of what the maximum pressure is? 20 What the relief valves are set to lift at? Any of 21 those type of specifics? 22 A. No, I don't. 23 Q. That's fair. 24 A. No, I don't. 25 Q. Okay. Do you know if there are any</p>	<p style="text-align: right;">Page 304</p> <p>1 probability, you can, again, unequivocally, tell 2 us, sir, that in that scenario it makes it that 3 much more important to have interlocks to prevent 4 liquid overflow on the raffinate splitter. 5 Would you not agree? 6 MR. BROWN: Objection, form. 7 A. I didn't design that system. So I don't 8 know what people were thinking when they designed 9 that system. 10 Q. (BY MR. DEAN) No. I understand. I am 11 just talking about the general need of interlocks 12 given placement of relief valve is low versus high. 13 MR. BROWN: Objection, form. 14 A. That is one possible -- that is one -- 15 that's one possible way to deal with it, yes. 16 Q. (BY MR. DEAN) Well, aside from -- there 17 is really no other way to deal with it -- 18 A. You can certainly do things. 19 Q. -- from a mechanical standpoint? 20 A. Oh, you are right. From a mechanical 21 standpoint that's right. But I think from process 22 standpoint, there are things that you could 23 potentially do to make sure that you don't get 24 liquid in the vent system. 25 Q. Okay.</p>
<p style="text-align: right;">Page 303</p> <p>1 interlocks, layers of protection, with respect to 2 overpressure protection? 3 MR. BROWN: Objection, form. 4 A. On that system? 5 Q. (BY MR. DEAN) Yes, sir. 6 A. I'm -- I am not familiar enough -- that 7 familiar enough to know if there are any -- 8 Q. All right. 9 A. -- interlocks on that system or not. 10 Q. And after reading the report you learned, 11 of course, that the relief valves for the E-1101 12 raffinate splitter in Texas City were much lower 13 than your raffinate splitter in Whiting, Indiana, 14 their placement? 15 A. Yeah, I saw that. Yes, I did. 16 Q. And based on your process safety 17 knowledge and operations experience, you can tell 18 us, unequivocally, can you not, sir, that if relief 19 valves are placed in that low position they are 20 more likely to be subject to some form of liquid 21 header pressure? 22 MR. BROWN: Objection, form. 23 A. There is certainly higher probability 24 that could happen. 25 Q. (BY MR. DEAN) And given that higher</p>	<p style="text-align: right;">Page 305</p> <p>1 A. Yeah. I mean, you can put additional 2 safeguards, additional redundancy and other things. 3 You could do some other things. 4 Q. Okay. 5 A. You know. 6 Q. And give us an understanding of what 7 additional redundancy and safeguards are -- 8 A. Well, redundancy -- 9 Q. -- based on your knowledge. 10 A. Well, I am not familiar enough with this 11 tower at Texas City to begin to have that 12 conversation, but all I am saying is, you know, 13 just, you know, you would need to look at things 14 like maybe redundant level controllers, maybe some 15 additional pressure differential meters on the 16 tower to tell you if the tower is flooding or not, 17 you know, liquid that's moved up the tower beyond 18 the level control range. 19 Q. Right. 20 A. Additional temperature indication on the 21 overhead line. I mean, there's -- there's -- 22 there's things that you can do that can provide 23 additional information that may or may not help 24 someone understand what is going on in the tower. 25 Q. And does the raffinate splitter there at</p>

77 (Pages 302 to 305)

<p style="text-align: right;">Page 306</p> <p>1 Whiting have that equipment?  2 A. We have redundancy, quite a bit of  3 redundancy on the level control. We do. We have  4 some thermal couplers in the overhead system.  5 Q. And based upon --  6 A. Let me put it this way. We used to. I  7 don't know what we have today.  8 Q. Fair enough.  9 And based on your review of the  10 fatality report, Texas City did not have that  11 redundancy -- BP did not have those interlocks for  12 redundancy in any fashion or form?  13 MR. BROWN: Objection, form.  14 A. I didn't study the report that close in  15 that section to be able to give you that  16 information. I really don't know.  17 Q. (BY MR. DEAN) Mr. Mancini you declared  18 earlier is a man very knowledgeable in risk  19 assessment; is that true?  20 A. Yes, he is.  21 Q. You can say based on your experience with  22 him that he is absolutely a man who knows what he  23 is talking about in that area and is an expert in  24 your mind?  25 A. Yes, he is.</p>	<p style="text-align: right;">Page 308</p> <p>1 Q. All right. The title on this -- on the  2 subject, that's what -- sorry about that. What did  3 I do to change that? Oh.  4 Is risk management assessment --  5 and I just wanted to see if we can gauge your  6 interpretation, based on just basically you being a  7 man involved in what was going on in this  8 timeframe, what in this risk assessment context  9 "Cost of a human life, BP embraced the principle  10 that these costs can be specified for the purposes  11 of cost benefit analysis."  12 If you could give us any idea what  13 that means.  14 A. This was in the period of 1999.  15 Q. True.  16 A. I mean, I was not involved with process.  17 In these two years -- I was two years out of the  18 process safety position by then.  19 Q. Would you agree that there is a  20 suggestion that BP embraces a particular philosophy  21 with respect to something in the context of risk  22 assessment that relates to cost of human life?  23 MR. BROWN: Objection, form.  24 A. Whose e-mail is this that you're  25 referring to?</p>
<p style="text-align: right;">Page 307</p> <p>1 Q. All right. There is a document the  2 lawyers for BP provided to us from Mr. Mancini  3 dating back to 1999 and I've got to be honest with  4 you, I can't tell if you are on that e-mail list or  5 not.  6 A. I am sure I am. I see myself.  7 Q. Are you, sir.  8 A. A lot of people are on there.  9 THE VIDEOGRAPHER: Fix your mike.  10 Q. (BY MR. DEAN) Good. This was awhile back  11 in 1999. So we use -- we can refresh your memory  12 if you desire but do you remember any context here?  13 Let me start the stream. This is  14 BPISOME442026 and going back here there is some --  15 I can't pronounce the name J. Athert. Athert?  16 A. John Atherton. Yes.  17 Q. Atherton?  18 A. Yeah. John was the process safety expert  19 in BP.  20 Q. Okay. Just kind of looking at this  21 e-mail does it ring a bell, anything you are  22 seeing?  23 A. It doesn't really ring a bell. I,  24 obviously, received it but it's not something that  25 I really remember.</p>	<p style="text-align: right;">Page 309</p> <p>1 Q. (BY MR. DEAN) I will be handing you the  2 document now, sir.  3 A. I am sorry. I'm sorry to take so long.  4 Q. (Tenders document.)  5 Nothing to take long about.  6 A. This seems like a pretty important issue  7 to me.  8 (Examines document.)  9 Q. Just let me know when you are ready.  10 (Discussion off the record.)  11 A. Here. I will return this to you.  12 (Tenders document.)  13 Q. (BY MR. DEAN) Is that a concept that you  14 can -- that you are familiar with, in any capacity  15 of this philosophy of BP embracing the principle  16 that the cost of a human life can be specified for  17 the purposes of cost benefit analysis?  18 MR. BROWN: Objection, form.  19 A. What I -- I am sorry. That's a very hard  20 question. I can tell you the next sentence where  21 Amoco was unwilling to take that step. That's  22 absolute, right. I mean, that's the Bob Mancini  23 note I think where he is commenting back or  24 something but Amoco would not take that step.  25 Q. (BY MR. DEAN) Well, if you're -- if you</p>

<p style="text-align: right;">Page 310</p> <p>1 could conclude that Amoco would not take that step,  2 I presume correctly or incorrectly, and you tell  3 me -- that you understand the concept?  4 A. Well, when I read the note -- well, yes,  5 I mean, I understand the cost of a human life. I  6 understand the concept. Yes, I --  7 Q. What is this concept that BP embraces  8 then? Explain that to us.  9 MR. BROWN: Objection, form.  10 A. Well, just looking at the note here and I  11 don't remember but the idea of a cost of a human  12 life or in the terms of cost benefit, which is, I  13 believe, what it says here "cost benefit analysis,"  14 it kind of says that you -- you -- the concept  15 would be that you would decide what puts some cost  16 on a human life and then see if the cost of  17 mitigating the hazard, let me put it that way, is  18 justified based on cost benefit. And that's what  19 that implies to me when I read it.  20 Now, you may show it to somebody  21 else and they may have a different opinion of that,  22 but that's what it tends to say to me when I read  23 it in that note.  24 Q. (BY MR. DEAN) And since we are all humans  25 in here, you would agree that that's some pretty</p>	<p style="text-align: right;">Page 312</p> <p>1 A. Well, the note says that BP embraced the  2 principal and somebody wrote that note. So that's  3 what it suggests.  4 Q. (BY MR. DEAN) All right. At your  5 Whiting facility, did the debutanizer tower  6 overflow -- overflow such that it relieved to the  7 flare?  8 A. No.  9 Q. You don't remember a situation such as  10 that?  11 A. We didn't get a liquid into the flare.  12 We got it into the flare drum --  13 Q. All right.  14 A. -- but not in to the flare.  15 Q. Was there an associated explosion or  16 anything like that?  17 A. No, no, no.  18 Q. Have you ever seen a flare actually  19 receive hydrocarbon vapors liquid such that there  20 was an explosion associated with the flare?  21 A. No, I have not.  22 Q. All right. I am going to give you a  23 situation and I want to set it up for a couple of  24 questions and then I will be done, sir.  25 You are, of course, required</p>
<p style="text-align: right;">Page 311</p> <p>1 cold hard calculus?  2 MR. BROWN: Objection, form.  3 A. I personally can't do that. That's --  4 that's not what I can do.  5 Q. (BY MR. DEAN) Have you ever seen e-mail  6 transmissions, letters, been a part of  7 conversations or overheard conversations where BP  8 endeavored to actually assign a cost to human lives  9 so that they could achieve the philosophy of cost  10 benefit analysis -- excuse me -- achieve the  11 practice of a cost benefit analysis?  12 MR. BROWN: Objection, form.  13 A. I don't believe I have seen that. I --  14 no, I don't believe I have seen that. I mean, I  15 can't recall it in my mind right now.  16 Q. (BY MR. DEAN) That's fine.  17 A. With you asking me the question. I  18 haven't thought about it.  19 Q. It appears --  20 A. But I can't recall it.  21 Q. But it appears based on this e-mail that  22 such calculus has been performed by BP at some time  23 before or in 1999.  24 Is that a fair conclusion?  25 MR. BROWN: Objection, form.</p>	<p style="text-align: right;">Page 313</p> <p>1 knowledge -- let me start over. It's a long day  2 for me, too.  3 You are, of course, aware that  4 OSHA required relief valve studies to be completed  5 in units before the turn of the century.  6 You knew that as a basic  7 requirement?  8 A. Yes.  9 Q. All right. The -- at the raffinate  10 splitter in Whiting, Indiana, it turns out in a  11 hypothetical situation, I know this isn't the  12 case -- it turns out that the relief valves  13 associated with the raff splitter had not been  14 studied since 1986; and you, as the HSSE director,  15 in early 2005 got wind of that.  16 Would you as the HSSE director,  17 given that -- your knowledge of their requirement,  18 and your position and your knowledge of the reasons  19 relief valve studies are required in the first  20 place, would you have had the authority to have  21 gone and shut that unit down or recommended that  22 they shut the unit down?  23 MR. BROWN: Objection, form.  24 A. Well, I first would have gone to the  25 people in authority running the unit and understood</p>

<p style="text-align: right;">Page 314</p> <p>1 the situation and made sure that I had the facts, 2 correct. 3 Q. (BY MR. DEAN) And if the fact was no 4 study was done, what would you do next? 5 A. Then I would sit down with a division 6 manager and the business unit leader. 7 Q. To suggest or talk about what? 8 A. To talk about the situation and, 9 collectively, we would make a decision as to what 10 to do. 11 Q. Would you propose shutting it down, sir? 12 A. I would propose that there needs to be 13 adequate relief. 14 Q. And there -- to do that, you would have 15 to shut the unit down? 16 A. I would propose that that's one option 17 you would have to shut the unit down. There may be 18 alternate relief scenarios that you would use on 19 that unit without shutting it down. It might be 20 that there are certain alternative relief pads 21 available because there are a lot of RVs on that 22 unit with that tower and they are using some API 23 approved documents, we might choose to look at 24 alternative relief pads to provide adequate 25 protection to that tower as opposed to shut it</p>	<p style="text-align: right;">Page 316</p> <p>1 relieve pressure is the use of a bypass line that 2 has an 8-inch chain valve associated with it. 3 That's the only other relief, pressure relief 4 system available and at your fingertips. Nothing 5 else is available. 6 In that scenario, sir, can you 7 tell us in Whiting, Indiana, would you suggest to 8 shut that unit down? 9 MR. BROWN: Objection, form. 10 A. You are getting extremely hypothetical 11 with me now. I'm -- I am not sure that I 12 understand where you are going or what you are 13 asking me. 14 Q. (BY MR. DEAN) None of those other things 15 that you said -- other options, as you put it, 16 exist other than three relief valves and a bypass 17 line around the relief valves that utilize an 18 8-inch chain valve. That's what I am asking you to 19 assume. 20 That's not too difficult, is it? 21 MR. BROWN: Objection, form. 22 A. Those are the only options I have? 23 Q. (BY MR. DEAN) Yes, sir. 24 A. No, that's not too difficult, but I am 25 not aware of any situations like that at Whiting --</p>
<p style="text-align: right;">Page 315</p> <p>1 down. 2 But if you can't provide 3 alternative relief protection, then you need to 4 take action. 5 Q. By shutting it down? 6 A. I think it needs to be run safely. 7 Q. And to get to that point, you would 8 suggest to the business unit leaders to shut the 9 unit down; would you not, sir? 10 A. If all other options we looked at were 11 reviewed and that was the only option left, then we 12 would need to shut it down and fix it or test it or 13 rerepair it or finish whatever we needed to do to 14 assure it's running safely. 15 Q. Because you could not assure that it was 16 running safely without it, true? 17 A. If you could not assure that. Okay. I 18 want to be clear about that. Because there are 19 lots of things that you need to look at to assure 20 that you believe that there is no other option but 21 to shut the unit down, you will shut it down -- 22 Q. Okay. 23 A. -- in my judgment and fix it. 24 Q. As far as this goes on your Whiting, 25 Indiana, raffinate splitter, the only other way to</p>	<p style="text-align: right;">Page 317</p> <p>1 Q. Right? 2 A. -- and that's why it becomes extremely 3 hypothetical. 4 Q. Right. And I am asking you to be 5 hypothetical. 6 A. And I have a difficult time responding to 7 hypothetical questions because, you know, I don't 8 want them taken out of context as -- as a decision 9 that I would make based on a set of hypothetical 10 conditions. You know, I would make decisions based 11 on the facts that I am presented. 12 Q. Right. And I just presented you a series 13 of facts in a hypothetical situation. 14 A. That's right. And I have a very 15 difficult time giving you an answer in a 16 hypothetical situation. I mean, just in general. 17 I think that's a -- you know, I just -- I just feel 18 uncomfortable doing that. You know, it's very -- 19 it's just very hard to do that. 20 Q. Tell me why. 21 A. Well, I thought I just did. 22 Q. Because of what? I still don't 23 understand. I apologize. 24 A. Well, I don't see where, for example, I 25 don't know the configuration of the unit. I don't</p>



Page 318

1 know what the other alternate relief scenarios are.  
 2 I don't know --  
 3 Q. I just gave them to you.  
 4 A. You told me I have three relief valves  
 5 and I have got a bypass.  
 6 Q. Yes, sir.  
 7 A. That's what you told me.  
 8 Q. Yes sir.  
 9 A. And where does it go? Does it go to the  
 10 flare? Does it go to a blowdown stack? Where's it  
 11 go?  
 12 Q. Thank you. It goes to a blowdown drum  
 13 open to the atmosphere.  
 14 A. I -- I don't think -- I will give you my  
 15 opinion. My opinion would be that opening a valve  
 16 to relieve pressure is not a relief device. Okay?  
 17 Q. All right.  
 18 A. Is that fair enough?  
 19 Q. Truly. So therefore, now you only have  
 20 three relief valves that are low, near condensers  
 21 and that is your only pressure relief scenario, you  
 22 would -- and there are relief valve studies, sir,  
 23 you and being a prudent man, taking his job  
 24 seriously, would recommend to the business unit  
 25 leader "Shut the unit down and get it right."

Page 319

1 MR. BROWN: Objection, form.  
 2 A. I am just telling you, you know, the  
 3 right decision is to get it right. If that  
 4 requires shutting the unit down under any set of  
 5 scenarios to get it right and that's the only  
 6 option that's available to you that solves -- that  
 7 makes it right, then that's what you do. It  
 8 doesn't have to be hypothetical. That's just the  
 9 way it is.  
 10 Q. (BY MR. DEAN) Do you agree, sir -- first,  
 11 what's an OSHA recordable rate? I know in your job  
 12 y'all use those.  
 13 What is that, just generally?  
 14 MR. BROWN: You said two more  
 15 questions based on the facts scenario and that was  
 16 after we finished after six hours and after you  
 17 said ten more minutes.  
 18 MR. DEAN: God bless you.  
 19 Q. (BY MR. DEAN) Just generally.  
 20 A. The OSHA incident rate is an industry  
 21 incident rate that's based on number of hours  
 22 worked with a 200,000 work hour factor in it.  
 23 Q. And they are --  
 24 A. It's an industry benchmark in how --  
 25 Q. Yes.

Page 320

1 A. -- in how people can look at number of  
 2 injuries at a site in kind of a benchmark way.  
 3 Q. And you would agree, sir, that it is  
 4 without a doubt never a good indicator of whether  
 5 process safety is being achieved or not achieved?  
 6 A. Well, it's --  
 7 MR. BROWN: Objection, form.  
 8 A. It's a lagging indicator, Number 1. And  
 9 Number 2, I don't think that everything that -- I  
 10 think there's a lot of injuries that can occur in a  
 11 plant that have -- that are not necessarily driven  
 12 by process safety problems or process safety  
 13 issues. There can be, but it -- but that's not the  
 14 sole contributor.  
 15 Q. (BY MR. DEAN) But an OSHA recordable rate  
 16 is not, you would agree, sir, a measure of process  
 17 safety?  
 18 A. No, not in its entirety. No, it is not.  
 19 Q. Okay.  
 20 A. There are process safety incidents that  
 21 can result in injuries that result in -- in impact  
 22 to the OSHA rate at a site, but, no, in itself it  
 23 is not an indicator of process safety.  
 24 MR. DEAN: Object to the extent  
 25 your answer is nonresponsive. I pass the witness.

Page 321

1 Anybody else?  
 2 MR. BROWN: I hope not.  
 3 MR. DEAN: You are done.  
 4 MR. BROWN: We reserve questions  
 5 until the time of trial.  
 6 THE VIDEOGRAPHER: Off the record  
 7 at 6:38.  
 8 (Deposition concluded.)  
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Page 322

1 EXAMINATION  
2 CHANGES AND SIGNATURE

3 PAGE LINE CHANGE REASON  
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STANLEY W. SORRELS

Page 323

1 I, STANLEY W. SORRELS, have read the foregoing  
2 deposition and hereby affix my signature that same is  
3 true and correct, except as noted above.  
4 \_\_\_\_\_  
5 STANLEY W. SORRELS  
6  
7 THE STATE OF \_\_\_\_\_ )  
8 COUNTY OF \_\_\_\_\_ )  
9 Before me, \_\_\_\_\_, on this day  
10 personally appeared STANLEY W. SORRELS, known to me  
11 or proved to me on the oath of \_\_\_\_\_ or  
12 through \_\_\_\_\_ (description of identity card  
13 or other document) to be the person whose name is  
14 subscribed to the foregoing instrument and  
15 acknowledged to me that he/she executed the same for  
16 the purpose and consideration therein expressed.  
17 Given under my hand and seal of office on this  
18 \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.  
19 \_\_\_\_\_  
20 \_\_\_\_\_  
21 NOTARY PUBLIC IN AND FOR  
22 THE STATE OF \_\_\_\_\_  
23 My Commission Expires: \_\_\_\_\_  
24 \_\_\_\_\_  
25 \_\_\_\_\_

Page 324

1 CAUSE NO. 05CV0337  
2 MIGUEL ARENAZA, ELIZABETH ) IN THE DISTRICT COURT  
3 RAMON, DAVID G. CROW and )  
4 JUANITA G. CROW, et al. )  
5 VS. ) 212TH JUDICIAL DISTRICT  
6 )  
7 BP PRODUCTS NORTH AMERICA )  
8 INC., B.P. CORPORATION )  
9 NORTH AMERICA INC., DON )  
10 PARUS, AND JE MERIT )  
11 CONSTRUCTORS, INC. ) GALVESTON COUNTY, TEXAS  
12 CAUSE NO. 05CV0337-A  
13 IN RE: BP AMOCO EXPLOSION ) IN THE DISTRICT COURT  
14 MARCH 23, 2005 )  
15 COORDINATED DISCOVERY ) 212TH JUDICIAL DISTRICT  
16 PROCEEDINGS )  
17 ) GALVESTON COUNTY, TEXAS  
18 REPORTER'S CERTIFICATE  
19 ORAL VIDEOTAPED DEPOSITION OF  
20 STANLEY W. SORRELS  
21 JUNE 8, 2006  
22  
23 I, Stephanie Barringer, Certified Shorthand  
24 Reporter in and for the State of Texas, hereby  
25 certify to the following:  
  
That the witness, STANLEY W. SORRELS, was duly  
sworn and that the transcript of the deposition is a  
true record of the testimony given by the witness;  
  
That the deposition transcript was duly  
submitted on \_\_\_\_\_ to the witness or to the  
attorney for the witness for examination, signature,  
and return to me by \_\_\_\_\_.  
That the following is the computer-calculated  
amount of time used by each party at the time of the  
deposition:  
Mr. Coon (5 hours, 17 minutes)  
Mr. Stevenson (16 minutes)  
Mr. Dean (46 minutes)  
Attorneys for Plaintiffs

Page 325

1 That pursuant to information given to the  
2 deposition officer at the time said testimony was  
3 taken, the following includes the parties at the  
4 deposition:  
5 FOR PLAINTIFFS ADRIAN MENDOZA, ET AL.:  
6 Mr. Chris Dean  
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8 8441 Gulf Freeway, Suite 600  
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13 FOR PLAINTIFFS RHONDA DARLENE HEICKMAN,  
14 INDIVIDUALLY AND AS DEPENDENT  
15 ADMINISTRATOR OF THE ESTATE OF RYAN  
16 RENE RODRIGUEZ:  
17 Mr. Doug York  
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ROBBIE BOURGEOIS:  
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Page 326

1 APPEARANCES  
 2 (Continued)  
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21 FOR DEFENDANT JE MERIT:  
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Page 327

1 APPEARANCES  
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 11 Telephone: 409-763-2481  
 12 - and -  
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 14 Fulbright & Jaworski  
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 23 3400 JP Morgan Chase Tower  
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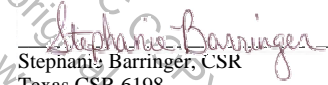
That a copy of this certificate was served on  
 all parties shown herein on \_\_\_\_\_ and  
 filed with the Clerk.

I further certify that I am neither counsel for,  
 related to, nor employed by any of the parties in the  
 action in which this proceeding was taken, and  
 further that I am not financially or otherwise  
 interested in the outcome of this action.

Page 328

1 Further certification requirements pursuant to  
 2 Rule 203 of the Texas Code of Civil Procedure will be  
 3 complied with after they have occurred.

4 Certified to by me on this \_\_\_\_\_ day of  
 5 \_\_\_\_\_,  
 6 \_\_\_\_\_

7   
 8 Stephanie Barringer, CSR  
 9 Texas CSR 6198  
 10 Expiration: 12/31/06  
 11 U.S. Legal Support  
 12 Firm Registration: 122  
 13 519 N. Sam Houston Pkwy., Ste. 200  
 14 Houston, Texas 77060  
 15 Main number: 713/653-7100  
 16 Fax number: 713/653-7143

Page 329

1 FURTHER CERTIFICATION UNDER TRCP RULE 203  
 2  
 3 The original deposition was/was not returned to  
 4 the deposition officer on \_\_\_\_\_.  
 5 If returned, the attached Changes and Signature  
 6 page(s) contain(s) any changes and the reasons  
 7 therefor.

8 If returned, the original deposition was  
 9 delivered to Mr. Christopher Dean at the Williams &  
 10 Bailey law firm as the custodial attorney.  
 11 \$ \_\_\_\_\_ is the deposition officer's  
 12 charges to the Plaintiffs for preparing the original  
 13 deposition and any copies of exhibits;

14 The deposition was delivered in accordance with  
 15 Rule 203.3, and a copy of this certificate, served on  
 16 all parties shown herein, was filed with the Clerk.

17 Certified to by me on this \_\_\_\_\_ day of  
 18 \_\_\_\_\_,  
 19 \_\_\_\_\_

20  
 21 Stephanie Barringer, CSR  
 22 Texas CSR 6198  
 23 Expiration: 12/31/06  
 24 U.S. Legal Support  
 25 Firm Registration: 122  
 519 N. Sam Houston Pkwy., Ste. 200  
 Houston, Texas 77060  
 Main number: 713/653-7100  
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