A. I understand.

Q. Okay. You understand that you are under oath?

A. Yes.

Q. And even though we are sitting here today in an informal setting, this could be used as if it was trial testimony in federal court some day if it ever goes to that?

A. I understand that.

Q. Okay. Okay. Ms. Pease, are you familiar with the subject matter of the litigation for which this deposition is being taken?

A. No.

Q. Let me just give you some background as to who the parties are here. I am counsel for Southwest Marine. Southwest Marine is a defendant in an action filed by Natural Resources Defense Council, San Diego Baykeeper and Kenneth Moser --

A. Okay.

Q. -- here today with us. Let's have the appearance for the record so they can state their names and who they represent.

MR. DE LANO: I'm Everett DeLano an attorney with the Natural Resources Defense Council and the San Diego Baykeeper.

MR. MOSER: Ken Moser, Executive Director of the San Diego Baykeeper and plaintiff.

BY MR. MC DONALD:

Q. Okay. Generally the subject matter of this litigation has to do with allegations that Southwest Marine did not comply with permits for stormwater discharges and an NPDES permit otherwise regulating discharges from the facility.

Are you familiar with those permits?

A. I'm familiar with the NPDES permit, but I'm not as familiar with the stormwater permit.

Q. Could you briefly describe your educational background and training since high school.

A. I have a Bachelor's of Science degree in medical technology from University of Connecticut. I have a Master's degree in public health from San Diego State University.

Q. Have you had any additional courses and training related to environmental issues generally or with respect to Regional Water Quality Control Board issues specifically?

A. I have a certificate in hazardous materials management from UCSD extension program, and I have taken classes over the last eight years, work-related classes that were from when I worked at the County of San Diego

with hazardous materials management, and also I've taken classes since I've been working with the water board.

Q. You mentioned you had worked for the County of San Diego. What department did you work with the County?

A. I worked with the Hazardous Materials Management Division and I worked with the Site Assessment Group for two years and the Solid Waste Group which is also called the Local Enforcement Agency. I was with them for four years.

Q. When did you commence your employment with the Hazardous Materials Management Division?

A. September of 1988.

Q. And then you were first in the Site Assessment Group?

A. That's correct.

Q. Okay. And during what period of time were you with them, with the Site Assessment Group?

A. From September of '88 till there was an overlap of -- when I transferred into the Solid Waste, so I was actually working in Solid Waste and Site Assessment for a period of four months. So I was with Site Assessment until February of -- no, wait. February of '91. I started with the Solid Waste program in November of '90. So there was about a four-month overlap and I

stayed with the Solid Waste program until I left which was in September of '94.

Q. So in September of '94 you left employment with the Hazardous Materials Management Division?

A. Right.

Q. Then what employment did you undertake following that?

A. I went to the Water Board effective September 30th of '94.

Q. And to what unit were you assigned with the Regional Water Quality Control Board?

A. I'm assigned to the Surface Water Unit.

Q. And were you assigned to the Surface Water Unit effective September 30, '94?

A. Yes.

Q. You're still in the Surface Water Unit?

A. Yes.

Q. How many people are in that unit?

A. There are four and one supervisor.

Q. And some additional instructions. As we go along here, if I ask you a question and if you don't know the answer, I mean, I'm not asking you to guess or speculate, if you can reasonably estimate, fine, tell us that. If you know exact numbers, that's really good. But just to be sure, just because I ask a question, if you

don't know the answer, you can tell us "Hey, I don't know that," and just let us know.

A. Okay.

Q. Who is the supervisor of the Surface Water Unit?

A. Currently the supervisor is Michael McCann.

Q. Have there been other supervisors of that unit since September 30, '94?

A. Yes. Bruce Posthumous.

Q. And during what period of time was Bruce Posthumous the supervisor of the unit?

A. Bruce Posthumous was supervisor of the Surface Water Unit until approximately six months ago. No. Correction. About a year ago.

Q. And feel free if you answer a question and you think you misspoke, correct it and go on.

A. Okay.

Q. Also, you will have an opportunity to review this testimony after a transcript is prepared. At the end of the deposition we'll agree, you know, where the draft goes and the period of time in which you'll have to review it.

A. Okay.

Q. Have you done that before?

A. Yes.

Q. And you're aware that any changes that you make may be commented upon at trial by anyone, any counsel, and may be questioned as to why you made any changes.

A. I understand.

Q. Having said that, what we want here today is your full, complete testimony, you know, as best you can.

A. I understand.

Q. Okay. If it turns out you misspoke or something occurs to you later, I mean, you can make the changes. That's fine.

A. Okay.

Q. Following Mr. Posthumous who was the supervisor of the unit?

A. Mike McCann became the supervisor when Bruce stepped down.

Q. And that was roughly a year ago?

A. Approximately.

Q. And Mike is still the supervisor as of today?

A. Yes.

Q. Are you familiar with Southwest Marine, the defendant in this action?

A. Yes.

Q. And how are you familiar with them?

A. I oversee the NPDES permit for Southwest

Marine and part of that oversight is to do site inspections and review, monitor and reports.

Q. And how long have you been responsible for overseeing the NPDES permit for Southwest Marine?

A. I started working with the NPDES permit in September of '95.

Q. So following September of 1995 to the present day you've been responsible for overseeing the NPDES permit for Southwest Marine?

A. That's correct.

Q. Is there anyone else in your unit responsible for overseeing the NPDES permit?

A. No.

Q. Earlier we mentioned that there is also a permit called a stormwater permit or a general industrial permit on Southwest Marine. Are you familiar with that permit?

A. I'm aware that there is a permit but I don't work with it directly.

Q. And who works with the stormwater permit directly?

A. The Stormwater Unit has that responsibility but I don't know who specifically in that unit would oversee it.

Q. Do you know who the supervisor is of the

Stormwater Unit?

A. Yes. It is Deborah Jayne, J-a-y-n-e.

Q. Could you spell Deborah also.

A. Yeah. D-e-b-o-r-a-h.

Q. Have you ever been out to Southwest Marine's facility?

A. Yes, I have.

Q. Have you inspected that facility?

A. Yes, I have.

Q. And what is your responsibility in -- Strike that.

When was the last time you inspected the facility at Southwest Marine?

A. I inspected Southwest Marine in March of '97.

Q. Ms. Pease, I would like to show you a copy of a subpoena issued by the United States District Court for the Southern District. Have you seen this subpoena previously?

A. Yes.

Q. Okay. And you are appearing today in response to this subpoena?

A. Yes.

Q. Okay. I would like to have this marked as exhibit --

MR. DE LANO: I believe it's 3.

MR. MC DONALD: Let's go off the record.

(Discussion off the record)

(Exhibit 3 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, I would like to refer you to Attachment A to that subpoena and listed in Attachment A are four categories of documents that you were requested to produce in response to this subpoena.

A. That's correct.

Q. Okay. We had a conversation in which I understood that all of the documents responsive to those categories could be found in the records of the Regional Water Quality Control Board, either the NPDES permit files or the stormwater permit files. Do you remember that conversation?

A. Actually I think you had that conversation with someone else. It wasn't with me.

Q. Okay. Then let me ask the question somewhat differently.

A. Okay.

Q. Have you brought any documents with you here today in response to those four categories?

A. No.

Q. Are you aware of any documents responsive to any of those four categories which are not contained

within the files of the Regional Water Quality Control Board?

A. Okay. Is that a double negative?

Q. Let me --

A. Can you restate it.

Q. Let's read it back.

(Last question read)

A. Documents that are not contained in these four categories.

Q. Let me restate it. I mean, are all the documents responsive to those categories of which you are aware contained in Regional Water Quality Control Board files?

A. Yes, they are.

Q. So you have no other personal files or personal documents or documents within your personal possession which would be responsive to those categories?

A. That's right.

MR. MC DONALD: Off the record for a second.

(Discussion off the record)

BY MR. MC DONALD:

Q. Ms. Pease, you mentioned that your last inspection of the Southwest Marine facility was in March of this year; is that correct?

A. That's right.

Q. What was the purpose of that inspection?
A. We are required to do two inspections per year for all dischargers that are on San Diego Bay.
Q. And was this intended to be one of those two inspections?
A. Yes.
Q. And what is the general scope of that inspection?
A. The scope of the inspection is to look at the entire facility for compliance with the NPDES permit.
Q. Is this an inspection that was previously scheduled with Southwest Marine?
A. No.
Q. So this was an unannounced inspection?
A. It's unannounced but I call them a day before I go just to let them know I'm arriving so there will be someone there to show me around the site.
Q. Do you remember the exact date on which this inspection occurred?
A. No.
Q. Okay. I've got some documents later on that I'll show you. That's fine.
A. Okay.
Q. Do you recall who you called prior to this inspection?

A. I called Shawn Halvax.

Q. And whenever the inspection was, is it correct that you believe you called them the day before to let him know that you were going to be there for the inspection?

A. Yes.

Q. Did Southwest Marine agree to have the inspection on the day which you requested it?

A. Yes.

Q. Were there any special conditions or limitations on the scope of that inspection imposed by Southwest Marine?

A. I was not allowed to take pictures.

Q. Did you request to take photos?

A. Yes.

Q. Ms. Pease, I would like to show you a copy of a small card which was in the files of the Regional Water Quality Control Board and my question is: Have you seen the card of which this is a copy previously?

A. Yes, I have.

Q. And from where did this card come from?

A. Shawn gave me this card at the inspection.

Q. So this is a card that was given to you by Southwest Marine?

A. That's right.

Q. Had you ever seen this form of card before?
A. No.
Q. Did you have any discussion with Mr. Halvax as to the purpose of this card?
A. No. He gave it to me just for information that this is a card that they give to all employees to attach to their employee ID card.
Q. Is this form of card a requirement of any permit, to your knowledge?
A. No.
Q. I would like to have this marked the next in order.
(Exhibit 4 marked for identification.)
MR. MC DONALD: I would like to go off the record for just a moment.
(Discussion off the record)
BY MR. MC DONALD:
Q. Let me show you a document entitled Facilities Inspection Report and there is a signature on here that looks like Susan Pease dated April 11th, 1997. Ms. Pease, have you seen this document before?
A. Yes.
Q. And is that your signature?
A. Yes.
Q. There near the bottom of the page in the

section entitled inspection summary?

A. Yes.

Q. Could you please describe for us the purpose of this report.

A. This form is a State form. It's required to be filled out after each inspection for the data entry.

Q. And to where is this data entered?

A. It's entered into a system called the WDS and I'm not sure what that means. It's a system that's hooked into Sacramento and they keep track of all the data and inspections are just one small piece of all the data that gets entered.

Q. Are you required in the ordinary course of business to prepare this Facilities Inspection Report?

A. Okay. Is the question meant to prepare the form before I go out or to do the form after I do the inspection?

Q. The question is: Is it within the scope of your duties in normal course of business to prepare this report at some point in time?

A. I have to fill out the form after an inspection, yes.

Q. Is the purpose of this report to summarize the results of inspections?

A. Yes.

Q. Is it to summarize the results of inspections specifically in respect to NPDES permit?

A. Yes.

Q. Could we mark this one the next.

(Exhibit 5 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, I would like you to take your time to look through this report, then I'm going to ask you some questions.

A. Okay.

Q. You said you prepared this report?

A. Yes, I did.

Q. This report was prepared after your inspection of the Southwest Marine facility in March of this year?

A. Yes.

Q. In the section of this report entitled Inspection Type there is a check mark in the column of "B" type compliance. Did you check that?

A. Yes, I did.

Q. Could you describe for us the type of inspection compliance that that's intended to indicate?

A. A B type compliance inspection is an inspection for compliance with the NPDES permit and it's a non-sampling inspection, so there are no samples taken.

Q. And you mentioned before that this was a comprehensive inspection of the facility for purposes of compliance with the NPDES permit.

A. That's right.

Q. Is that generally the definition of a B type compliance inspection?

A. Yes. The only difference --

Q. Sorry. Excuse me. Go ahead.

A. The only difference from an A inspection and a B inspection is with A inspections you take a sample, B inspections you do not.

Q. Okay. Ms. Pease, further on down there is a question in the next section following the section where it says inspection type. It says "Were violations noted during the inspection?" Do you see that question there?

A. Yes.

Q. What is the letter that is entered in the left column prior to that question?

A. It is an N.

Q. Is that cut off there on your document?

A. Yes.

Q. Okay. I would like you to take a blue pen, if you will, and if you could draw a circle around the N that you just described on that document.

A. Okay.

Q. Did you also with that pen make the N more complete?

A. I did.

Q. Thank you. But at the time you filled out this report you answered that question no; is that correct?

A. That's correct.

Q. So is it correct that as a result of your facilities inspection of Southwest Marine in March of 1997 you did not find any violations as a result of that inspection?

A. That's right.

Q. The next question is, "Was this a Quality Assurance-Based inspection?" Yes or no. What is the entry in the left column?

A. The entry is N.

Q. And is that cut off in the copy that's going to be introduced into the record?

A. No.

Q. What is a Quality Assurance-Based inspection?

A. I don't know. I've always been told just to mark that N. It has to do with EPA standards.

Q. Okay. Lastly, there is a question "Were bioassay" b-i-o-a-s-s-a-y, "samples taken," and could you identify your response to that question on this report.

A. It's N for no.

Q. Is that on that report?

A. Right.

Q. Okay. Down below it says inspection summary is a required section. Is this a section that you're required to fill out every time you fill out one of these reports?

A. Yes.

Q. Is there something cut off on the left side of that inspection summary?

A. Yes. Each letter is -- first letter is cut off.

Q. Could you take the blue pen and put in the first letter that you recall entering on the report at the time you filled it out.

A. Do you want me to circle them?

Q. No.

A. Okay.

Q. Could you read for us the entries that you made here.

A. Okay. There is one spelling error. I spelled diversion wrong.

Q. Go through and just indicate that as you go through.

A. "Stormwater diversion," and I left out the R

in diversion, "system and berms installed throughout site. Storm drains labeled. Site clean."

Q. Now, this is the summary of your inspection that will be entered in what you referred to before as the WBS?

A. WDS.

Q. WDS system?

A. That's right.

Q. What were you referring to when you identified stormwater diversion system and berms installed throughout site?

A. This is something that is different since my last inspection. They installed a stormwater diversion system throughout the site and they have put berms in the entire water front area for stormwater diversion.

Q. You mentioned that this was something added since your last inspection. Do you recall when the inspection was previous to this that you did at Southwest Marine's facility?

A. I believe it was in June of '96.

Q. So is it correct that the stormwater diversion system and berms that you observed at the site you don't believe were present during the inspection you took previously and you recalled in June of '96?

A. They were not there a year ago.

Q. The following statement "storm drains labeled." Is that a separate statement?

A. Yes.

Q. Okay. And could you describe why that is put here as part of your inspection summary?

A. I have requested in the past that they label the storm drains.

Q. Were the storm drains adequately labeled during this inspection?

A. Yes, they were.

Q. When did you request Southwest Marine label their storm drains?

A. I don't remember.

Q. Can you remember generally the period of time?

A. The first inspection I went on with Gloria Fullerton I believe was in June of '95 and we asked them at that time to label the storm drains.

Q. Was that something that you believe was required by the NPDES permit?

A. No.

Q. What was your basis for asking them to label the storm drains?

A. To make the employees aware that the storm drain goes directly to the bay so that there would be a

better awareness that materials should not go into the storm drain.

Q. How are these labeled?

A. Sometimes they're painted and sometimes they have a ceramic plaque.

Q. And do you recall generally what these labels say?

A. No.

Q. Is the thrust of the message to make employees aware that the storm drains may be connected to the bay?

A. Yes.

Q. Your last entry here says "site clean."

A. Yes.

Q. Is this a summary of your impression of the site based upon your inspection in March of this year?

A. Yes.

Q. At the bottom of the page there is a line that says for internal use: Reviewed by: and then some blanks. Do you know if this Facilities Inspection Report is reviewed by others at the Regional Water Quality Control Board?

A. I send this to my supervisor and he reviews it.

Q. So in the normal course of business this

would be forwarded to Mr. McCann?

A. That's correct.

Q. Do you know if Mr. McCann actually reviewed this inspection report?

A. He hasn't reviewed it yet.

Q. This document was prepared on April 11th?

A. Yes.

Q. Last week?

A. Yes.

Q. Okay. Thank you. So in the normal course of business this will be reviewed by Mr. McCann?

A. That's right.

Q. I would like to have you look at the second page of this Facilities Inspection Report. The first section up there is labeled "Violation (If applicable)". Do you see that section?

A. Yes.

Q. Would this be a section where if you believed the violation existed you would fill it out here?

A. That's right.

Q. The first column there or the first line there says "Violation type" and then the question mark then "(A-G)"?

A. That's right.

Q. What does that designation mean?

A. In the WDS system, which here is Waste Discharger System Users Manual, there is a manual that goes with the WDS system. The violations have a code, A through G, and if there is a violation you would choose which type of violation it was.

Q. And is the manual to which you referred the manual identified immediately following that entry on that page?

A. That's right.

Q. Down at the bottom of the page there is a section entitled "Historical information."

A. That's right.

Q. In the first column "Most recent orders," it appears that the order numbers underneath there may have been cut off.

A. That's right.

Q. Are you aware of what the leading numbers are on those most recent order numbers?

A. Yes. It is 83-0111.

Q. Could you take the blue pen, write in where you believe 83 should be entered and which might have been cut off during copying.

A. Okay.

Q. Again referring to the historical information section on Exhibit 5, does each line there represent a

separate inspection event?

A. Yes.

Q. Can you tell me what the order number refers to in column No. 1? For example, 83011 capital T4?

A. Okay. I need to clarify what I said before. The lines that refer to each inspection date are on the right. The information on the left is a summary of the permitting information.

Q. Let me -- based on that, I mean, is it correct that the first set of three columns is historical information related to the orders that are applicable to the site?

A. That's right.

Q. Are the orders that are listed there orders referring to the NPDES permit that are applicable to Southwest Marine?

A. Yes.

Q. And then earlier I believe I asked a question to which you responded yes about each line representing a single event. Based upon our discussion, that's incorrect, is it not?

A. Well, information on the right, each line refers to a specific inspection.

Q. Let's just talk about -- okay. So the center set of three columns under most recent inspections, those

lines of three -- those three columns of information on each line represents a separate inspection event; is that correct?

A. That's right.

Q. Is it correct that the most recent violations referred to in the right two columns relates to the most recent inspections in the prior columns?

A. That's right.

Q. So for example -- Strike that.

So the information in the far right two columns correspond to the information on the same line under the most recent inspections?

A. Yes.

Q. Under the most recent inspections under the date could you tell us what 950616 means?

A. That refers to June 16th, 1995.

Q. And that is the date on which that inspection is reported to have occurred?

A. That's right.

Q. And inspection type, B1.

A. Yes. That refers to the front page for what type of an inspection. It was a B type inspection. I don't know what the 1 means.

Q. And the third column, violations, what would be entered in there?

A. A Y for yes.

Q. And if there was no violations would there be a different entry?

A. It would be N.

Q. So violations would either be Y or N?

A. Yes.

Q. Is there any other entry designation that would be in there other than Y or N?

A. P for pending sample results.

Q. Okay. Moving to the far right two columns there is a column under most recent violations called the V-i-o-l period.

A. Right.

Q. Is the violations type referred to the same violation types that would be entered up at the top of the page under violations type that we discussed previously?

A. Yes.

Q. On the far right-hand column a series of dates. Are those interpreted just like the dates in the prior column on most recent inspections? 950616 would be June 16th, 1995?

A. That's right.

Q. Could you identify on the basis of this report the types of violations that actually occurred or were alleged to have occurred at Southwest Marine's

facility?

A. No.

Q. Did you conduct any of the inspections that are listed here under the most recent inspections column at the bottom of the page of page 2 on Exhibit 5?

A. I went to the inspection on June 16th, 1995, however I was training.

Q. Do you recall who accompanied you on that inspection?

A. Gloria Fullerton.

Q. I would like to now show you --

We entered this and marked this?

THE REPORTER: Yes.

BY MR. MC DONALD:

Q. Ms. Pease, I show you a document that appears to be nine pages long, the first page of which is entitled General Shipyard Inspection Form.

A. That's right.

Q. I would like to have this marked as next in order, please.

(Exhibit 6 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, on page 1 in the upper right-hand corner of the framed area there appears to be a signature.

A. Yes.

Q. Do you recognize that signature?
A. The signature is mine.
Q. There is also a signature underneath your signature. Do you recognize that?
A. It's Shawn Halvax.
Q. Did he sign that in your presence?
A. Yes.
Q. On each of the nine pages there appears to be a signature in the upper right-hand side in the similar position. Could you look at each of those and confirm to us whether that is your signature on each of these pages?
A. Yes.
Q. Did you prepare this form?
A. Yes.
Q. Where does this form come from?
A. I borrowed it from the State of Virginia.
Q. So this is a form from the Regional Water Quality Control Board that you're using? Strike that. Let me withdraw that.

Is this the form that you have devised for conducting an inspection of the Southwest Marine facility?
A. I did not design this form, but I use it for the inspections.
Q. This is the form that you use in the course of your duties at the Regional Water Quality Control Board

for conducting the inspection of shipyards?

A. Yes.

Q. Thank you. Other shipyards also?

A. In San Diego, yes.

Q. In upper left-hand corner there is a date.

A. Yes.

Q. Is it March 21st, 1997?

A. Yes. The '97 looks like a '77 on this copy.

Q. One of the problems of multiple copies.

A. Okay.

Q. Is that the date on which you conducted an inspection of the Southwest Marine facility?

A. Yes.

Q. Is this the inspection that was summarized by the document that has been entered here as Exhibit 5?

A. Yes.

Q. Ms. Pease, I would like to refer you first to the section entitled Water Surface Pollutants and could you read for us the entry under the description next to the check mark no.

A. Okay. "No surface water pollutants other than noted between floating drydock and Pier 3."

Q. Now, is this your handwriting?

A. Yes.

Q. So the comments on these pages are your

handwriting?

A. Yes.

Q. Other than the signature of Mr. Halvax that we have referred to underneath your signature, are there any other entries on any of these nine pages from any other person or any person other than you?

A. No.

Q. As we go through this document if you notice that there is something that has been entered, some note maybe later put on by somebody, just let us know. Just be aware yourself that all these are your comments on here. If you notice something later on that somebody might have added because they reviewed the files, please just let us know.

A. All right.

Q. I want to save some time, whether or not that is yours.

Under the next section of comments could you read the description there following, looks like a circled No. 1.

A. "Some oil drips from equipment noted."

Q. And where did you note these oil drips, if you can recall?

A. On page 3 of the inspection report I have a comment that on Pier 4 there were some oil drips.

Q. Were these oil drips on the facility itself?
A. Yes.
Q. Were these drips that you observed being discharged into the water at any time?
A. No. Also on page 5, loading drydock "The Pride of San Diego" which is also called the POSD, I had a comment that there was oil leak from equipment.
Q. You're referring now to page 5 of Exhibit 6?
A. Yes.
Q. This was an oil leak from equipment that was actually on the dry dock itself?
A. Yes.
Q. Again, did you observe this oil leak being discharged at all to the waters of the bay?
A. No.
Q. In conducting inspections of shipyards in general, I mean, is it unusual to see areas in which there might be oil drips from equipment?
A. It's not unusual but the best management practices need to be applied to the oil drips.
Q. And what types of best management practices would be applied?
A. Drip pans is a suggested method.
Q. Does Southwest Marine use drip pans?
A. Yes, they do.

Q. And at the time of your inspection did you believe that Southwest Marine was reasonably implementing best management practices with respect to drip pans and oil drips?

A. I'm not sure how to interpret reasonable because --

Q. Let me strike that. Let me go through it just one at a time. That's the sort of thing if it's ambiguous, you don't understand, causes you a problem, let me know and we'll try to make it simpler and more direct so we both know what the question is and we know what the answer is.

A. Okay.

Q. In respect to the oil drips that you noted from the equipment, did you believe that any of those were violations of the NPDES permit in and of themselves?

A. They would only be violations if they went into the bay.

Q. And you did not observe any of the oil drips during this inspection going into the bay?

A. That's right.

Q. Would it be a best management practice having observed oil drips to clean it up after you saw it?

A. Yes.

Q. Could you go back to page 1 of Exhibit 6?

A. Yes.

Q. And read for us comment No. 2 on the second general section there.

A. "Spent blast contained at 'KelStar' on AFDL."

Q. Okay. What are you referring to there was spent blast?

A. The abrasive blasting material that's used to blast the hull of "KelStar" was totally contained.

Q. So there was no discharge of that material to the bay?

A. That's right.

Q. No. 3, could you read that for us?

A. "Some hose leaks - do not cause discharge to bay."

Q. So the hose leaks were entirely contained within the facility?

A. That's right.

Q. No. 4.

A. "Trash cleaned daily."

Q. And what was your observation in that regard?

A. That the trash was maintained daily, they were cleaning it.

Q. Based on your observations of the facility when you were out there, is that correct that the trash was cleaned?

A. Do you mean on this inspection?

Q. Let me restate that.

On this inspection was it your observation that the trash was being cleaned?

A. Yes.

Q. No. 5.

A. No. 5 refers to an entry called oil/water separator and I have a comment that there are two oil/water separators on the site.

Q. Did you observe those oil/water separators during your inspection?

A. Yes, I did.

Q. Did you find anything on which you had concern or comment regarding those oil/water separators other than the fact that there were two of them? And feel free to refer to Exhibit 6 to refresh your recollection if necessary.

A. Okay. There is no other comments.

Q. So then is it your testimony that -- I mean, as you sit here today you don't recall, you know, other comments or concerns that were noted with respect to the oil/water separators?

A. That's right.

Q. Could you read No. 6 for us there.

A. "Support shops cleaned daily."

Q. What are the support shops?

A. Support shops are electrical -- They're not labeled here. Sorry.

Q. When you say not here you're referring to page 9 of Exhibit 5?

A. Page 9 is a map of the facility. The support shops include electrical, carpentry, they're all support services for the ship maintenance.

Q. And are these shops that are on dockside that support the maintenance and repair of ships at the docks?

A. Yes. What do you mean by on dockside? Do you mean on the land?

Q. On land.

A. Yes. Okay.

Q. Thank you. In the next section shoreline protection, could you read the comment that was entered there.

A. "Booms in place."

Q. And to what are you referring by booms in place?

A. That throughout the facility there were booms on the water front area.

Q. And what is the purpose of those booms?

A. The booms will catch any oil that is spilled onto the water so that the oil can be cleaned. It will

also contain any trash that goes into the water.

Q. Okay. Is that a best management practice?

A. Yes.

Q. If I could refer you now to page 2 of the General Shipyard Inspection Form.

A. Yes.

Q. You have a comment "shrink wrap" written in the first column.

A. Yes.

Q. Looks like this might have been cut off again. Do you know what the word is to the left of that?

A. It's shrouds. It's under the heading for blasting and painting BMPs.

Q. And did you observe shrink wrap being used as a shroud to implement that BMP?

A. Yes.

Q. Could you describe a BMP.

A. A best management practice is a practice to preclude pollutants going into the bay.

Q. And BMP is then a shorthand acronym for best management practices?

A. That's right.

Q. Is it correct that during this inspection you believed all the best management practices related to blasting and painting were being implemented?

A. The ones that I checked were being implemented.

MR. MC DONALD: Okay. Let's go off the record for a moment.

(Discussion off the record)

BY MR. MC DONALD:

Q. The first line under blasting and painting BMPs there looks like it's been cut off. Could you again with blue pen write in what you believe that line to be.

A. Yes. That says none.

Q. Is it correct that that would be checked yes if no BMPs were being implemented?

A. That's right.

Q. The next section has been cut off. Is it correct that that section is records?

A. Yes.

Q. Could you with pen write in the letters that were cut off to the left.

A. (Witness complying)

Q. At the time you were there did you discern any discrepancy in the records that were required to be kept by Southwest Marine on the date of this inspection?

A. I didn't actually look at the records. I just asked if records were kept.

Q. Down at the bottom of the pages there is a

section. Again it looks like it's been cut off. Is that correct that that is spill containment?

A. That's right.

Q. Could you fill in the leading part of the word spill in that last section.

A. Okay.

Q. There is a word written after the second line there, the parts of which we can see is oil storage tanks bermed. What is that observation?

A. I wrote the word in drum. The question refers to oil storage containment tanks and they have drums instead of tanks.

Q. So you observed berms around drums which were storing oil?

A. Yes.

Q. Did you observe berms around the facility during your inspection?

A. Yes.

Q. And I believe you mentioned before that these berms were added since your inspection the previous year?

A. That's right.

Q. In your observation of these berms were they well maintained?

A. They're new.

Q. Let me state it the other way. I mean in the

observation of the berms, I mean, were the berms generally in good repair?

A. Yes.

Q. Did you observe any areas where, you know, the berms were not in good repair or otherwise not serving the purpose of containing water in the facility?

A. Since the day I was there it wasn't raining, it would be difficult for me to answer that question.

Q. Okay.

A. As far as containing water.

Q. Well, let me ask it a slightly different way. In your observation of the berms that were at the facility, again, were they generally in good repair?

A. Well, the berms were brand new so it's difficult for me to say had they been maintained or in good repair. They're brand new.

Q. Okay. If we can go to the next page, page 3. And at the top this is now labeled with a handwritten Pier Inspection Form.

A. Yes.

Q. That's your change?

A. Yes.

Q. Could you read the description under the first section "Water surface pollutants."

A. "Area between floating drydock and Pier 3 had

white milky sheen. Unknown source."

Q. That was an observation you made during this inspection?

A. It was an observation and the comment unknown source was as a result of the question I posed what was it. The answer was "I don't know."

Q. Was there ever any test done to figure out what the white milky sheen was?

A. No.

Q. Did you ever obtain any other information about the potential source of that white milky sheen?

A. Shawn Halvax said it could possibly be from the berthing barge which is like a hotel barge for the Navy. That's as much information as he gave me.

Q. So is it correct then that the source of the white milky sheen was never determined?

A. That's right.

Q. There are four columns there labeled one, two, three, four?

A. That's correct.

Q. Could you tell us the significance of those numbers?

A. That refers to the pier number.

Q. Referring to page 9 of this report.

A. Right.

Q. The piers are labeled there, Pier 1, Pier 2, Pier 3, and Pier 4?

A. That's correct.

Q. Are those labels the same as the numbers that are indicated on page 3?

A. Yes.

Q. Could you read the description included in the work area pollutants section?

A. "No. 4, some oil drips. Paint cans on pallets." Can't read this. "Slag on pier. Needs better housekeeping."

Q. This was an observation you made during your inspection on March 21st?

A. Yes.

Q. Does this relate to Pier 4?

A. Yes.

Q. Did you observe any oil drips or any slag or any other substance being discharged to the water?

A. No.

Q. Do you know if Southwest Marine took any steps in response to this comment?

A. They did not take any steps while I was at the site.

Q. Okay. Are you aware if they took any steps subsequent to your inspection with respect to this

comment?

A. No.

Q. Was a copy of this report given to Southwest Marine?

A. Yes.

Q. Could you read the description on shoreline protection.

A. "Booms and screens on all piers."

Q. The booms are floating booms that you referred to earlier that's in the water?

A. Yes.

Q. What are the screens to which you refer?

A. Some of the piers have holes and they have plugged the holes. They have put a screen and a plug and that's the best management practice.

Q. And is your observation here that those best management practices were being implemented?

A. Yes.

Q. At the bottom of the page there is a section called "Vessel discharges."

A. Right.

Q. Is there anything cut off to your recollection to the left of that?

A. No.

Q. You have none checked in all four boxes. Is

it correct that you did not observe the discharge of any ballast water or bilge water or black water during your inspection?

A. That's correct. That column continues on the next page, the entries that come under vessel discharges.

Q. Could you read for us into the record or actually then make the changes as to what was cut off in that next column at the top of page 4.

A. I'm going to need to see an original.

Q. Okay.

MR. DE LANO: Can we go off the record for a second.

(Discussion off the record)

MR. MC DONALD: Back on the record.

While we were off the record you were provided with a better copy of this to refresh your recollection as to the designations in the column at the top of page 4.

Q. Could you please take a blue pen and fill in what those words should be on the left-hand side of that first column.

A. Okay.

Q. And have you done that?

A. Yes, I have.

Q. On page 4, again if I can refer you to the

section dealing with, looks like type of repair work.

A. Right.

Q. Could you read for us the notations at the top of each of those columns.

A. On Pier 4 there is machinery installation interior structure. Structural. That's a type of work that's taking place on the ship docked at Pier 4.

Q. This is just a description of the type of work that was being done on the ship?

A. That's right.

Q. Is that the gist of -- the comments down at the bottom of that column, looks like it says machinery testing interim work or interior work?

A. That comment refers to Pier 3.

Q. Okay. So that's the type of operation that was going on during your inspection?

A. That's right.

Q. Okay. Can you read the description under the next column or the next section and is it correct that that section refers to BMPs?

A. Yes.

Q. If that's correct, could you add the B.

A. Okay. "No. 1" which refers to Pier 1 "replacing fender piles with steel, almost whole pier bermed."

Q. And could you please for the record identify why you made that comment.

A. On Pier 1 there was a trash can with the waste from replacing the fender piles and they pointed that out to me and the comment that almost the whole pier being bermed, they were still completing that project.

Q. Do you know if that project was subsequently completed?

A. I haven't been notified.

Q. Have you requested that they notify you when that is completed?

A. No.

Q. Could you read the next section or the next description there following the notation No. 3?

A. "No. 3," which refers to Pier 3, "equipment on pier, secondary containment, pier drains are closed."

Q. So the two with the little symbol up above it means secondary?

A. Yes.

Q. How were the pier drains closed?

A. The drains have a screen and a plug. That plug can be opened. It's not a permanent seal.

Q. Is that an acceptable means for plugging drains under the NPDES permit?

A. It's a BMP that they have chosen to put into

effect. Basically the NPDES permit is written that allows them to develop their own BMP methods and the whole purpose of the BMPs is to prevent pollutants going into the bay. This is the method they have chosen for this BMP.

Q. Is that an acceptable choice for a BMP to reduce or eliminate pollution to the bay in this situation?

A. It's effective if they do it correctly. If the plug is closed when there is a potential for contaminants to go into the bay it is acceptable, but if the plug is the open and contaminants can get into the bay, then it is not effective anymore.

Q. If the plug is closed during a period when you have operations that might discharge into the bay it's acceptable?

A. Yes.

Q. If the plug wasn't there and there was a discharge into the bay, that would be a violation?

A. That's right.

Q. Under additional comments at Pier 5, could you read that comment, please?

A. "Pier No. 5 - fire hose testing with San Diego Bay water."

Q. And what does this comment refer to?

A. On Pier No. 5 they had fire hoses lined up on the length of the pier and they were using San Diego Bay water to pressurize the fire hoses. It was basically San Diego Bay water just going into the fire hose and then being discharged into San Diego Bay.

Q. Is that type of discharge sometimes referred to as a non-stormwater discharge?

A. Yes.

Q. Is this type of non-stormwater discharge permitted?

A. Okay. The word permitted --

Q. Let me withdraw the question. State the other side.

Is the discharge of this type of -- Strike that.

Is this type of non-stormwater discharge fire hose testing prohibited by the stormwater permit or the NPDES permit?

A. I can't speak for the stormwater permit, but it's not prohibited by the NPDES permit.

Q. So there are classes of non-stormwater discharge which are allowed to be discharged under the NPDES permit?

A. That's right.

Q. Okay. Would that include -- do you recall

what other categories of non-stormwater discharges fit within that classification that would be allowable under the NPDES permit?

A. The current NPDES permit which is permit 83-011 does not describe those discharges. It's a judgment call.

Q. Okay. Would it include other such discharges like ballast water?

A. Ballast water can be either contaminated or uncontaminated. It would depend upon the type of ballast water.

Q. Okay. And what standards would be applied to make a determination as to whether or not it was contaminated to the level such that it would be prohibited under the NPDES permit?

A. The information that I receive from the shipyard is the only information that I get. It's the responsibility of the shipyard to determine whether the ballast water is contaminated or not by whatever method they choose to do that.

Q. Okay. Turning to the next page, page 5, what did these observations refer to where you are observing the comments on this page?

A. This page is titled Floating Drydock Inspection Form. It's specific for the floating drydocks.

Q. Under the description under work area pollutants, could you just read that whole column one at a time under the designation POSD?

A. Okay. POSD refers to "Pride of San Diego". "Work area is being cleaned for launching in six days. Trash pickup, sweeping, oil leak from equipment."

Q. What's the significance of cleaning the work area prior to launching?

A. The floating drydock needs to be cleaned before flooding in six days. This floating drydock was to be flooded to launch the ship.

Q. So spills of material onto the drydock itself are not a violation of the permit so long as they're cleaned up prior to the dock being reimmersed into the water?

A. As long as they do not go into the bay. They can still become airborne so any contaminants that are being airborne and go into the bay is violation, that can happen at any time. But prior to sinking the drydock to launch a ship the drydock has to be totally cleaned.

Q. Did you observe any pollutants of any kind during your observation of the floating drydocks, either one of them, being discharged into the bay by any method or any pathway?

A. No.

Q. Under name and type of vessel could you identify for us what those vessels are?

A. On "The Pride of San Diego" the U.S.S. Deluth was docked, on the AFDL the "KelStar" was docked.

Q. And then next you have a section where there is a line crossed out, uncontrolled or misdirected vessel and then the word there is discharges?

A. Yes.

Q. Did you line out the uncontrolled or misdirected?

A. Yes, I did.

Q. Why did you do that?

A. Since I borrowed this form from the State of Virginia I need to fine-tune certain titles. I don't like the word uncontrolled or misdirected vessel discharges. I prefer to call this column just discharges.

Q. So your description in this section would be discharges of any kind that you observed?

A. Yes, that's right.

Q. Could you tell us what discharges you observed in the floating drydock area?

A. On "The Pride of San Diego" I marked ballast water. The drydock structure itself has ballast tanks to keep it trimmed and they change the trim on the floating drydock by adjusting the ballast water and that water was

discharging.

Q. Okay. Is the discharge of this water, this particular ballast water that you observed on March 21st, prohibited by the NPDES permit?

A. No.

Q. And did you do anything to make any further determination as to the nature of the ballast water that was being discharged at this time?

A. No.

Q. I think we can go to the next page. Try to get through this and then we'll take a break. Could you read for us your general comments at the lower part of this page.

A. Okay. The general comments for the entire site --

Q. Let me stop you right there. Does the entire site refer to the entire facility or your comments here limited to the floating drydock area?

A. These are for the entire site. This is the only page I have available to make more comments, so I use this page.

Q. The comments beneath that are applicable to the entire facility, not just the floating drydock?

A. That's right.

Q. Could you please identify for us so it is

clear what the five comments are underneath that section.

A. Comment No. 1, "All storm drains labeled." Comment No. 2, "Stormwater diversion system being installed." No. 3, "Entire area bermed, some work areas are isolated with berms." No. 4, "Site very clean, swept, trash pickup." 5, "General improvement of BMPs since 1996 inspection."

Q. So in your opinion the facility was improved in terms of the implementation of BMPs since the inspection you conducted the previous year?

A. Yes.

Q. Did you have an opportunity to review the stormwater diversion system that was being installed?

A. I did not review it on the paper. They gave me a paper while I was at the inspection that described it. I didn't have the opportunity to review that paper but I did look at the stormwater diversion system.

Q. Okay. Have you subsequently had any opportunity to review the papers or documents that they provided to you with respect to stormwater diversion system?

A. No.

Q. Have you had an opportunity to evaluate that system to any degree?

A. No.

Q. Do you have any general impressions as to the effectiveness of that system?

A. The system looks good but it hasn't been tested yet. It hasn't rained.

Q. Okay. Where will the water be discharged from that stormwater diversion system, if you know?

A. It will be discharged to the sanitary sewer.

Q. Will that discharge to the sanitary sewer be subject to the requirements of the NPDES permit for which you're responsible for enforcing?

A. No.

Q. What permit requirements, if any, will that discharge be subject to, if you know?

A. Do you mean once the water has been collected and then it's going to be discharged, at that point what is it subject to?

Q. Yes.

A. The City of San Diego Municipal, their industrial users permit.

Q. So discharges to the sewer system from the stormwater diversion system will be the subject of review by the city's industrial waste department?

A. Yeah. I'm not sure what it is called, whatever permit they get for their discharge to sanitary sewer.

Q. Okay. So just to be clear, the discharge to the sanitary sewer are not within the scope of your duties at the Regional Water Quality Control Board?

A. That's correct.

Q. It's your understanding that it is not generally within the jurisdiction of the Regional Water Quality Control Board but it is under the jurisdiction of the City of San Diego?

A. Once it becomes discharged to the sanitary sewer, that's right.

MR. MC DONALD: Why don't we take a break.

(Recess)

MR. MC DONALD: Let's go back on the record.

Q. Ms. Pease, I would like you to refer to page 6 of Exhibit 6 labeled Marine Railway Inspection Form. Could you identify for us by reference to page 9 the area which is referred to for Marine Railway Inspection Form?

A. This is page 7.

Q. Page -- Whoops. Page 7, I beg your pardon.

A. Okay. What was your question again?

Q. My question was: Could you please identify for us if necessary by reference to page 9 the area which is being inspected and commented upon in these pages labeled Marine Railway Inspection Form?

A. On page 9, the facility diagram, the marine

railways are in between Pier 1 and Pier 2, and they're on the land. They're not well diagrammed.

Q. Okay. But they're on the land side between Pier 1 and Pier 2?

A. That's right.

Q. If I can refer you to page 7, the Marine Railway Inspection Form, the section that is labeled shoreline protection.

A. Right.

Q. Could you read for us your comment there under "Describe."

A. I have a check mark for marine railway No. 2 on other for shoreline protection and I wrote in screen.

Q. What type of screen are you referring to there?

A. There is a screen that goes across the bottom of the marine railway. The bottom part would be the part near the water and it screens off the marine railway from the water.

Q. And what's the purpose of that screen?

A. That screen serves two purposes. One, to not allow like trash to go into the water from the marine railway and to not allow trash to come on shore that floats in.

Q. So if that screen wasn't there there would be

potential for trash to wash out into the water by tidal action?

A. That's right.

Q. Similarly potential for trash to wash up to the facility from the bay?

A. That's right.

Q. Was that screen in place at the time of your inspection of the marine railway system?

A. Yes.

Q. Did the screen appear to be serving its purpose?

A. Yes.

Q. Did you inspect underneath the railway system at all?

A. It's difficult to do that because the marine railways are old, they're a little bit dangerous to try to do that and they're partially covered by either plates or plywood pieces.

Q. So you didn't specifically crawl down underneath the railway to do the inspection?

A. That's right.

Q. Did you observe around that area generally at all?

A. I couldn't look under the plates. There are plates or plywood covers that cover some parts of the

tracks and I wasn't able to look under those.

Q. Were you able to observe any areas other than where those plates were?

A. The areas that surround the marine railways, I could observe the conditions there.

Q. Okay. And can you recall what your observations were with respect to those conditions?

A. I would like to refer to my comments.

Q. Feel free.

A. Type of ground surface around railway, I marked for railway No. 2 paved, good condition, paved maintenance required. I marked both of those because some of the areas were newly resurfaced with asphalt but other areas needed some work.

Q. When you said "needed some work," what kind of work were you referring to?

A. The asphalt has breaks in the asphalt, potholes, just needs some maintenance.

Q. Is that maintenance something that's required by the NPDES permit or is that just a general observation regarding maintenance of the facility?

A. It's just an observation. The maintenance could be interpreted as best management practice.

Q. Referring to the next page which is page 8; is that correct?

A. That's right.

Q. And there is a section entitled BMPs. This refers to best management practices again?

A. That's right.

Q. Could you read for us your description of your observations relating to BMPs for the marine railway inspection?

A. The comments I put were "berms, screens, storm drains labeled, screen inspected regularly."

Q. And could you describe for us what you meant by each of those comments?

A. There are berms installed around the marine railways. The screens are those screens that are in front of the marine railways that separate the marine railway, the land side from the San Diego Bay water. The storm drains in the vicinity of the marine railways have been labeled and have a screen in the storm drain to capture trash and large debris, and the storm drains are inspected on a regular basis.

Q. Did you observe the screens in the storm drains?

A. Yes.

Q. What kind of screens are in there?

A. Just a plate with holes, large holes, maybe half-inch, one-inch holes.

Q. And the installation of those screens is a best management practice?

A. That's right.

Q. Is it your observation Southwest Marine is effectively implementing that best management practice at their facility?

A. Yes.

Q. Have you or to your knowledge has anyone else ever commented on the nature of the screening of the storm drains?

MR. DE LANO: Objection. Vague.

MR. MC DONALD: Let me do it again.

Q. To your knowledge have you ever provided comments to Southwest Marine regarding the nature of the screens on their storm drains?

A. I would need to look on previous inspection reports, I think.

Q. Okay. But as of right now do you recall any times in which you've discussed storm drain screens with them other than the fact that they might be observations in other inspection records?

A. Does your question mean if I ever have talked to them outside of an inspection?

Q. My question is more general. I mean, have you ever had a discussion with them about the nature of

the screens in their storm drains?

A. I would have to look at my previous inspection reports to answer that question.

Q. Okay. That's fine. If you don't recall, that's fine. Perhaps when we look at some other documents it will refresh your recollection. We can go from there.

A. Okay.

Q. Let me state this another way.

Do you recall at this time ever stating to Southwest Marine that the kinds of screens that they were using were inadequate as a BMP?

A. No.

Q. I would now like to show you another document that I would like entered as the next in order. I believe this will be Exhibit 7.

(Exhibit 7 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, I've handed you a document labeled Facilities Inspection Report that's been labeled Exhibit 7. Is this the same form of report that we were discussing in Exhibit 5?

A. Yes.

Q. So this is a summary of your observations of an inspection that will be entered into a statewide system?

A. That's right.

Q. When was the date of the inspection to which this Facilities Inspection Report refers?

A. June 10th, 1996.

Q. And is that an inspection you conducted?

A. Yes.

Q. And what type of inspection was that?

A. A B type.

Q. Down in the section below, immediately below inspection type, there is a question, "Were violations noted during this inspection?" How did you answer that question?

A. I answered the question N which means no.

Q. So you did not observe any violations during this inspection?

A. That's right.

Q. Looks like we may have a little cut off of some things here down in inspection summary. Could you read for us your first observation there and then use a blue pen to fill in any letters that might be cut off on the left side?

A. "Storm drains had filters in place." Do you want me to read the rest of it?

Q. Is that the end of the first comment?

A. Yes.

Q. And what were you referring to by saying filters in place?

A. The storm drains had an absorbent type of material that would catch particulant matter.

Q. And that's a BMP?

A. Yes.

Q. And those BMPs were being adequately implemented during this inspection on June of 1996?

A. Well, the term adequately implemented seems subjective because it depends what they do with those filters. I mean, the filters would be there -- if the filters are never changed or maintained, then that wouldn't be adequate.

Q. Okay. Obviously my question is ambiguous then. Okay. I understand. We can go into the inspection report. Let me ask it somewhat differently.

Was it your observation that the filters which were in place on the storm drains would be adequate to serve as a BMP, assuming that they were changed and maintained regularly?

A. Yes.

Q. What's your next comment?

A. "Need to be labeled."

Q. And to what does that refer?

A. That refers to the storm drains.

Q. Those storm drains were -- Strike that.

On your inspection in March of this year you found that the storm drains were labeled?

A. Yes.

Q. Your next comment?

A. "Drip pans in use."

Q. Is there an E missing on the left side?

A. Yes.

Q. And that's an observation that that was a BMP that was being implemented by Southwest Marine?

A. Yes.

Q. The last comment?

A. "Site basically clean."

Q. Is that your signature immediately underneath --

A. Yes.

Q. -- those comments?

I presume that you're the one that actually filled this out, that's your lettering?

A. Yes.

Q. Ms. Pease, one question on page 2 of Exhibit 7, at the bottom there is historical information.

A. Yes.

Q. Where does that historical information come from on the bottom of this page?

A. The historical information is entered into the WDS system and is printed out on these preprinted forms. We get these forms each fiscal year and I did not receive them this year so I'm using old forms.

Q. So the information -- the historical information at the bottom of page 2 is provided to you by the State as a part of this Facilities Inspection Report?

A. That's right.

Q. Ms. Pease, I would now like to show you what I would like entered as the next exhibit in order which would be Exhibit 8.

(Exhibit 8 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, do you recognize this report?

A. Yes, I do.

Q. Is this an inspection that is summarized on Exhibit 7?

A. Yes.

Q. On the left top of page 1 it looks like your name there, Sue Pease?

A. Yes.

Q. Did you enter that?

A. Yes, I did.

Q. So that's your signature?

A. Yes.

Q. Again, the signature on each page in roughly the same position --

A. Yes.

Q. -- on each page is yours?

A. It is.

Q. Is it correct that this was a type B inspection?

A. Yes.

Q. This was a comprehensive inspection of the facility to determine compliance with the NPDES permit?

A. That's right.

Q. Was this an announced inspection?

A. No.

Q. Would you in the normal course have called someone the day before to let them now if you were coming?

A. Yes.

Q. Do you recall if you did that in this instance?

A. I believe I did.

Q. Do you recall who you would have talked to at that period of time?

A. It was Armando DeQuesada.

Q. Could you spell it if you know how it is spelled?

A. Capital D-e capital Q-u-e-s-a-d-a.

Q. Thank you. There is a description beginning with haz waste under the second section there. Could you read that for me, please, on page 1 of Exhibit 8.

A. Oh. "Hazardous waste area needs to be twice as big - it overflows area. Waste piled outside fenced area. Some spilled paint - near outfall No. 4."

Q. Is this a comment relating to one observation or are there multiple observations here?

A. This comment refers to the hazardous waste storage area.

Q. Is that identified in the attached map that is the last page of this?

A. Yes, it is.

Q. And could you identify for us, please, the place to which you're making -- place at which you're making this observation?

A. There is a site diagram and in the lower section is an area called haz waste storage. There is an arrow that points to the left. That was the overflow of the hazardous waste that was not in the hazardous waste storage area.

MR. MC DONALD: Can we go off the record for a second.

(Discussion off the record)

///

BY MR. MC DONALD:

Q. Why don't you take a blue pen so it would be clear for the record and if you could draw a circle around the hazardous waste storage area and its identification to which you're referring in the lower half of that page.

A. Okay.

Q. And why don't you put your initials right next to that.

A. (Witness complying)

Q. Okay. It was your observation that the hazardous waste area needs to be larger?

A. I made that comment because they couldn't fit it all in their designated area.

Q. When you say it overflows the area, what are you referring to?

A. The hazardous waste storage.

Q. Are you referring to hazardous waste flowing in the area?

A. No. What that means is that the storage of the hazardous waste, there was an overflow storage area so they needed an extra storage that was outside their contained area.

Q. How was this hazardous waste stored? In barrels, cans?

A. Yes.

Q. Bins?
A. Yes.
Q. Okay. Let's go -- You're saying that the hazardous waste that was overflowing the area was in different types of containers?
A. That's right.
Q. And those containers included drums?
A. Yes.
Q. And bins?
A. Yes.
Q. And any other way?
A. Original containers such as paint, solvants.
Q. Did you observe any hazardous waste that was being discharged into the water --
A. No.
Q. -- during this observation?
A. No.
Q. Are you aware of whether Southwest Marine has subsequently altered its hazardous waste area in any way?
A. The hazardous waste area is the same but the practices are different.
Q. And then how are those practices different?
A. They manage their hazardous waste so that they don't overflow the area that's designated for hazardous waste storage. So they have done something so

that they have less quantity of hazardous waste and they're able to contain it all in that one area.

Q. Okay. There is another comment here about some spilled paint on page 1.

A. Right.

Q. Was that in this same area?

A. That was near outfall No. 4. It was in the overflow area.

Q. Did you observe any of the paint being discharged to the water?

A. No.

Q. Do you know if Southwest Marine took any action in respect to your observation of spilled paint?

A. They did not take action while I was at the site.

Q. Do you know if they might have subsequently taken action?

A. No.

Q. If you would refer to page 3, please. There is a section there entitled "Uncontrolled or Misdirected Vessel Discharges" down at the bottom.

A. That's correct.

Q. Could you describe for me your comments in that section.

A. "Ballast water from drydock circulates in and

out. Fire protection water in and out."

Q. Is it correct that you've checked none in the first line there with respect to the two floating docks?

A. Yes.

Q. On Exhibit 6 which was this same inspection form that you used in June -- excuse me, in March of 1997, the first line of uncontrolled or misdirected vessel was lined out.

A. That's correct.

Q. Okay. And why, again, did you line that out?

A. I lined it out --

Q. In March of 1997.

A. I lined it out because since I've started using this form I've acknowledged that some of these titles are not correct. They're not the way I would like to use them on an inspection. So in March of '97 I decided to line out the part that said uncontrolled or misdirected vessel and just use the title discharges because what happens here is that it gets confusing because I've marked none, but the none refers to uncontrolled or misdirected, but my notes indicate that there are discharges.

Q. So is it correct that you have identified these as discharges but they should not be interpreted as uncontrolled or misdirected discharges?

A. That's correct.

Q. These discharges were not out of compliance with the NPDES permit?

A. Right.

Q. If I can refer you to page, I believe it is, 6, and at the top of the page you've crossed out wet slip and written in the word pier.

A. That's correct.

Q. Could you read your description down under BMPs, please.

A. "Piers No. 4 and 5 not used - are in poor condition."

Q. When you say in poor condition are you referring to its condition for operations?

A. That's information given to me by Armando DeQuesada.

Q. Maybe I should ask the question more generally. When you made this comment what are you attempting to communicate in terms of the conditions of Piers 4 and 5?

A. Armando DeQuesada said they were not used because they were in poor condition, and I was just writing down what he told me.

Q. Well, is it correct then that this observation of poor condition does not refer to an

environmental condition?

A. Oh, that's right.

Q. On page 7 under the first column, water surface pollutants.

A. Right.

Q. Could you read the first description there, please.

A. "No. 1," which refers to marine railway No. 1, "will be removed in one to two months. No work taking place."

Q. This description doesn't mean there are water surface pollutants associated with railway No. 1?

A. Right.

Q. It's an observation that they're going to take it out?

A. Yes.

Q. Did they subsequently do that?

A. Yes.

Q. Looks like the second comment is "trash washes up from bay;" is that correct?

A. Yes.

Q. Is there a requirement for them to try to keep the trash from coming from the bay onto their property?

A. The word requirement. Requirement from whom?

Q. The NPDES permit.
A. No.
Q. Is it your observation the trash can wash up from the bay onto the property?
A. Yes.
Q. The last comment in that section appears to be "slight sheen on water near No. 2 and No. 3;" is that correct?
A. That's right.
Q. Do you know what the nature of that sheen was?
A. I marked that it was an oil sheen but that's just based on my observation.
Q. Was there ever any determination of where that oil sheen came from?
A. No.
Q. There was no determination that it came from Southwest Marine?
A. There was no determination while I was there.
Q. I would like to refer you to page 9 of Exhibit 8 entitled "Shipyard Facilities Inspection Report Summary."
A. Okay.
Q. This did not appear to be a page that was used in your general shipyard inspection conducted on the

next year in 1997.

A. That's right.

Q. Do you recall whether or not there was a similar form to this actually filled out in the next year?

A. No. I decided not to use it in 1997. I thought that the information was not very useful from this page.

Q. On this page it says "actions taken." There is a question "Were unknown discharges to State waters observed" and is it correct you checked no?

A. That's right.

Q. And is it your recollection that as you sit here today that there were no unknown discharges that you observed during this inspection?

A. I didn't observe any while I was at the site on that day.

Q. Now, I'd like to refer you to the last page -- excuse me, second-to-the-last page, would be page 10 of this exhibit, Exhibit 8.

A. Okay.

Q. Could you read for us your first comment there. Strike that for a moment.

Is it correct that this is your handwriting and these are your comments?

A. Yes.

Q. Okay. Could you tell us what your first comment is there?

A. It says "Between vehicle maintenance building is drain. Don't know where it goes. Need to find out."

Q. Did you ever find out where that drain went?

A. No.

Q. Did you observe anything going into that drain that might have if it was connected to the bay been an unlawful discharge under the terms of the NPDES permit?

A. There was --

Q. Strike that. Was there any discharge going into this drain?

A. Not on that day.

Q. Are you aware of discharges into that drain on other days?

A. I wouldn't know.

Q. Was it a drain in which stormwater could have gone?

A. I don't know. Wait.

Q. Strike that. That's okay.

A. Okay.

Q. No. 2 comment seems to say "Small area of sheen on water near" --

A. Marine railway.

Q. -- "marine railways 2 and 3. No obvious

source. Area has booms." Does that refer to the same sheen that you identified earlier in this report as being near those railways?

A. Yes.

Q. Was the sheen contained by the booms to your recollection?

A. I don't remember.

Q. You have an observation, "Drip pans used in most areas would be helpful if used throughout;" is that correct?

A. Yes.

Q. As your fourth comment.

A. Yes.

Q. Do you know -- is it your observation in your subsequent inspections that drip pans are being used in more areas now than they were back in -- strike the question. Let me come back.

Your observation was drip pans were used in most areas?

A. Yes.

Q. That is a best management practice of Southwest Marine?

A. Yes.

Q. Have they continued that best management practice in your subsequent observations?

A. My comment would be the same, that they used drip pans in most areas, but I have also noted oil leaks from equipment that have not been contained by drip pans.

Q. Okay. It's your suggestion that they use -- it would be helpful if they used oil pans throughout the whole facility?

A. Yes.

Q. Could you read the next observation, No. 5?

A. "Drainage hole near trash compactor - unknown where drainage from."

Q. Do you have a recollection of what your observation was in respect to that comment?

A. I do not remember this. Oh. On the diagram I've indicated that there is a trash compactor that's about the middle of the diagram on the right side and that next to the trash compactor are some drainage holes. The comment says "drainage hole near trash compactor, unknown where drainage from." What that comment means is that it's unknown where these drainage holes drain, what area of the site they drain. The trash compactor is actually above the drainage holes. It's about six to eight feet above. There is a concrete pad, trash compactor's on top of that, at the bottom of this six to eight-foot walls are drainage holes. I asked the question what those drainage holes drain and they don't know.

Q. So at the time you asked about what might drain into those holes, they didn't know exactly what would drain into the holes?

A. That's right.

Q. Could you read your last comment there to us please, No. 6?

A. Okay. "Site looks good - is clean. Storm drain have filters. Drip pans in use."

Q. And that was your observation generally of the site during this or as a result of this inspection?

A. Yes.

Q. Now I see initials underneath that. Do you recognize those initials?

A. That's Armando DeQuesada's signature.

Q. Did he fill out any of this form?

A. No.

Q. It's correct that none of the observations on this page or elsewhere in this report constituted violations of the NPDES permit?

A. Right.

Q. I would like to show you another Facility Inspection Report that I would like to enter next in order. This will be No. 9.

(Exhibit 9 marked for identification.)

///

BY MR. MC DONALD:

Q. Ms. Pease, I've placed before you an exhibit marked No. 9, Facilities Inspection Report, and this appears to refer to an inspection date of June 16th, 1995.

A. That's right.

Q. Were you present during this inspection?

A. Yes.

Q. Did you fill out any portion of this form?

A. No.

MR. MC DONALD: Let's go off the record for a minute.

(Discussion off the record)

MR. MC DONALD: Back on the record. Ms. Pease, we have substituted another copy of Exhibit 9 before you. We'll label that now as Exhibit 9 and destroy the other one because it's a complete copy -- appears to be a more complete copy of the page.

Q. Ms. Pease, this was also a B type inspection?

A. Yes.

Q. And did you accompany Ms. Fullerton on the complete inspection this day?

A. Yes.

Q. So you observed the same or substantially the same items that she observed during this inspection?

A. Yes.

Q. And your recollection is you were with her all the time?

A. Yes.

Q. Under the inspection type down below there is a question "Were violations noted during this inspection?" How is that question answered?

A. It's answered with a Y for yes.

Q. And yes. Was that filled out by you or Ms. Fullerton?

A. It was filled out by Gloria Fullerton.

Q. Did you observe violations during this inspection?

A. I was a trainee. I'm not able to answer that question.

Q. So you didn't make -- you made observations during this inspection but you did not independently make any determination of whether those observations were violations of the NPDES permit?

A. That's right.

Q. In the inspection summary below it says "Deficient BMP, along storm drain areas." Did you observe what were alleged here to be deficient BMPs?

MR. DE LANO: Counsel, I don't think that's a comma actually, just a clarification for the record.

MR. MC DONALD: I misread. Let's start over

again. Because I did, I said comma. It just says BMPs. So strike that. I'll start again.

Q. In the section entitled Inspection Summary there is a comment that appears to be "Deficient BMPs" all caps, small S, "along storm drain areas." Did you accompany Ms. Fullerton and observe the storm drain areas?

A. Yes, I did.

Q. And do you recall what observations you made or she made during this period of time that were identified as deficient BMPs?

A. I would need to look at the inspection report.

Q. Okay. I would like to introduce next in order a form entitled California Regional Water Quality Control Board San Diego Region Inspection Form-Industrial Discharger.

(Exhibit 10 marked for identification.)

A. Okay.

Q. I guess before we enter this let me ask you. Is this an inspection form that you recognize?

A. Yes.

Q. Okay. And to your knowledge is this the inspection form that was related to the inspection of Southwest Marine's facility on June 16th, 1995?

A. Yes.

Q. Is this the inspection form that provided the data that was summarized in the Facilities Inspection Report, Exhibit 9?

A. Yes.

Q. Ms. Pease, I would like you to take a moment and review the inspection report and then I'm going to ask you some questions about the observations that related to the deficient BMPs.

A. Okay.

Q. You had an opportunity to review that inspection report and refresh your recollection?

A. Yes.

Q. Ms. Pease, what is your understanding of the observations that were identified as "Deficient BMPs" which is on the Facilities Inspection Report?

A. Gloria made some notes on the inspection report of different items that could be interpreted as deficient BMPs.

Q. And what is your understanding of those items which could be interpreted as deficient BMPs?

A. The comments, for example, first comment, "BMP activity involves daily inspection and cleaning which are logged and are available for review." And the lower part of this page it says "The daily BMP inspection has not been done since losing staff." So that is a BMP that

they told us that they do but they hadn't been doing.

The next comment "South of Pier 3 is subcontractor work area. Check the purpose of pump at east end of chain barge. As per Dana Austin, has no purpose." This could be part of a BMP because if the pump is used but they don't even know what the purpose of the pump is, it would be unknown what it is pumping.

The next comment "Across from sandblasting pit is outfall 4. Noted standing water in the drain sump. No discharge noted at outfall. Deficient BMP along the general area that drains to outfall 4." So this is a direct comment that has to do with outfall 4 for having deficient BMPs in the area that drains to that outfall.

Q. Do you have a recollection of anything other than what's noted here to what Ms. Fullerton might be referring when she says "Deficient BMP along general area"?

A. Outfall 4 is near the hazardous waste storage area. The deficient BMP could mean -- could refer to their hazardous waste storage.

The next comment "Area drain sump for outfall 5 needs cleaning of contaminated soil. Sealing of this drain is proposed. Rain occurred night before and this morning. Discharge valve on outfall is open." Their BMP for this outfall 5 valve is that the valve should be

closed during a storm event. It was open and it was draining into the bay, and she noted that there was some contamination -- contaminated soil right at outfall 5.

Q. Do you know what that soil was contaminated with?

A. No.

Q. Do you know what basis she made the observation that it was contaminated?

A. She made no information about that contamination than I did at that time.

Q. Did you make any independent or have any independent evaluation of that soil such that you believed it was contaminated?

A. I had no comments.

Q. Her last comment "The storm drain along the gantry area will be covered with removable steel plates." I think what she meant is that the steel plates could be removed. "BMP will address this."

Q. Could you read for me the last sentence on that page beginning with discharger.

A. "Discharger will discuss/clarify items above in writing to be received by July 1st, 1995. Also, the existing BMP will be sent together with the letter."

Q. Do you know if Southwest Marine responded to this inspection report with a letter?

A. I don't know.

Q. Ms. Pease, I would like to have entered next in order a letter dated June 30, 1995 addressed to Ms. Sue Pease on letterhead of Southwest Marine and signed by Armando DeQuesada.

A. Okay.

(Exhibit 11 marked for identification.)

MR. DE LANO: Off the record.

(Discussion off the record)

BY MR. MC DONALD:

Q. Okay. Ms. Pease, after having looked at this Exhibit 11 does that refresh your recollection as to about whether Southwest Marine might have responded to the comments noted in the inspection form?

A. Yes.

Q. Did you recall receiving this letter?

A. I received it. I don't remember.

Q. Okay. Referring to paragraph two of this letter stating that, you know, "You questioned the purpose of the pump located at the end (aft) of the new chain barge." There is a statement here that "The pump has been disconnected from its power supply and will be dismantled/removed when the barge begins chain blasting operations." Do you know whether that pump was disconnected and removed from the barge?

A. I think it was.

Q. Do you recall seeing that during any subsequent inspection of the facility?

A. I didn't look specifically for that pump.

Q. If the pump was, in fact, removed would that have corrected any potential deficiency or violation of the BMP?

A. Yes.

Q. Let me restate that question. I misspoke. If, in fact, that pump was disconnected and removed, would that correct any deficiency or violation of the NPDES permit?

A. No, because that is not specifically stated in the NPDES permit.

Q. Okay.

A. That pump refers to a BMP deficiency.

Q. Okay. Is it correct that if that pump isn't there, that there is no continuing violation of the best management practices?

A. Only as it refers to that pump.

Q. Right. Excuse me. The third paragraph refers to at outfall 4. "At outfall No. 4 you noted that the sump contained standing water." Do you know if that sump was ever cleaned out and the standing water or material removed?

A. Do you mean in the next month after this inspection or do you mean ever?

Q. Well, let's start with ever. I mean, do you know if it was ever cleaned out and standing water or material removed from the sump at outfall 4?

A. Okay. When I was there in March of '97 there was no standing water which means somehow the standing water left the sump. Now, whether it left in a storm event is something I don't know. It could have.

Q. So as of your inspection in March of 1997 the sump was cleaned and material had been removed?

A. That's right.

Q. You're unaware of how or when?

A. That's right.

Q. Do you have any recollection as to whether the sump contained standing water or material at outfall 4 during your inspection in June of 1996? And feel free to refer to the inspection report.

A. I did not note it on the inspection report.

Q. Do you have any recollection about outfall 4 then at that period of time?

A. Which period of time?

Q. June of 1995.

A. My recollection is that there was oily water in the sump.

Q. In June of 1995?

A. Right.

Q. The next paragraph "Storm drains along the gantry crane area contain debris and other substances as a result of heavy work being performed in the area." Are you aware of whether Southwest Marine has actually fabricated steel covers and plates to fit over the existing drains in that area?

A. As of March of '97 they do not have steel covers and plates because they have fitted all the storm drains for stormwater diversion.

Q. So as of March of 1997 not having steel covers or plates on those would not be a violation of any BMPs?

A. That's right, because stormwater diversion is the BMP for the storm drains.

Q. Okay. There was a comment about daily BMP inspections not being done because of losing staff in the inspection report, which is Exhibit 10. Are you aware of whether Southwest Marine presently is logging their BMP inspections?

A. Could I look at the inspection report for March of '97?

Q. Certainly may. Could you provide her with Exhibit 6, please.

A. On page 2 a section called records, I can't read the left column, but in this area I've checked off what types of records that they keep.

Q. Let me ask the question from a different direction. Are you aware of any information that Southwest Marine currently is not logging its BMP inspections pursuant to the NPDES permit or its BMPs?

A. Well, the NPDES permit does not say that they have to do inspections. That is part of their own BMP program that they have provided to us. So it's not in the NPDES permit, okay.

Q. Okay. Let me reask the question. I mean, do you have any information that they are not complying with their BMP by logging their inspections?

A. I wouldn't know.

Q. Okay.

A. It's -- the records that they keep, I have not requested to look at them. I've only asked if they have the records. They stated that they have the records, but I didn't look at them specifically.

Q. Okay. That's fine. I was just trying to determine if you had any information that they weren't keeping those records. And the answer is they have told -- it's correct they have told you they have kept the records?

A. Yes.

Q. But you don't have any information that that response is incorrect?

A. That's right.

Q. Okay. Ms. Pease, I would now like to show you another document that I would like entered as the next in order which I believe would be Exhibit 12.

(Exhibit 12 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, I have submitted to you what appears to be a two-page document to RWQCB to Sue Pease from Armando DeQuesada.

A. That's right.

Q. Do you recall having received this facsimile, two pages?

A. Yes.

Q. What is your recollection of what is being reported to you by this fax?

A. This is a report of a spill from CHT which is sewage from the USS Oldendorf berthing barge. The berthing barge is docked near the USS Oldendorf and the Navy personnel that are assigned to the USS Oldendorf will be put to the berthing barge while there is work being done on the USS Oldendorf.

Q. So this is a report of leakage of sewage from

the USS Oldendorf?

A. No, from the berthing barge. See, there is a distinction.

Q. Okay.

A. The berthing barge houses the Navy personnel that are assigned to the USS Oldendorf.

Q. Was there any determination made as to whether this was a violation of the NPDES permit or any other requirement?

A. This is a violation.

Q. This is a violation?

A. Of the NPDES permit.

Q. And do you know who was responsible for this violation in your opinion?

A. Southwest Marine.

Q. Southwest Marine. Was this violation corrected?

A. According to the facsimile it was.

Q. Did you ever receive any other information that the action -- Strike that.

Have you received any information that the facts reported to you in this facsimile are incorrect?

A. No.

Q. Are you aware of any prior instances of this type of violation from the USS Oldendorf berthing barge at

Southwest Marine?

A. I would have to look at the file.

Q. Okay. You just don't know?

A. I don't know.

Q. Based upon your knowledge of the Southwest Marine facility is this violation a recurring one? I mean, does it happen frequently or infrequently?

A. I don't know.

Q. Do you know if there was ever any action taken to issue a notice of violation otherwise to take enforcement action with regard to this report?

A. There was none taken.

Q. I would like to now show you another document that I would like entered next in order entitled California Office of Emergency Services Hazardous Material Spill Report. 13.

(Exhibit 13 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, have you seen this document previously?

A. I don't remember.

Q. Can you tell us what this document is reporting?

A. This is a form for the California Office of Emergency Services For Hazardous Materials Spill Report.

It's a spill of oil approximately three gallons from the USS Anchorage. The location was Southwest Marine Pier No. 3, and the description says "Crew member spotted sheen coming from the south towards the ship. Unknown where oil is coming from. Containment and cleanup in process with booms and sponges. Navy asking civilian shipyard to assist in," then it is cut off.

Q. Do you know what civilian shipyard the Navy was asking to assist in?

A. Southwest Marine, because up here in location it has Southwest Marine, Pier 3.

Q. Okay. Do you know if there was ever any determination as to where this oil sheen came from?

A. I don't know.

Q. Who would normally get this type of a report at the Regional Water Quality Control Board?

A. The person that is assigned to the Spill Incidents Response Team which we call SIRT, S-I-R-T.

Q. In the upper right-hand corner there is a notation. It says route and No. 1, has SP and then 2, RS.

A. That's right.

Q. Who would that normally refer to?

A. No. 1 would be me, SP. No. 2 would be Rebecca Stuart.

Q. But it's correct you don't recall having seen

this?

A. I don't remember.

Q. Okay. I want to go just a little bit more and recess and see how much we can do. I'm not sure how fast it will go. We'll break for lunch and see where we are at after the break for lunch.

Ms. Pease, I would now like to enter as the next exhibit in order a four-page document entitled Summary of Violations Questioned by Southwest Marine. It will be Exhibit 14.

(Exhibit 14 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, have you ever seen this document before?

A. No.

Q. Do you know who might have prepared this document?

A. No.

Q. Ms. Pease, I would like you to refer to the first entry dated June 16th, 1995 on this document. The incident here is "Deficient implementation of the BMP along general area that drains to outfall No. 4. Sloppy housekeeping." Do you see that entry?

A. Yes.

Q. Does that entry appear to summarize the

observations that were made during the inspection of which you were a part on June 16, 1995?

A. Yes.

Q. Based upon the inspections that you've subsequently conducted at Southwest Marine have -- has the alleged violation here been corrected?

A. I need to refer to the June '96 inspection.

Q. I believe that's Exhibit 8.

A. The June of '96 page 1, I refer to the hazardous waste area that needed to be twice as big. It overflowed the area, the waste was piled outside the fenced area and some spilled paint near outfall No. 4. So as of June of '96 there was still a problem.

Q. Did that problem of deficient implementation of BMPs continue up until your subsequent inspection in March of 1997?

A. I don't know whether it continued till March of '97 but --

Q. Let me restate the question. As of March of 1997 did this same deficient implementation of BMPs in the general area of the drains to outfall No. 4 exist?

A. No.

Q. So sometime between your inspection in June 10 of 1996 and your inspection in March of 1997 the deficient implementation of BMPs along the general area of

the drains to outfall 4 was corrected?

A. Yes.

Q. Let me see if I can speed this up a little bit.

Ms. Pease, I would like you to take some time and look through this Summary of Violations Questioned By Southwest Marine, Exhibit 14, and my first question will be, as of your inspection in June of 1996 were any of the incidents referred to in this summary existing at that time?

A. The whole summary?

Q. (Nods head)

Let's go off the record for a moment.

(Discussion off the record)

LUNCH RECESS

EXAMINATION (Resumed)

BY MR. MC DONALD:

Q. Let me withdraw. I think there is a question pending before we took the break and when we went off the record. Let's just withdraw the question and we'll start over.

A. Okay.

MR. DE LANO: To make the record clear, that question had to do with the global question about the summary of violations table.

MR. MC DONALD: That's correct and we had a discussion off the record of how to ask those questions. Let me start over and approach it in a different way, see if we can move this along.

Q. Ms. Pease, I would like to refer to Exhibit 14 entitled Summary of Violations Questioned By Southwest Marine, and is it correct you had nothing to do with preparation of this document?

A. That's right.

Q. You don't know who prepared it?

A. No, I don't.

Q. Have you reviewed the underlying inspection reports that might have been the source of information for this document?

A. No.

Q. Stated directly, with regard to item 14, have you gone back and reviewed the inspection reports related to Southwest Marine preceding June of 1995?

A. Have I looked at them?

Q. Yes.

A. Is that your question?

Q. Yes.

A. No.

Q. Let's try it this way. See where we go. Referring to page 1 of the Summary of Violations Questioned by Southwest Marine, on there is an entry midway down the page of October 13, 1994, incident identified as Pier 1 boiler discharges to bay. Do you see that entry?

A. Yes.

Q. In your inspection of Southwest Marine's facility in March of 1997 did you observe Pier 1 boiler discharge into the bay?

A. I need to refer to the inspection. In my inspection report from March '97 on the diagram I note that there is a boiler on Pier 1 but I did not note any discharges from that boiler.

Q. Ms. Pease, very next entry, October 13, 1994, handwritten there is an incident that says "Marine Railways 2 and 3 could use cleaning up of spent abrasive which could wash off with rainfall or tide." Did you make an observation during your March 1997 inspection that the marine railways could use cleaning up with spent abrasive.

A. On my inspection of March 1997 I could not see the marine railways because they were covered, so I did not make any comments about that because I couldn't

see the area.

Q. Okay. Is it fair to say, Ms. Pease, that your inspection report of March 1997 you documented all of the areas of concern that you had with respect to Southwest Marine's compliance with the NPDES permit?

A. Yes.

Q. And are there any areas of concern that you can recall that you did not so note in your inspection report regarding Southwest Marine's compliance with their NPDES permit?

A. No.

Q. Ms. Pease, I would like to have a letter dated April 30, 1996 on the letterhead of San Diego Baykeeper addressed to Art Engle, President Southwest Marine, with a signature of Everett L. DeLano and Ken Moser identified at page 3. I would like to enter this as the next in order.

(Exhibit 15 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, I would like to refer you to attachment 1 to this letter. Have you seen this letter before, by the way, Ms. Pease?

A. No.

Q. I would like you to take a minute to read attachment 1 and then let me know when you've had an

opportunity to read that through.

A. Okay. I've read it.

Q. You had an opportunity to review that?

A. Yes.

Q. Are you familiar with the requirements of the NPDES permit set forth in parts B.3 and D.7?

A. I would need to refer to the permit.

Q. I would like to -- I don't want to enter this necessarily into the record. We are going to be referring to this a lot. I would like to show you a copy of what purports to be Order No. 88-11 the NPDES permit CA0107697.

MR. DE LANO: Off the record.

(Discussion off the record)

MR. DE LANO: This is an exhibit already; isn't that correct?

MR. MC DONALD: I think that's what I was going to --

MR. DE LANO: 1 or 2.

MR. MC DONALD: Okay. Well, then this is an exhibit. We don't have to enter it here. This should be the exhibit previously entered in the deposition.

A. Okay.

BY MR. MC DONALD:

Q. If you can take a moment to refer to parts B.3 on page 7 and D.7 at page 10 of this.

A. Okay.

Q. My question, Ms. Pease, is: Has Southwest Marine developed best management practices in accordance with NPDES permit CA0107697?

MR. DE LANO: Objection. Lack of foundation.

A. What?

MR. DE LANO: I was just objecting for the record.

A. Okay. Your question again?

BY MR. MC DONALD:

Q. My question was: Does Southwest Marine -- has Southwest Marine developed best management practices in compliance with this NPDES permit?

MR. DE LANO: Again, objection.

A. Southwest Marine submitted what's called a Water Pollution Control Plan and that Water Pollution Control Plan is described in finding 9. Finding 17 states that the Water Pollution Control Plan described in finding 9 constitutes a best management practices program. So they submitted a document called a Water Pollution Control Plan. This permit makes a finding that that is their best management practices program.

BY MR. MC DONALD:

Q. Okay. Have you yourself reviewed the best management practices program of Southwest Marine?

MR. DE LANO: Objection. Vague.

A. Yes.

MR. DE LANO: Which best management practices program?

BY MR. MC DONALD:

Q. You can go ahead and answer the question. Let's go -- I'll put this on record. You need to understand that the testimony that you're giving may be used in court. Counsel, both of us, need to be sure the record is made clear for evidentiary objections that may go before the judge, so he needs to interpose objections that a judge may rule on later as to whether or not that answer is allowable or not allowable, my question was proper or improper.

A. Okay.

Q. But you should go ahead and answer the question if you understand it.

A. Okay. I have reviewed several versions of the best management practices from Southwest Marine.

Q. Okay. So you have an understanding that Southwest Marine has developed a best management practices program?

A. Yes.

Q. Is it your opinion that that best management practices program is a program that is developed and in

compliance with the NPDES permit that governs that facility?

MR. DE LANO: Objection. Calls for a legal conclusion.

A. I don't understand your question.

BY MR. MC DONALD:

Q. Is it your opinion that the best management practices program at Southwest Marine complies with the requirements to have the best management practices under the NPDES permit?

MR. DE LANO: Same objection.

A. Where is it stated in this permit that -- as I go through the pages on this permit I do not see a requirement in this permit for them to have a best management practices. I don't see it anywhere in here. What this permit does, it acknowledges that they wrote something called a Water Pollution Control Plan.

BY MR. MC DONALD:

Q. Okay. Let's move on. Referring to part C.5 of the NPDES permit, have you had a chance to read C.5?

A. Yes.

Q. My question is: Are you aware of any discharges from Southwest Marine that contain concentrations of toxic substances into the waters that produce detrimental physiological responses in human,

plant, animal or aquatic life?

A. I have not seen any laboratory data that has been tested for toxicity.

Q. Okay. My question still: Is there any evidence that they are or have -- Let me strike that.

My question is: Do you have any evidence that any discharges from Southwest Marine contains concentrations of toxic substances into the waters that have produced detrimental physiological responses in human, plant, animal or aquatic life?

MR. DE LANO: Objection. Lack of foundation.

A. The evidence would be in the form of laboratory data. There is no laboratory data. It's never been tested.

BY MR. MC DONALD:

Q. You've never seen any laboratory data that demonstrates that concentrations of toxic substances are producing detrimental responses?

A. I've never seen the data because it's never been done. There is a test called a toxicity test.

Q. But you are unaware of any test that shows that it's toxic; is that correct?

A. What I'm aware of is that there has never been a test done for toxicity.

Q. Okay. Have you observed discharges from

Southwest Marine into the bay?

A. Yes.

Q. Are you aware of any evidence that that material or those discharges into the bay contain toxic substances that produce detrimental physiological responses in human, plant, animal and aquatic life?

MR. DE LANO: Objection. Asked and answered.

A. My interpretation of evidence would be laboratory data. There has never been any laboratory data submitted to us on their discharges.

MR. MC DONALD: Okay.

I would like to show you now a copy of the complaint in this action. I would like to enter this as the next exhibit in order.

(Exhibit 16 marked for identification.)

BY MR. MC DONALD:

Q. Ms. Pease, I would like you to refer to paragraph 14 at page 5 of the complaint.

A. Okay.

Q. And the allegation is at page 14, "Defendant is responsible for unlawful and excessive discharges of water pollution associated with its industrial activities."

A. Okay.

Q. I would like to ask you if in your

observations during your inspection at the facility in March of 1997 you observed any unlawful and excessive discharges of water pollution associated with Southwest Marine's industrial activities?

A. I would not know if the water that was being discharged was polluted unless it was tested. The only thing I have to go on is their word, that the discharges that they're calling fire protection water is fire protection water and it is not changed in any way. It's just their word and I just have to take their word.

Q. So you're unaware of any affirmative evidence that the discharges of water pollution were unlawful or excessive?

A. I can't answer that question. I've been to the site twice in the last two years.

Q. Well, let me be sure you understand my question. I am not asking you whether or not Southwest Marine can prove the content of the water that it discharges. I'm asking you what evidence you're aware of as to the quality of the water being discharged. Let me ask the question then.

Are you aware of any evidence that defines the quality of the water discharged from Southwest Marine's industrial activities?

A. Once again, I would look at evidence as being

laboratory data and there is no laboratory data on any of their discharges.

Q. Of which you are aware?

A. Right.

Q. Are you aware of the contents of the Stormwater Pollution Prevention Plan of Southwest Marine?

A. No.

Q. Are you aware of or have you reviewed any annual reports submitted by Southwest Marine in connection with its Stormwater Pollution Prevention Plan?

A. No.

Q. Do you know whether or not there was any laboratory data submitted in respect to discharges that Southwest Marine in parts of its annual reports under the stormwater pollution permit?

A. I've never read the annual report. I don't know what the contents are.

Q. Let me be sure of the same thing. Are you aware of any test data submitted by Southwest Marine in respect to discharges from its facilities under its general industrial permit relating to stormwater?

A. I'm not -- I don't review stormwater data because that's a different unit than my unit. I'm the Surface Water Unit. So I don't know what is submitted or what is done in association with their stormwater permit.

Q. Okay. That's just what I wanted to know. Okay.

Let's go off the record here.

(Discussion off the record)

MR. MC DONALD: I have no further questions at this time.

MR. DE LANO: Can we take like five minutes?

MR. MC DONALD: Sure.

(Recess)

EXAMINATION

BY MR. DE LANO:

Q. Ms. Pease, I want to just remind you that the admonitions that were discussed previously in terms of your testimony, the fact that this is all on the record and all of the rest, that still apply.

A. Okay.

Q. I also want to go back for a moment to what was discussed at the beginning of today, and that is your experience in this area. You mentioned that you have -- you graduated from San Diego State University and that you had taken some certifications and some classes since then. What I want to know is if you had any experience with shipyard operations prior to working with the regional board.

A. No.

Q. What sort of training have you received for conducting the inspections and doing the other activities that you now engage in concerning shipyards?

A. The training I received was going out to the shipyards once with Gloria. Beyond that there wasn't much training.

Q. And when you say going out to the shipyards, you mean more than one?

A. I went to each shipyard once with Gloria.

Q. How many shipyards are there?

A. I went to five shipyards and three Navy sites that are not permitted yet.

Q. So that would be eight in total?

A. Yes.

Q. And while you were on these -- while you were receiving this training with Gloria Fullerton what sort of training did she provide you? What sort of guidance did she provide you?

A. Gloria pointed out that all the facilities were -- had NPDES permits and that they had best management practices and that our purpose in doing an inspection was to judge whether the best management practices were effective.

Q. Did she explain for you how to judge whether

best management practices were effective?

A. She explained by pointing out what good best management practices were and what bad best management practices were and where on a shipyard if there were deficiencies, she felt that were deficient BMPs that were not accomplishing the purpose of the BMP.

Q. Can you give me an example of the latter, of a situation in which she showed you -- she said "This is a bad BMP"?

A. An example would be when we went out to Southwest Marine in June of '95 the area near the gantry, what's called the gantry tracks, or I forget what the area is called, but there is a number of storm drains that are lined up and they were doing a lot of work in that area and there was a lot of debris and paint on the ground and there was nothing to preclude that from going into the storm drain. It was raining the day that we were there so the debris was going into the storm drain.

Q. That's in June of '95?

A. Yes.

Q. Is that reflected in the inspection report which is Exhibit 10?

A. It's very briefly mentioned.

Q. Was it your understanding that when Ms. Fullerton cited violations that she was referring at least

in part to the situation you've just described about debris going into the storm drain?

A. She doesn't say it specifically. She says the storm drains along gantry area will be covered with removable steel plates. And this comment was made in reference to the fact that there was a lot of debris in that area and there needed to be some BMP for those storm drains. I think that there is something missing and that there is probably another piece of paper that goes with this inspection report. I'm not sure.

Q. You're referring to Exhibit 10, that there may be more pages?

A. Right, because this is very brief and it seems like there should be more information.

Q. Can you think of any other examples in which she explained what was a deficient BMP was by pointing out a specific example?

A. At the same inspection, outfall No. 4, the standing water in the drain sump, it had an oily water substance in it and outfall No. 4 has a control valve and the valve was closed. So our question was will this be cleaned, and they were not very specific about whether it would be cleaned or when it would be cleaned and our comment was that that oily water could then go into the bay if they chose to open the valve before they cleaned

it. So that was a deficient BMP because the BMP should state that the sump will be cleaned before the valve is opened.

Q. Do you remember if the valve was locked?

A. It was closed the day that we were there.

Q. Was it locked?

A. I don't think there was a lock on it.

Q. Okay. Are there any instances in which Ms. Fullerton explained or pointed out an example of a deficient BMP at another yard other than Southwest Marine? You mentioned for example you went to five and then three Navy sites.

A. Yeah. I would have to look at the inspection report.

Q. Did Ms. Fullerton ever provide you any written materials that would assist you in your training of your shipyard-related duties?

A. No.

Q. Have you reviewed any written materials that assist you in those duties?

A. Yes.

Q. What are those?

A. EPA documents that have to do with the ship building industry, ship building and repair industry. NPDES permits from other states in the United States.

Q. Anything else?

A. All the documents that have to do with NPDES permits for each shipyard I've reviewed at one time or another.

Q. Can you explain that.

A. Okay. There is a file for each shipyard and in that file are supporting documents for the NPDES permit. They would be permit applications and any attachments to those applications. Since these -- since this permit and all the shipyard permits have expired there have been applications sent in since then and those applications also have attachments. Those are all the supporting documents that I've reviewed. There is also a document written by Deborah Jayne that has to do deal with the threat to the water quality and complexity rating of the shipyards.

Q. Among the EPA documents I'm holding here, EPA Guides to Pollution Prevention, the Marine Maintenance and Repair Industry dated October 1991.

A. Yes.

Q. You can look at this if you would like. Have you seen this before?

A. I have seen it but haven't read it.

Q. So when you mentioned EPA documents that wasn't one of the ones that you were referring to?

A. It's a document that I have but I haven't read.

Q. Okay. Do you remember any EPA documents that you have read?

A. I have the guidance document for best management practices.

Q. You've discussed that some of your duties involve inspections of the shipyards. Is that the extent of your duties? Is that all you do for the Regional Water Board?

A. No.

Q. What else do you do?

A. Are you talking about the shipyards specifically or all my duties?

Q. I'm actually asking you for all of your duties.

A. Okay. I oversee NPDES permits for three ocean outfalls. The oversight of ocean outfalls involves four waste water treatments for one, a five waste water treatments for another one, four waste water treatment plans for the next one. The oversight involves reading monitor reports, doing inspections and taking care of whatever problems or issues come up with each of those permits. One of those waste water treatment plants is currently involved in a lawsuit with the D.A. office in

Orange County. I've been involved in that. Let's see. I also oversee NPDES permits for Sea World, for Scripps Institute of Oceanography. There are two fish hatcheries that have exemptions from NPDES permits but I still have the oversight on those. All of those sites involve monitoring reports, inspections and anything else that comes up.

I was involved in a possible permit of the Chula Vista Nature Interpretive Center. We deemed that site to be exempt from NPDES permit but it involved a bit of time to come to that conclusion. Also involved in a site visit and looking at some of their data.

In addition to that I serve on several committees. I've been involved in the Uniform National Discharge Standards. That is a national program and it has involved going to San Francisco for a meeting and subsequent letters and phone calls. I was involved in the Community Excel Program that Linda Pratt from the County was heading. I have no longer been involved in that program. I'm not sure what the status of that program is. What else? Watershed. I'm on the San Diego Bay Watershed Team with our office. That's an ongoing program to determine the status of the San Diego Bay watershed and we are just in the beginning. That's going to be a seven-year program. What else? Seems like I'm missing

something. And then the five shipyard renewals, three unpermitted Navy sites. I think that's it.

Q. Can you explain that last one.

A. There are Navy sites on San Diego Bay that do not currently have NPDES permits. They have submitted applications and we are trying to incorporate the three Navy sites with the renewal of the five shipyard sites permit. I jotted down notes for a number of activities.

Q. Can you give me any sense of the percentage of your time that you spent on the inspection and reviewing of reports for the shipyards, not the permitting of the shipyards but just the things that were discussed previously this morning.

A. Okay. We are looking at inspections and monitoring reports or just inspections?

Q. I understand you do do both inspections and reviewing of monitoring reports for the shipyards; is that correct?

A. That's right.

Q. Including Southwest Marine; is that right?

A. That's right. That's right. So you want a percentage of inspection and monitoring report review for the five shipyards in total?

Q. That's correct.

A. About 10 percent of my time.

Q. Does that mean Southwest Marine gets about 2 percent of your time?

A. That's right.

Q. Related to that I believe you stated previously that you were to -- you being the Regional Board were to go out and conduct inspections of Southwest Marine at least twice per year; is that correct?

A. That's right.

Q. Has that occurred since you've been working for the Regional Board; that is, have two inspections per year occurred since you've been working there?

A. In fiscal year '95-'96 I thought I had done two inspections but I only see one in these materials. So I need to go back and check my records because I thought I had done two. Fiscal year '96-'97 I've just done one so far.

Q. And we are still in that fiscal year; is that correct?

A. That's right.

Q. When does that fiscal year end?

A. June 30th.

Q. Have you reviewed any monitoring reports for Southwest Marine?

A. Yes.

Q. Which monitoring reports have you reviewed?

A. They have sediment monitoring that's done every six months, and I review all their monitoring reports that come in.

Q. Have you reviewed the monitoring reports that were submitted prior to the time you started with the regional board? Only if you can remember.

A. I would need to look at my letters of acknowledgement because I acknowledge all the reports that I review. I believe I've reviewed reports that came in before I was assigned the shipyards, but I would need to confirm that by looking at the letters.

Q. I may need to ask this basic question. At what point were you assigned to work the shipyards?

A. September of '95.

Q. Have you reviewed anything else concerning Southwest Marine? Strike that.

Have you reviewed any other reports other than the sediment monitoring reports concerning Southwest Marine?

A. No.

Q. And when you go out and conduct your inspections of Southwest Marine you aren't considering the general industrial stormwater permit; is that correct?

A. That's right.

Q. Is there someone who goes out from the

Regional Board and does inspections concerning the general industrial stormwater permit?

A. I don't think so.

Q. Should there -- Strike that.

Since you started working in September of '95 have you discussed with anyone at the Regional Water Board the possibility of someone going out to review and inspect Southwest Marine concerning the general industrial permit?

A. I've mentioned it to Gloria.

Q. And what was her response?

A. Her response is that she is too busy.

Q. Is it fair to say, then, since you've started with the shipyards in September of 1995 that there have been no Regional Water Board inspections for the purposes of considering Southwest Marine's compliance with the general industrial stormwater permit?

A. My general impression is that no one has been out there for that purpose. I think that's true.

Q. As far as you know?

A. Right.

Q. No one has been out there to consider Southwest Marine's compliance with the general industrial permit from the Regional Water Board?

A. Right.

Q. Do you know if anyone from any other state

agency has gone on site to consider Southwest Marine's compliance with the general industrial permit?

A. I don't know.

Q. Do you know if anyone from any federal agency has gone on site to consider Southwest Marine's compliance with the general industrial permit?

A. I don't know.

Q. You haven't been informed of another state agency or another federal agency conducting such investigation?

A. Right.

Q. If I could just -- you might want to wait until I finish asking the questions.

A. Okay.

Q. That's okay. Have you raised the issue of inspections of Southwest Marine's facility for the purposes of considering the general industrial stormwater permit activities with Deborah Jayne, the supervisor of the stormwater unit?

A. No.

Q. Could you describe the sorts of potential areas of concern that you consider when you review -- when you inspect the Southwest Marine facility?

A. I look at potential discharges and actual discharges. The actual discharges could be non-contact

water such as fire water. Non-contact cooling water, steam condensate. Actually, every time I see a discharge I'll ask the question "What is that discharge?" If I don't get an answer, I'm concerned. For the potential discharges I'll look at everything, oil spills, slag on the ground, debris, anything that could possibly go into a storm drain or go into the bay. Wind blown. If a ship is being abrasive blasted, if the shrink wrap is not effective. I've been on inspections where the shrink wrap has torn while I've been there and I've asked what would be done and the BMP would state that the blasting would stop, and while I was there the blasting didn't stop and I said "When are you going to stop the blasting?" 45 minutes later it hadn't been stopped yet. This is not at Southwest Marine, by the way. But those are the types of things I look for.

Q. So abrasive blasting is one of the activities at the yard that could potentially lead to water pollution issues?

A. That's right.

Q. Can you name other activities at Southwest Marine that might lead to water pollution problems?

A. Painting.

Q. Anything else?

A. At this point I practically need my documents

because I have documents that have a list of all the processes that take place at a shipyard and the types of chemicals that are used with each process. At this point I would need those references.

MR. DE LANO: Can we go off the record for a second?

MR. MC DONALD: Sure.

(Discussion off the record)

MR. DE LANO: Back on the record.

Q. Let's put this area off then and when you have a chance to have those documents in front of you we can talk more about that.

A. Okay.

Q. Can you tell me without those documents--and if you can't, that's fine, we can wait until that time--what sort of pollutant might come from various shipyard activities?

A. With the abrasive blasting the abrasive material itself could be a pollutant, and then the paint chips that come off from the blasting could be a pollutant. For specific discharges, sewage of course would be a pollutant. Gray water has pollutants. Contaminated ballast water would have pollutants. Bilge water would have oil pollutants. The boilers are sometimes treated with anti-fouling chemicals. If boilers

leak and that gets into the bay, that would be a pollutant. Different pumps have oils in them. The marine railways have hydraulics. They have hydraulic oils. A lot of cutting tools have cutting oils. All of these are potential discharges.

Q. Are you aware of what sorts of pollutants may be found in abrasive blasting materials?

A. The abrasive blasting materials that I'm aware of that are used are copper slag, garnet, steel shot, plastic shot, walnut shells. That's about it. So whatever pollutants would be found in those abrasive materials. The one I'm most familiar is copper slag, but I don't know as far as parts per million how much copper is in them.

Q. But from copper slag what sort of pollutants are generally found if there are any pollutants found in water as a result of copper slag?

A. I've never seen --

MR. MC DONALD: I'll object on lack of foundation.

A. I've never seen an analysis of copper slag. I'm sure there is more than just copper in it, so I can't answer that question.

BY MR. DE LANO:

Q. With the paint chips, are you aware of

specific pollutants that might be in paint chips from shipyards?

A. I'm only aware that there is zinc in the primer and that there is copper in the anti-fouling paint. Probably a lot more components in the paint that I don't know about and I would need to see MSDS on every single paint that's used.

Q. Are you aware of a substance called tributyltin?

A. Yes.

Q. T-r-i-b-u-t --

A. -- y-l-t-i-n.

Q. Thank you. I got stuck.

Do you know what -- is tributyltin a substance that might be found in shipyards?

A. It could be. Tributyltin used to be used as an anti-fouling paint. The Navy no longer applies tributyltin to their ships; however, there still could be ships around that have tributyltin paint on them.

Q. Do you know whether that material will then potentially be found in a shipyard?

A. If the ship still has tributyltin paint on it and that paint is abrasively blasted off, there is a potential that it could get into the bay.

Q. Have you reviewed documents, reports that

discuss the specific types of pollutants that come off -- that may come off as a result of shipyard activities?

A. I reviewed a report by Deborah Jayne that had to do with the threat to water quality complexity rating and she has a discussion in there of ship processes and hazardous materials used, hazardous waste produced and the potential pollutants.

Q. Is that the only report that you've reviewed that relates to potential pollutants from shipyards?

A. Yes.

Q. What about the issue of best management practices. Have you reviewed documents or reports concerning best management practices at shipyards?

A. Yes.

Q. What are those?

A. I've reviewed the best management practices that each shipyard has provided to us and I've read -- I've started reading the EPA guidance document for best management practices.

Q. Have you reviewed a document entitled California Stormwater Best Management Practices Handbooks, Industrial Commercial dated March 1993? I'll hand you my copy.

A. No.

Q. Okay. Other than the BMP plans submitted by

the shipyards and the rating of the EPA guidance document best management practices which you've just begun, are there any other materials that you have reviewed that discussed best management practices for shipyards?

A. I've reviewed approximately 23 NPDES permits from 15 different states in the United States and I've looked at the best management practices that are included in those permits. State of Virginia has also provided me with another document and I don't remember the exact title but it is something like Best Management Practices For the Ship Building, Construction, Repair, Maintenance Industry, and that is a separate document from the NPDES permit.

Q. Have you talked with anyone within the State of Virginia about that BMP handbook?

A. Yes. That's fine. Yes.

Q. What kind of -- have they given you any guidance on BMPs for shipyards, the people you talked with at the State of Virginia?

A. We have had conversations about BMPs and they have given me their perspective of what they consider good BMPs for a shipyard. State of Virginia tends to be very strict on certain issues. They're very strict on tributyltin and we don't have the same approach to tributyltin as the State of Virginia but we have had conversations about the best management practices. They

have also sent me information about equipment that's being tested to vacuum abrasive materials.

Q. What have you learned from your conversations with the State of Virginia employees about best management practices at shipyards?

A. Not anything specific. We just basically talked about the best management practices in general.

Q. Have you learned anything specific from the BMP handbook from the State of Virginia?

A. The BMP handbook has very good descriptions of different parts of a shipyard about the operations, the processes, the materials used and the waste generated, and then it goes on to describe a BMP that would be applicable to the specific parts of the shipyard and that's been very helpful to me to understand BMPs better.

Q. And has that affected your work in conducting inspections of the shipyards here in San Diego?

A. It's given me a better understanding of the types of BMPs that are available for specific aspects of shipyard duties or processes.

Q. Can you give me an example?

A. Example, sally ports on a floating drydock. The sally ports are openings on the site of the floating drydock. The BMP states that there needs to be a cover over the sally ports and that if there are any discharges

that are occurring on the floating drydock, there should be some type of absorbent materials placed at the sally port so the discharge doesn't go into the water. In this instance it would be San Diego Bay.

Q. Have any of the materials you've reviewed discussed stormwater diversion systems?

A. I don't think so.

Q. Have you ever reviewed any materials related to stormwater diversion systems?

A. No.

Q. Other than the stormwater diversion system that you saw at Southwest Marine have you ever seen a stormwater diversion system before?

A. Nassco has a stormwater diversion on portions of their site.

Q. And you've looked at that system?

A. Yes.

Q. Have you seen how that system has operated?

A. It's below the ground so I've seen the collection portion of it.

Q. Are you aware -- I'm sorry. Were you --

A. Yes. The collection is on the surface but it then goes into an underground storage tank and from the description I received at Nassco there is a quantity that is calculated for the collection that would represent a

first flush of a 10th of an inch of rain water. That water is collected and goes into the storage tank and then there is a valve that would open the rest of the drainage to the bay and that was the description. So as far as seeing it operate, I can only see what's above the ground.

Q. But you are aware of its operation?

A. Yes.

Q. In other words, you know how it operates?

A. Yes.

Q. How did you learn about how Nassco's stormwater diversion system operations?

A. During the inspection it was described to me.

Q. A Nassco employee described --

A. Right.

Q. -- how that system works?

Do you know whether that system is automated or not?

A. I don't know.

Q. What do you know about Southwest Marine's stormwater diversion system?

A. When I was at the inspection Shawn Halvax described how the stormwater diversion system works and they gave me a document which I haven't reviewed yet.

Q. And what do you know about the system based on what you've heard from Mr. Halvax?

A. The stormwater diversion system collects the first flush which is calculated for a 10th of an inch of rain on a specific area of the site, that water goes into the storm drain, then flows to above-ground storage tanks, and then the water will be sent to sanitary sewer. During the night when there is low demand on the sanitary sewer there is a calculated amount that will go into those storage tanks and there are several locations at Southwest Marine that have the storage tanks.

Q. Do you know if Southwest Marine's stormwater diversion system is automated or not?

A. I don't know.

Q. Have you discussed with Mr. Halvax the operation and maintenance issues concerning the stormwater diversion system?

A. No. When I was at the site they hadn't even tested it because it hadn't rained.

Q. Did you ask Mr. Halvax about how he determined or someone else determined for Southwest Marine of what would constitute a first flush?

A. We didn't discuss that.

Q. Did you ask Mr. Halvax what would happen if there were multiple storms in a row such that there was difficulty in releasing what was collected into the diversion system to the sewer system before the next storm

system arrived?

A. We didn't discuss that.

Q. Did you ask him about how Southwest Marine is going to test the collected material prior to disposing of it?

A. No.

Q. Have you reviewed the sampling and analysis plan for the stormwater diversion system at Southwest Marine?

A. No.

Q. You went out to the site -- Southwest Marine site on March 21st of this year for an inspection; is that correct?

A. That's right.

Q. And that was unannounced except the day before you think you called Mr. Halvax?

A. That's right.

Q. Is there any particular reason to choose that day?

A. No.

Q. It just happened to come up?

A. I just needed to do the inspections of all the shipyards.

Q. Did you do other inspections of shipyards within that same time frame?

A. Yes.

Q. Let's take a look at the inspection report for that inspection, which is Exhibit 6 I believe.

A. Yes.

Q. On page 2 of 9 of the inspection report form near the bottom is a discussion about -- I think that's about training; is that correct?

A. Yes.

Q. It says on my copy "aining" actually. And you have checked several boxes as yes in training; is that correct?

A. That's right.

Q. Can you read what's on the right-hand side of the narrative there.

A. "New hire orientation hazardous materials/waste, training always taking place."

Q. Can you explain what you meant by those statements?

A. They informed me that the type of training that they do is they have a new hire orientation. Whenever they have new employees they have an orientation, they have a training for hazardous materials and hazardous waste and that their training is an ongoing process, it's always taking place.

Q. Did you review any of the training

materials -- excuse me. Strike that.

Did you review any training materials from Southwest Marine?

A. No.

Q. Did you speak with any people who had been recently hired from Southwest Marine to inquire about their training?

A. No.

Q. Did you speak with any people who had been working for Southwest Marine for some time to inquire about their training?

A. No.

Q. What did you mean when you said "training always taking place"?

A. I was quoting Shawn Halvax. He said that training is an ongoing thing and it is always taking place.

Q. In the next line it says "When was training last offered? Daily."

A. Yes.

Q. Is that based on what Mr. Halvax told you?

A. Yes.

Q. Did you observe any training on the day you were out there?

A. Yes.

Q. What kind of training did you observe?

A. They did training -- there were two different groups that were receiving training and it was a safety talk about equipment and I think --

Q. Did it relate to issues involving the NPDES permit?

A. I wouldn't know. I mean, I observed that they were doing training but I don't know anything else about the training that was taking place.

Q. Did you get a chance to hear what the training actually was?

A. No.

Q. You mentioned -- you testified previously that you were involved -- that you could not take pictures while on the site on this day; is that correct?

A. That's right.

Q. Did you want to take pictures?

A. Yes, I did.

Q. Were you given an explanation for why pictures were not allowed?

A. Yes.

Q. What was that?

A. I was told I couldn't take pictures because of the lawsuit, because of this lawsuit.

Q. Who told you that?

A. Shawn Halvax.

Q. Did you pursue the issue of taking pictures any further than that?

A. No.

Q. Did you inform anyone at the Regional Board about the fact that you were not allowed to take pictures?

A. Yes.

Q. Who did you form?

A. John Robertus and John Richards.

Q. Have you ever been told previously by anyone at Southwest Marine on your previous inspections that you couldn't take pictures?

A. I haven't brought a camera previously.

Q. On inspections of other shipyards have you ever been informed that you couldn't take pictures?

A. I've never been denied when I've asked. I've been allowed to take pictures.

Q. Did Mr. Halvax explain his rationale concerning the lawsuit or did he just say because of the lawsuit and that was about as far as it went?

A. He just said because of the lawsuit he couldn't allow me to take pictures.

MR. DE LANO: Off the record.

(Discussion off the record)

MR. DE LANO: Back on the record.

Q. You testified previously that in your visit in March of 1997 to Southwest Marine that you observed oil drips from equipment.

A. That's right.

Q. On page 1 of 9 of Exhibit 6 that is indeed your No. 1 observation there?

A. That's right.

Q. "Some oil drips from equipment noted." Did you -- in those instances did you notice any sort of containment of that oil?

A. There was no containment of that oil and I also refer to it on page 3 on pier No. 4, some oil drips.

Q. And by some oil drips there you meant that only drips of oil but there was no containment of that oil; is that correct?

A. That's right. There was also an oil leak on a floating drydock. That's on page 5.

Q. You testified previously that you had reviewed Southwest Marine's -- Strike that.

Have you reviewed an August 1996 BMP plan from Southwest Marine?

A. I don't think so. I would need to check my records.

Q. Do you remember whether any -- Strike that.

You did testify that you had reviewed BMP

plans for Southwest Marine; is that correct?

A. That's right.

Q. Do you remember whether any of the BMP plans that you reviewed for Southwest Marine addressed containment of leaking oil?

A. I would need to check the document.

Q. Let's assume that they did.

A. Okay.

Q. That a BMP plan for Southwest Marine that you reviewed did address the containment of leaking oil.

A. Okay.

Q. If that had been the case and you were -- and the observations that you made on March of 1997 that there was oil dripping and that it was not contained, would that then have constituted in your mind a violation of the NPDES permit?

MR. MC DONALD: I have an objection. Lack of foundation and incomplete hypothetical.

A. Does that mean --

MR. MC DONALD: You can still go ahead and answer the question if you understand it.

A. Okay. The oil drips that are not contained would be a deficient BMP because if their BMP states that they will use drip pans or they will contain oil drips and they are not doing it, my observation is that they are not

putting that BMP into effect. Whether it is a violation or not, I would not call it a violation unless I saw the oil going into the bay.

BY MR. DE LANO:

Q. On what do you base that distinction, the distinction between uncontained oil and uncontained oil that flows into the bay, one leading -- the latter leading to a violation in the form or not?

A. The oil drips that I observed were very minor. They were drips, I would say, the size of a quarter along the pier. The one in the floating drydock was a very small oil drip. Based on that, there wasn't even enough liquid for it to flow anywhere. So my conclusion was that that oil would probably not get into the bay even if it rained on that day, and it was not raining when I was there. So I would just base it on my best judgment whether I felt that the oil could get into the bay.

Q. So following that line of thought, if there had been a larger pool of oil, at some point you would say this is big enough to constitute a violation; is that correct?

MR. MC DONALD: I'll object. Lack of foundation and incomplete hypothetical.

A. It would be a judgment call on my part at

what point I would consider it to be a potential discharge and a possible violation.

BY MR. DE LANO:

Q. If there were an Olympic size pool of oil, that might be a violation?

MR. MC DONALD: I'll have to object. Lack of foundation. Incomplete hypothetical.

A. Depends if it is contained or whether it has a pathway to the bay. My whole judgment would be based on whether I felt that there was a potential for that oil to go into the bay.

BY MR. DE LANO:

Q. If in particular -- Strike that.

If particular equipment does not have drip pans, does not have containment, there is no means of protecting the oil from migrating and if that equipment continues to leak day after day, would you admit that there is the possibility that with enough accumulation of that oil it could indeed be discharged to San Diego Bay?

MR. MC DONALD: I'll object. Lack of foundation. Incomplete hypothetical. Calls for speculation.

A. In my judgment it would have the potential to reach the bay with continued leaking if nothing was done.

///

BY MR. DE LANO:

Q. Do you know if Southwest Marine did anything about the uncontained oil that you observed?

A. They did not do anything while I was at the site.

Q. Do you know if they subsequently did anything about it?

A. I don't know.

Q. How many shipyard inspections have you conducted?

A. In what amount of time?

Q. Since you --

A. Since I started?

Q. For your whole life.

A. I would need to check my records.

MR. MC DONALD: I'll have to object. Anything that she observed under the age of four is probably lack of foundation and lots of other things.

A. I would need to check my records because my recollection is I did two inspections of each shipyard in fiscal year '95-'96; however, I only see one here today for Southwest Marine, so I would need to check my records. For fiscal '96-'97 I have done all the permitted shipyards once.

///

BY MR. DE LANO:

Q. Can you give me an approximate number?

A. No. I need to look up my records.

Q. You've testified that there are five shipyards and three Navy facilities and that you inspect all eight facilities; is that correct?

A. I inspected all eight facilities once. Since then I have only gone back to the five permitted sites.

Q. And of those inspections have you ever noted a violation of a facility's NPDES permit?

A. I have never entered it as a violation. I have observed deficiencies.

Q. Have you observed these deficiencies at yards other than Southwest Marine?

A. Yes.

Q. And in those instances you did not file an inspection report that stated that you had observed violations; is that correct?

A. That's right.

Q. Can you give me an example?

A. At --

MR. MC DONALD: Can you -- I think the question is ambiguous. An example of what?

MR. DE LANO: I'm sorry. Thank you. Thank you.

Q. Strike that. Can you give me an example of an instance in which you have observed a deficiency at a shipyard other than Southwest Marine?

A. Okay. At Campbell Industries a ship had shrink wrap on the superstructure and the shrink wrap tore. There was some airborne abrasive material coming out the hole. I asked the question "What will be done about this?" In this particular instance the operation was immediately shut down and the shrink wrap was repaired. So I noted that as a problem but the problem was immediately taken care of so I did not put that down as a violation.

Q. I believe previously you testified about an instance in which you noted insufficient curtaining, maybe shrink wrap, I don't remember, one of those containment measures, in which you informed the operator of that problem and yet you said that 45 minutes later the blasting was continuing. Do you remember that?

A. That's right. I do remember that.

Q. Where did that occur?

A. That happened at Continental Maritime on a Navy ship.

Q. And in that instance you did not identify a violation in the inspection report; is that correct?

A. That's right.

Q. Why not?

A. I'm not sure. In retrospect I probably should have.

Q. Do you remember whether you noted the problem on the inspection form?

A. I believe I did.

Q. Have you ever observed a rainstorm at Southwest Marine?

A. Yes.

Q. When was that?

A. The day Gloria and I were there in June 1995 it was raining that day.

Q. Do you know whether Southwest Marine adds any materials to its fire protection water -- Strike that.

Do you know whether Southwest Marine adds anything to its fire protection water?

A. Currently they do not. Previously they did.

Q. Can you explain what they previously added.

A. In their NPDES permit renewal application they stated that they added chlorine for anti-fouling for their fire protection water. I have received a letter from Shawn Halvax within the last month stating that they no longer do that and there is nothing added to the fire protection water.

Q. Did Mr. Halvax identify when they had stopped

adding chlorine?

A. I would need to check the letter. I'm not sure.

Q. Can the addition of chlorine constitute a violation of the NPDES permit?

A. The current NPDES permit does not dictate whether that would be a violation and this is the permit that they're currently under.

Q. So it just doesn't address it?

A. I need a moment to check.

Q. Sure.

A. After checking permit No. 83011 on page 8, section C, no. 5, toxicity, it states "All waters shall be maintained free of toxic substances in concentrations that are toxic or that produce detrimental physiological responses in humans, plant, animal or aquatic life." This is the only area in the permit that could possibly apply to chlorine.

Q. You testified that in the March 1997 inspection you were not able to observe the area immediately adjacent to and below the railways; is that correct?

A. That's right.

Q. And that was because the planks and the conditions of the railways?

A. That's right.

Q. If you would look at Exhibit 8 which is your June 8 -- excuse me, June 10th, 1996 inspection form. On page 7 of 10 there is a discussion about the marine railways here. You'll notice written down there on the last line off the first paragraph, "slight sheen on water near No. 2, No. 3." That refers to railways No. 2 and 3; is that correct?

A. That's right.

Q. Did you at that time as best you can recall attempt to discern what that sheen was from, what was causing that sheen?

A. It's not my responsibility to determine the cause of the sheen. It is the shipyard's responsibility and to tell me.

Q. Did you ask the -- excuse me. Strike that.

Did you ask Mr. DeQuesada what the cause of that sheen was?

A. Yes, I did. And the answer -- I have some notes on page 10 of 10, and the answer I got is that he didn't know and there was no obvious source.

Q. Do you remember whether you asked Mr. DeQuesada to investigate the cause of the sheen?

A. I don't remember.

Q. Do you remember whether in June of 1996 you

were able at that time to observe the area immediately adjacent to and below the railways?

A. I don't remember.

Q. So neither as far as you can recall in June of 1996 or in September -- excuse me, in March of 1997 did you observe any materials below the railways; is that correct?

A. What types of materials?

Q. Well, let's say abrasive blast debris. Did you observe that below the railways in either June of 1996 or in March of 1997?

A. In March of 1997 I couldn't see below. There were planks everywhere and the place is dangerous. It's not an area we would want to walk on, so I couldn't see below the planks. I don't remember whether I could see that area in June of '96.

Q. I believe you noted in your March of '97 report that there were -- there was a screen over the railway -- excuse me, on the end of railway No. 2; is that correct?

A. Right.

Q. What's your understanding of what that screen would protect against?

A. The screen has two purposes. It would stop debris coming down and into the water but it also prevents

trash from washing up with the tide.

Q. And do you believe that a screen the type that you -- excuse me. Strike that.

Did you observe this screen?

A. Yes.

Q. To your understanding would this screen prevent small fine materials such as abrasive blast grit from entering San Diego Bay?

A. No.

Q. If there were abrasive blast grit in the railways No. 2 and 3 and it was entering San Diego Bay through tidal action, would that constitute in your mind a violation?

MR. MC DONALD: I'll object. Incomplete hypothetical. Lack of foundation.

A. You're asking me to speculate on something that I haven't seen happen. I would have to actually see this event taking place to call it a violation.

MR. DE LANO: All right.

A. And I couldn't see the area under the planks in March of '97 and I don't recall whether I could see them in June of '96, so it's difficult for me to answer that question.

BY MR. DE LANO:

Q. It's a hypothetical. I'll grant you that.

A. I can't answer the question.

Q. You noted on page 7 of the June '96 inspection form, Exhibit 8, that railway No. 1 would be removed in one to two months. When you were out to Southwest Marine in March of '97 had railway No. 1 been removed?

A. Yes.

Q. Did you inquire with Mr. Halvax or anyone else at Southwest Marine as to how that railway had been removed?

A. No.

Q. Have you reviewed any records concerning how that railway has been removed?

A. No.

Q. Did you inspect what used to be the former railway No. 1?

A. As much as I could. There was still construction taking place. They had resurfaced the area and they were finishing the stormwater diversion and the berms, so we could only go to parts of that area.

Q. What do you mean you could only go to parts?

A. Well, there was equipment on the other parts and we couldn't go where the equipment was.

Q. Your physical access was blocked?

A. Right.

Q. And on March 21st, 1997 when you were there inspecting, the berming around railway No. 1 was not complete; is that correct?

A. That's right.

Q. Can you provide an estimation as to how much area was not bermed?

A. On the whole site?

Q. No. I'm sorry. Just around railway No. 1.

A. On page 9 of 9 there is an area near -- it's called SW-2. That's the part of the berm they were building the day we were there.

Q. Can you tell me where that is.

A. That's the wrong one. You need the March one. It's right here.

Q. Okay. And physically do you have any idea how much? Was it five feet of berming that wasn't complete? 100 feet?

A. I didn't really note that.

Q. Did you notice other areas in the yard on March 21st, 1997 that were not bermed?

A. I didn't note it on the inspection form.

Q. And you don't recall on that?

A. I don't recall.

Q. In addition to fire protection water you've also testified about ballast water from the drydocks and

the discharges of ballast water. Do you know whether Southwest Marine adds anything -- Strike that.

Do you know whether there are any contaminants in the ballast water from Southwest Marine's drydocks?

A. I've never seen any laboratory data on the ballast water.

Q. So you don't know?

A. So I don't know.

Q. Have you asked Southwest Marine for data on the ballast water?

A. No.

Q. Has Southwest Marine provided you any data?

A. No.

Q. You testified about the inspection that you were observing, I believe I'm characterizing that correctly, in June of 1995 in which you and Gloria Fullerton were out at Southwest Marine.

A. That's right.

Q. And that one of the areas that was noted by Ms. Fullerton in the inspection report concerned the hazardous waste containment. If you would turn to Mr. DeQuesada's letter, which is June 30, 1995, which is Exhibit 11, I believe.

MR. MC DONALD: That's correct.

BY MR. DE LANO:

Q. The third paragraph. First of all, I'm not sure, did you testify that you had seen this letter before?

A. Yes.

Q. In the right section of the third paragraph off to right in the border there is some handwritten notes. I don't know if you can read your version of that. Can you?

A. There are notes from Gloria Fullerton and I cannot read all of it, but the gist of it is that she is not agreeing with what they're stating.

MR. DE LANO: Off the record for a second.

(Discussion off the record)

MR. DE LANO: I've handed you another copy of the same letter there, Ms. Pease.

Q. Can you read the writing there?

A. I can read part of it. The letter makes the statement, it says "You noted this is a deficiency," and she has underlined that and said "wrong. BMP deficiency is" -- I can't read the next word. "General area that drains to outfall. And improper chemical storage location." I think it says "BMP deficiency is allowing general area that drains to outfall."

Q. Okay. Did you discuss this issue with --

Strike that.

Did you already testify this is Gloria Fullerton's handwriting?

A. Yes.

Q. Did you discuss this issue with Ms. Fullerton?

A. Not after the inspection.

Q. Have you seen that particular writing prior to today?

A. Yes.

Q. Do you know whether anyone from the Regional Water Board raised this issue about the improper chemical storage location with anyone from Southwest Marine?

A. You mean anyone else other than Gloria raising the issue?

Q. I mean anyone. Let's take it one step at a time. Did Gloria as far as you know respond to this June 30th, 1995 letter to someone at Southwest Marine by explaining to that person what is written here in the right-hand margin?

A. I don't know.

Q. Do you know if anyone else at the Regional Water Board --

A. I don't know.

Q. You did testify that in June of 1996 you

noted problems at the hazardous waste storage area at Southwest Marine?

A. Yes.

Q. And were those problems similar to the problems that were noted in the previous year's inspection?

A. I don't know. Gloria's inspection report is so brief that the only thing I remember is that outfall No. 4 had standing water in it and that she felt that the hazardous waste storage area needed to be changed. She didn't even note that on her inspection report. This is just from conversations at the inspection. So as far as comparing the '96 inspection to the '95 inspection, I noted on the '96 inspection that they couldn't even contain all of their hazardous waste within their designated area, that it overflowed outside the fenced area. I don't remember if that was a similar situation in '95. The only thing I remember about 1995 is that there was standing water in the sump that went to the outfall.

Q. And the sump is a sump that's outside of the hazardous waste area; is that correct?

A. That's right.

Q. So on all of this discussion you're not even addressing the issue of whether the containment for the purposes of stormwater of the hazardous waste area was

adequate; is that correct?

A. That's right.

Q. You're just talking about here is just the actual hazardous waste materials themselves?

A. Right.

MR. DE LANO: Off the record for a second.

(Discussion off the record)

MR. DE LANO: Back on the record.

This is an inspection form, California Regional Quality Control Board, San Diego Region, dated 6-18-92 and it is Exhibit 17.

(Exhibit 17 marked for identification.)

BY MR. DE LANO:

Q. Ms. Pease, could you take a moment to look at that. Have you seen this before?

A. No.

Q. On page 2 of 3 of Exhibit 17 I notice there right at the top it says "Ways 3 - ongoing boat repair - note sandblast at bay side on platform and below along shoreline fronting this area. The entrance into the way is heavily strewn with grit, which is dropping onto the shore below." Did Ms. Fullerton ever discuss this issue with you before?

A. No.

Q. Did anyone at the Regional Water Quality

Control Board ever discuss the issue of sandblast grit along the ways at Southwest Marine?

A. No.

Q. Were you ever informed that Southwest Marine had been in violation of the NPDES permit because of sandblast grit along the ways?

A. No.

Q. Were you ever informed that Southwest Marine had been into violation of its NPDES permit for any activities at the yard?

A. No.

Q. Except that when you went out with Ms. Fullerton on June of 1995, violations were noted at that time; is that correct?

A. That's right.

Q. That would modify your answer a moment ago; is that correct?

A. Right.

Q. But other than that instance in which you actually were present at the inspection and it was -- observations were made in your presence, you didn't know of any other instance that violations had been noted at Southwest Marine; is that correct?

A. That's right.

Q. Who was the person in charge of conducting

inspections at Southwest Marine prior to your arrival in that position in September of 1995? Excuse me. Is that correct? September '95?

A. That's right. Gloria, who was doing the inspections before that.

Q. Gloria Fullerton?

A. That's correct.

Q. And Gloria Fullerton never raised the issues of violations of the inspection other than at the time you were out the inspection?

A. That's correct.

Q. In your inspection in March of 1997 in your general observations which is on page 6 of 9, No. 5 notes "General improvement of BMPs since 1996 inspection." Can you explain what you meant by that?

A. The facility has a -- was in the process of installing a stormwater diversion system. They had put berms on almost all of the site except for the one area around the former marine railway No. 1, but they were doing that day. All the storm drains were labeled, and the site was very clean.

Q. I identified four areas. Installation of new stormwater diversion system, berms, label of drains and the cleanliness of the site. And all of those things were different from the June 1996 inspection; is that correct?

A. That's right.

Q. You testified that you've --

MR. DE LANO: Off the record for a second.

(Discussion off the record)

MR. DE LANO: For the record, we'll stop today and start up again here in these offices on Thursday, May 1st at 8:30 in the morning.

MR. MC DONALD: Yeah. That's so stipulated.

(Whereupon, the deposition was adjourned at 3:30 p.m.)

DECLARATION UNDER PENALTY OF PERJURY

I, Susan Pease, the witness herein, declare under penalty of perjury that I have read the foregoing in its entirety; and that the testimony contained therein, as corrected by me, is a true and accurate transcription of my testimony elicited at said time and place.

Executed this 28 day of May 1997, at San Diego, California.

Susan Pease

STATE OF CALIFORNIA)
: SS.
COUNTY OF SAN DIEGO)

I, REBECCA VIGIL, a Certified Shorthand Reporter in and for the County of San Diego, State of California, do hereby certify:

That the deponent in the foregoing deposition was by me duly sworn; that the deposition was then taken before me at the time and place herein set forth;

That the testimony and proceedings were reported stenographically by me and later transcribed into typewriting under my direction;

That the foregoing is a true record of the testimony and proceedings taken at that time.

(X) A review of the transcript was requested by STEVEN P. MCDONALD.

(X) Changes made by the deponent are appended hereto.

In witness whereof, I have subscribed my name this 28th day of APRIL, 1997.

Rebecca Vigil

CSR No. 5878

DEPOSITION CHANGE SHEET

PAGE	LINE	REASON FOR CHANGE
11	9	Change spelling "Posthumous" to "Posthumus"
11	12	" " "
12	13	" " "
13	2	change "review, monitoring and reports" to "review monitoring reports"
29	19	Change "83-011" to "83-011"
26	17	Change "Fullerton" to "Fulton"
33	10	" "
86	9	" "
86	10	" "
87	6	" "
116	25	" "
116	9	" "
156	18	" "
156	21	" "
157	10	" "
158	3	" "
158	6	" "
160	23	" "
162	6	" "
162	8	" "
200	22	" "
201	4	" "
150	5	Change whole line to read "On the ships on Pier 4 there is machinery installation and"
120	22	Change "monitor" to "monitoring"
121	11	Change "Also involved in a" to "Yes also involved a"
121	18	Change "Excel" to "XL"

DEPOSITION CHANGE SHEET

PAGE	LINE	REASON FOR CHANGE

Navigation

Change Area

Employee Login

Turn Pop-up Hints Off

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Name	Comments	Size	Modified By	Date Modified	Expires	Zip	Renew	Delete
Anchor 2005 (bulkhead investigation rpt Aug BAE00085427).pdf		15.6 MB	Jason Conder	5/25/2011 1:48:00 PM	5/25/2012 1:48:03 PM	☐		
Anchor 2006 (bulkhead completion rpt Dec BAE00085641).pdf		33.7 MB	Jason Conder	5/25/2011 1:48:00 PM	5/25/2012 1:48:03 PM	☐		
Antizar-Ladislao 2008 (TBT review).pdf		375 KB	Jason Conder	5/24/2011 7:51:00 PM	5/24/2012 7:51:03 PM	☐		
Batley et al. 2005 (SQGs)2.pdf		8.1 MB	Jason Conder	5/24/2011 7:51:00 PM	5/24/2012 7:51:03 PM	☐		
Booth 2004 (1990s SWM facil map Pgs from SAR162910).pdf		295 KB	Jason Conder	5/25/2011 1:09:00 PM	5/25/2012 1:09:57 PM	☐		
Chen et al 2010 (TBT sed Taiwan Harbor).pdf		379.1 KB	Jason Conder	5/24/2011 7:51:00 PM	5/24/2012 7:51:03 PM	☐		
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Erickson 1997 (PCB uses).pdf		3.5 MB	Jason Conder	5/24/2011 7:51:00 PM	5/24/2012 7:51:04 PM	☐		
EVS 1999 TBT bioaccumulation.pdf		280.7 KB	Jason Conder	5/24/2011 7:51:00 PM	5/24/2012 7:51:04 PM	☐		
Exponent 2003 Volume_I SAR105417.pdf		66.8 MB	Jason Conder	5/25/2011 12:54:00 PM	5/25/2012 12:54:37 PM	☐		
Exponent 2003 Volume_II SAR105997.pdf		16.9 MB	Jason Conder	5/25/2011 12:54:00 PM	5/25/2012 12:54:37 PM	☐		
Exponent 2003 Volume_III SAR106283.pdf		25.6 MB	Jason Conder	5/25/2011 12:54:00 PM	5/25/2012 12:54:37 PM	☐		
George et al (2005) seawater PCB solid leach.pdf		1 MB	Jason Conder	5/24/2011 7:51:00 PM	5/24/2012 7:51:04 PM	☐		

Halvax 1998 (email PCBs transformer BAE00039353).pdf	68 KB	Jason Conder	5/25/2011 1:11:00 PM	5/25/2012 1:11:22 PM	☐		
Halvax 1999 (depo vol 7, 11-24-99).pdf	2.2 MB	Jason Conder	5/25/2011 1:03:00 PM	5/25/2012 1:03:53 PM	☐		
Jensen 1972 (the pcb story).pdf	1.3 MB	Jason Conder	5/24/2011 6:18:00 PM	5/24/2012 6:18:04 PM	☐		
Johnson et al 2006 (PCBs).pdf	7.9 MB	Jason Conder	5/24/2011 8:04:00 PM	5/24/2012 8:04:27 PM	☐		
Kolb 2005 (email re Sean Halvax CB-1) SAR285339.pdf	25.7 KB	Jason Conder	5/25/2011 1:29:00 PM	5/25/2012 1:29:34 PM	☐		
Larcom et al 1996 (PCBs on Navy ships).pdf	3.5 MB	Jason Conder	5/24/2011 6:18:00 PM	5/24/2012 6:18:04 PM	☐		
Meador 2010 (TBT effects).pdf	90.4 KB	Jason Conder	5/24/2011 8:04:00 PM	5/24/2012 8:04:27 PM	☐		
Meador 2011 (Organotins Aquatic Biota).pdf	3.3 MB	Jason Conder	5/24/2011 8:04:00 PM	5/24/2012 8:04:27 PM	☐		
Moser 3-25-98 Inspection BAE00032008.pdf	154.1 KB	Jason Conder	5/25/2011 1:40:00 PM	5/25/2012 1:40:31 PM	☐		
Ninyo & Moore 2011 (Dec 2010 Tidelands invest).pdf	6.2 MB	Jason Conder	5/25/2011 1:03:00 PM	5/25/2012 1:03:23 PM	☐		
OECD 1973 (PCBs use Europe).pdf	18.6 MB	Jason Conder	5/24/2011 8:04:00 PM	5/24/2012 8:04:27 PM	☐		
OEHHA 2006 (Prop 65 safe harbor levels).pdf	109.5 KB	Jason Conder	5/24/2011 8:04:00 PM	5/24/2012 8:04:27 PM	☐		
OEHHA 2008 (sportfish contam goals).pdf	546.6 KB	Jason Conder	5/24/2011 8:04:00 PM	5/24/2012 8:04:27 PM	☐		
Ogden 1998 SWM sediment November - SAR199495.PDF	2.9 MB	Jason Conder	5/25/2011 1:52:00 PM	5/25/2012 1:52:49 PM	☐		
Ogden 1998 SWM sediment ways December - SAR198846.PDF	22.3 MB	Jason Conder	5/25/2011 1:51:00 PM	5/25/2012 1:51:31 PM	☐		
Pease deposition 4-17-98 BAE00024057.pdf	4.3 MB	Jason Conder	5/25/2011 1:51:00 PM	5/25/2012 1:51:31 PM	☐		
Redacted Erickson 1997 (PCB uses).pdf	7.1 MB	Docs for 5-26-11	5/25/2011 5:18:00 PM	5/25/2012 5:18:54 PM	☐	☐	☐
SDMC 1954 Facility map (Pg from SAR162910).pdf	78.1 KB	Jason Conder	5/25/2011 1:09:00 PM	5/25/2012 1:09:57 PM	☐		
SDMC 1956 Facility map (Pg from SAR162910).pdf	163.8 KB	Jason Conder	5/25/2011 1:09:00 PM	5/25/2012 1:09:57 PM	☐		
SDMC 1959 Facility map (Pg from SAR162910).pdf	144.3 KB	Jason Conder	5/25/2011 1:09:00 PM	5/25/2012 1:09:57 PM	☐		
Silberhorn 1995 (PCBs).pdf	67.4 MB	Jason Conder	5/24/2011 6:18:00 PM	5/24/2012 6:18:04 PM	☐		
SWRCB 1996 (Resolution 92-49).pdf	77 KB	Jason Conder	5/24/2011 8:15:00 PM	5/24/2012 8:15:52 PM	☐		
TN&A 2006 (resp to NOV CB and roof sampling).pdf	5 MB	Jason Conder	5/25/2011 1:28:00 PM	5/25/2012 1:28:42 PM	☐		
TN&A 2006 (Substation Closure rpt SAR373807).pdf	13.7 MB	Jason Conder	5/25/2011 1:05:00 PM	5/25/2012 1:05:45 PM	☐		
TN&A 2007 (substation	33.1 MB	Jason	5/25/2011 1:08:00 PM	5/25/2012 1:08:39 PM			

DETAILED DESCRIPTION OF OPERATIONAL PROCESSES FOR NORTHWEST MARINE AND ITS SUCCESSORS AT THE PORTLAND HARBOR SHIPYARD[1]

Introduction

The intended purpose of this report is to describe in detail the ship repair production processes performed by Respondent at the Property and at the Shipyard. All capitalized terms that are not defined in this report have the meanings given to them in the Information Request responses, to which this report is attached, with the exception of the term *Respondent*. With respect to this report only, the term *Respondent* shall mean, collectively, Northwest Marine, Inc. and its successors-in-interest, BAE Systems San Diego Ship Repair Inc. and Marine Group LLC.

The first part of the report is a basic introduction to ship repair processes.

The Shipyard docking facilities are described in the second portion of the report. Docking facilities are a very important aspect to any shipyard. In the case of the Shipyard, all docking facilities were controlled and operated by parties other than Respondent, including the Port of Portland, during Respondent's Active Operations Period.

The third portion of this report provides an introduction to the basic processes, shops and facilities found on the Property.

Proper surface preparation and coating is essential in the ship repair industry to preserve the life of the products. The fourth portion of the report describes the shipyard surface contaminants, standards, and a variety of surface preparation techniques, and also provides an overview of coating systems, paint application equipment, and painting processes throughout the Shipyard and the Property.

Finally, the fifth portion of the report deals with Respondent's waste management activities. This section discussions the generation, management and disposal of both nonhazardous and hazardous wastes. Additionally, asbestos and PCBs generated from ships are discussed.

[1] This report is dated November 5, 2008, and is attached to and incorporated into: 1) the Portland Harbor Superfund Site Information Request Responses from BAE Systems San Diego Ship Repair Inc.; and 2) the PORTLAND HARBOR SUPERFUND SITE INFORMATION REQUEST RESPONSES FROM MARINE GROUP LLC AND NORTHWEST MARINE, INC.

Part 1

Introduction to Steel Shipbuilding and Repair

The ship repair industry is centuries old, and like most other industries, its techniques have changed considerably with time. Changes are the result of variables such as material types, vessel design, ship sizes, market needs, and manufacturing technology.

Customers of shipyards include small private owners, large companies, and the U.S. Government. Contracts for various shipyard work generally involve a project bidding process similar to that used for most major construction projects. A repair contract is put up for bid, and bidders submit proposals to perform the work.

Introduction to the Ship Repair Processes Conducted at the Shipyard and the Property during Respondent's Active Operations Period:

The ship owner would send out a Request for Proposal (RFP), and the Shipyard and/or other contractors would respond with a proposal for the repair work. Repair contracts involved, among other things, overhauling engines, resurfacing the hull and superstructure, installing new electronics, and other repair and maintenance items. Ship repair contracts lasted anywhere from one day to over a year, depending on the complexity of the job. Repair contracts were generally under severe time constraints, and prompt delivery was very important. Failure to deliver a repaired ship on time could result in the contractor paying damages to the ship owner. Repair activities tended to be cyclic; therefore the workforce experienced surges in workload, making shipyard personnel management difficult. Therefore, subcontractors were used for repair activities in the Shipyard to help even out the staffing.

Shipyard Facilities:

The Shipyard was like most U.S. shipyards in terms of its facilities and processes. A major difference however between the Shipyard and other U.S. shipyards was that all of the Shipyard's piers, wharfs, and dry-docks, and several of the production facilities, were owned and operated by the Port, either directly or through Cascade General (all references herein to the Port include Cascade General, during the period it operated the Shipyard). This was very unusual, as very few port districts actually owned and operated ship repair yards, although in some instances, the land on which a shipyard was located was leased from a port district. Therefore, it is important to keep in mind that, while Respondent also owned and operated certain facilities, and conducted certain ship repair processes on its land-locked Property, a large portion of the work described herein was performed at Shipyard facilities, docks, piers and wharfs owned and operated by the Port.

For the purpose of clarity, any operations or processes performed in facilities owned or operated by Respondent will be identified as "NWM." Any operations or processes performed in facilities owned or operated by the Port will be identified as "Shipyard."

Shops and Facilities Utilized:

- Dry-docking Facilities – Shipyard
- Shipbuilding Positions – Shipyard
- Piers and Berthing Positions – Shipyard

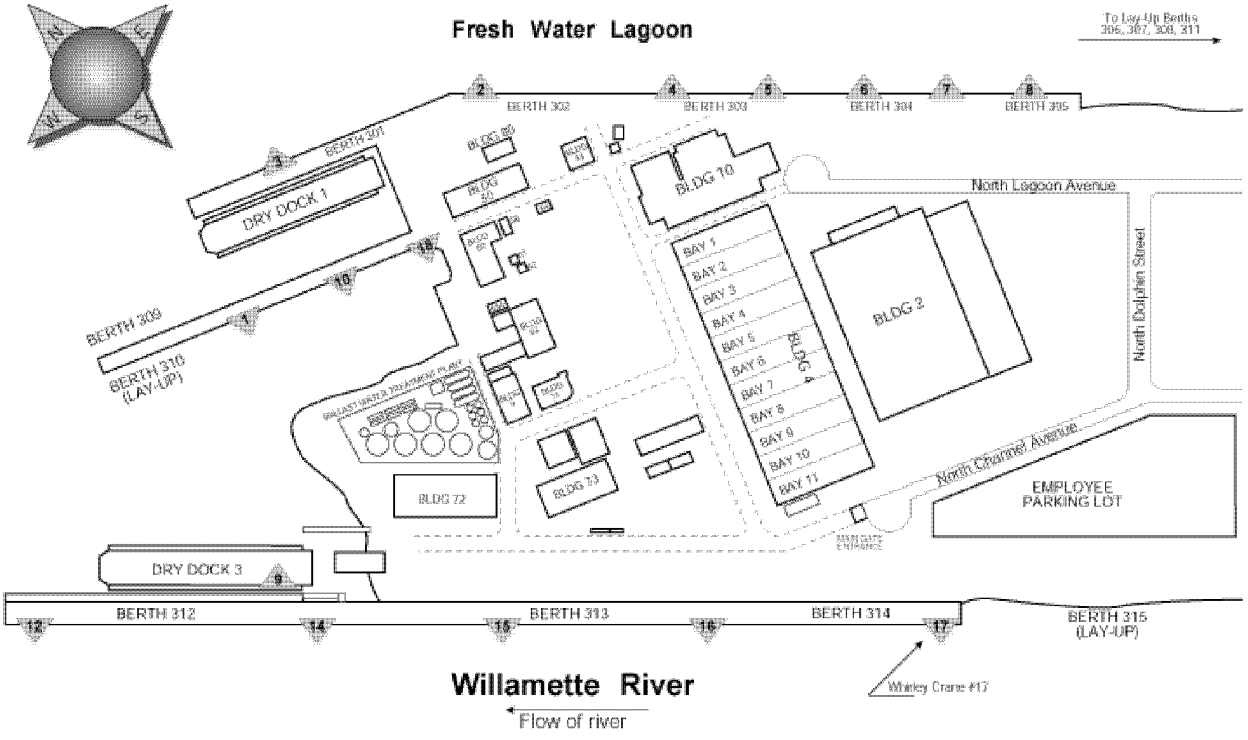
- Work Shops:
  - Sheet Metal Shop – NWM
  - Steel Assembly Shop – NWM
  - Pipe Shop – NWM
  - Machine Shop – NWM
  - Carpentry Shop – NWM
  - Maintenance Shop – NWM
  - Electrical Shop – NWM
  - Paint and Blast Shops – NWM and Shipyard
  - Plate Shop – NWM
- Work Areas – NWM and Shipyard
- Steel Storage Area – NWM
- On-Board Construction – Shipyard
- Other Office Buildings – NWM
- Materials Warehouses – Shipyard and NWM
- Engineering and Planning – Shipyard and NWM
- Administration, Medical, Safety and Environmental – Shipyard and NWM
- Security – Shipyard

Part 2

Shipyard Docking Facilities

Shipyards can be thought of as an integration of individual facilities and processes that are combined together to facilitate the production and/or repair of ships. Generally, the largest or most expensive facilities in the shipyard are its docking facilities. The ship repair industry relies heavily on docking facilities, and in many cases, a shipyards' industrial capabilities are evaluated on the quantity, size, and type of docking facilities it possesses. Ships can be either wet-docked or dry-docked. A wet-dock, or berth as it is commonly called, is a pier or a wet slip position next to which a ship can dock and tie up. A ship that has its entire hull exposed to the atmosphere is said to be dry-docked. The floating dry-dock is a floating vessel secured to land that has the ability to be lowered under the water's surface to raise ships above the water surface level. Floating dry-docks are generally used for ship repair, but in some cases they are also used for ship construction. Dry-docks range anywhere from 50 to 1000 feet in length. In 1963, the Port built Dry-Dock 3, then the largest floating dry-dock in the Americas. In 1979, Dry-Dock 4, the then largest floating dock in the Western Hemisphere, was operational.

Dry-Dock 4 was sold and transported to the Grand Bahamas Shipyard in 2002, where it was renamed No. 2 Dock. Dry-Docks 3 and 1 remain at the Shipyard, in the configuration shown below.



Dry-dock Ballast Compartments and Buoyancy Chambers: Most of the floating dry-dock structure is used as ballast tanks and buoyancy compartments for raising and lowering the dock. Most of the pontoon deck and side walls house buoyancy chambers and ballast tanks. The main difference between a ballast tank and a buoyancy chamber is that water never enters a buoyancy chamber. Water is pumped into the ballast tanks and causes the dock to submerge. The amount

of water pumped into the ballast compartment determines the depth to which the dry-dock will submerge. When water is pumped out of the ballast tanks, the dry-dock returns to the water's surface. Buoyancy chambers are, as the name implies, sealed areas that maintain a certain amount of buoyancy to protect the dock from sinking too deep; they also aid in keeping the vessel level. Buoyancy chambers are located in both of the wing walls and under the pontoon deck. Since they are not subjected to flooding, many buoyancy chambers are used for machinery space, equipment storage, personnel quarters, mess rooms, workshops, and other activities. Proper functioning of the ballast compartments and the buoyancy chambers is instrumental in proper floating dry-dock operations. Some of the newer floating dry-docks have computer operated systems that control the raising and lowering of the docks.

Floating Dry-Dock Operation: The floating dry-dock consists of pumps and associated ballast tanks used to raise ships above the water level for work that requires exposure of the hull. When ballast tanks are flooded the dock begins to submerge. A ship is then strategically positioned over bilge and keel blocks located on the pontoon deck. The position is maintained while the ballast tanks are de-watered. The de-watering process raises the dock and thus the ship above the water surface level. Once the ship is dry-docked, it is generally hooked up to land-based utilities to keep its systems operational during docking.

The side wall, and thus the entire dock, is secured to land in one or more locations to prevent the dock from floating away. Wing walls have a railway, gears, or some type of mechanical system that allows the dock to be raised and lowered. Usually one attachment is located at the shore entrance of the dock and the other is located on the outside of one of the side walls.

Procedures for Docking and Undocking: The specific procedures will vary from shipyard to shipyard, but the general operations are as follows:

1. Dry-dock is cleaned and cleared of equipment to allow for immersion into underlying waters.
2. Keel and bilge blocks are positioned on the pontoon deck. The location, quantity, and size of keel and bilge blocks are dependent upon the size and shape of the ship being docked.
3. Once the keel blocks are in place and the dock is ready to submerge, water is pumped into the ballast tanks.
4. The ship is positioned correctly over the keel and bilge blocks. The ship is usually secured in position by bow and stern lines from the upper deck to the wing walls.
5. Air replaces water in the ballast tanks, causing the dock to become buoyant enough to float both the dock and the ship. The ship is now dry-docked.
6. The final step in the operation is to hook the ship up to land-based utilities.

Shipyard Wharfs and Piers: During a ship's stay at the Shipyard it was often docked at a pier or wharf. The Shipyard had a variety of berthing positions depending on the ship's size and configuration. Repairs of ships were also performed at berth. (See figure above for berthing positions at the Shipyard.)

Piers and wharfs provide a place for ships to wet-dock or berth and in many cases are constructed differently. Piers extend longitudinally into the nearby waters and are supported by columns that are driven down into the underlying soil. Piers are set up to berth ships on either side of the pier. The depth of the water surrounding the piers is dependent on the requirements

for draft of docking ships. Frequent dredging may be required to maintain the desired depth of surrounding waters.

Utilities Supplied by the Shipyard's Docking Facilities: When a ship is docked for repairs many utilities need to be supplied to the ship, shipyard workers, and the ship's crew. The ship needs utilities to support production and repairs and supply shipboard systems. System support utilities include: fresh water, power, steam boilers, grey and black water discharges, and seawater for cooling and fire systems. Production support utilities include: electric power, compressed air, oxygen, and argon. Ships docked at the Shipyard were hooked up to land-based utilities, such as:

- Fresh Water
- Boilers for Steam
- Disposable Receptacles for Sanitary Wastes
- Disposable Receptacles for Solid Wastes
- Tanks and Pumps
- Compressed Air
- Electric Power
- Welding Gases
- Fire Systems
- Telephone
- Waste Water Removal

Part 3

Basic Processes, Shops and Facilities at NWM

Steel Ship Repair Practices and Processes: Ship repair by Respondent included ship conversions, overhauls, maintenance programs, major damage repairs, and minor equipment repairs. A typical ship repair contract required a timely coordination and an aggressive bidding process. Repair work customers included the U.S. Navy, commercial ship owners and other marine structure owners.

The customer would provide contract specifications, drawings, and standard items. Contracts were "firm fixed price," "firm fixed price award fee," "cost plus fixed fee," "cost plus award fee," or urgent repair. The process started in the marketing area when Respondent was provided a RFP or an Invitation for Bid (IFB). The lowest price usually won an IFB contract, while a RFP award could be based on factors other than price. The repair estimating group prepared the cost estimate and the proposal for the repair contract. Bid estimates generally included labor rates, materials, overhead, special service costs, subcontractor costs, overtime/shift premiums, other fees, cost of Shipyard facilities, and cost of money (interest), totaling the estimated price of the contract.

Common Types of Repair Work Conducted by Respondent: Ships are similar to other types of machinery in that they require frequent maintenance and, sometimes, complete overhauls to remain operational. Examples of maintenance and repair duties that Respondent conducted included:

- Blasting and repainting hull freeboard superstructure and interior tanks and work areas
- Major machinery rebuilding and installation (*e.g.*, diesel engines, turbines, generators, and pump stations)
- Systems overhauls, maintenance, and installation (*e.g.*, piping system flushing, testing, and installation)
- New system installation, either new equipment added to the ship or systems that were in need of replacement (*e.g.*, navigational systems, combat systems, communication systems, and updated piping systems)
- Propeller and rudder repairs, modification, and alignment
- Creation of new machinery spaces on the ship (*e.g.*, cut-out of existing steel structure and adding new walls, stiffeners, vertical, and webbing)

In many cases, repair contracts were on an emergency basis with very little warning. Repair ships typically stayed in the Shipyard from 3 days to 2 months, while major repairs and conversions often lasted over one year.

Large Repairs and Conversion Projects: Large repair contracts and major conversions are common in the ship repair industry. Examples of major repairs include:

- Conversion of supply ships to hospital ships
- Cutting a ship in half and installing a new section to lengthen the ship
- Replacing segments of a ship that has run aground
- Complete rip-out, structural reconfiguration and outfitting of combat systems

- Major remodeling of ship's interior or exterior (*e.g.*, complete overhauls of passenger cruise ships)

Most major repairs and conversions require a large planning, engineering, and production effort. In many cases, a large quantity of steel work will be needed (*e.g.*, major cut-out of existing ship structure and installation of new configurations). These projects can be divided into four general stages: 1) removal of old structure; 2) building new structure; 3) equipment installation; and 4) testing. Respondent used subcontractors for many major and minor repairs and conversions. The subcontractors provided expertise in specialized areas and helped to balance Respondent's labor force. Work that subcontractors performed for Respondent included:

- Support of ship repair
- Major combat systems installations (technical)
- Boiler retubing and rebuilding
- Air compressor overhauls
- Lagging removal and disposal
- Tank cleaning
- Blasting and painting
- Pump system overhauls
- Small structural fabrication
- Winch overhauls
- Main steam system modifications
- System fabrications (*e.g.*, piping, ventilation, and foundations)

All installed systems must be tested and operational before the ship is delivered back to its owner. Testing requirements generally originated from the contract, although other sources of testing requirements do exist (*see*, *e.g.*, NAVSEA standard items and reference memos at http://www.navsea.navy.mil/content/References/NAVSEA_Instructions.aspx). The tests must be scheduled, tracked for proper completion, and checked off by the proper groups (*e.g.*, shipyard internal quality, SUPSHIP (U.S. Navy Supervisors of Shipbuilding, Conversion & Repair), Ships Force, government agencies, and ship owners). Once systems are in place and properly tested, the areas, compartments, and/or systems are considered "sold to the ship" (*i.e.*, completed).

Support Shops for Ship Repair at NWM: Support shops are an important part of a shipyard's overall production process. In some cases, the support shops are small manufacturers producing goods to support the production effort. Other support shops mainly provide services to the shipyard that support production (*e.g.*, maintenance and carpentry shops).

Pipe Shop: The pipe shop was responsible for manufacturing and assembling piping systems. Small pipe sections known as "pipe spools" were assembled in the pipe shop and transported to the stages of construction (*i.e.*, assembly, on-block, on-unit, and on-board). Pipe spools are shaped and manufactured per engineering design, scheduled for construction, and sent to the various stages for installation. Many pipe shops would tag the spools to identify the location for installation on the ship. Some of the processes in the pipe shop included: pipe welding (arc, MIG, TIG, and pulse arc), pipe bending, flux removal, grit-blast, painting, and pressure testing.

Equipment used at the pipe shop included pipe welders, lathes, pipe cutting saws, shears, grinders, chippers, hole cutters, pipe benders, and transportation equipment.

A detailed Process Flow Chart for Pipe Fabrication and Pipe Fitting operations, as performed by Respondent, is provided in Appendix 1: NWM Process Flow Charts. Some of the Material Safety Data Sheets (MSDS) from the time Respondent was in operation are being submitted (see document type "Materials Safety Data Sheet" in the electronic document database submitted herewith), but most have not been located. It is believed that most MSDS were disposed of at or shortly after November 9, 1992, the date on which Respondent concluded active operations. However, most materials utilized by Respondent are similar in composition to those materials used for the same processes today. Therefore, current MSDS for common materials utilized for pipe shop processes are included in Appendix 2: Material Safety Data Sheets.

Material inputs to the processes included:

1) Fabrication Materials
    a) Metal Pipe
    b) Cleaning Solvents
    c) Petroleum Oils and Lubricants
2) Shop Disposables/Consumables
    a) Shop Rags
    b) Welding Gasses
    c) Welding Wire and Stick
3) Hydro testing
    a) Water
4) Transportation Equipment
    a) Forklifts
    b) Cranes
    c) Trucks

Process outputs included:

1) Fugitive Air Emissions
    a) Welding Fume
2) Fabrication Wastes
    a) Metal Fab Waste
    b) Metal Cuttings
    c) Waste Oil & Lubricants
3) Waste Disposables
    a) Shop Rags

b) Welding Sticks

4) Hydro test waste
   a) Waste Water
5) Installation Waste
   a) Various Waste Disposables

Machine Shop: Machining shops serve a shipyard's machining needs, though the exact functions of shipyard machine shops vary throughout the shipbuilding industry. Typical machine shop equipment consists of end mills, lathes, drill presses, CNC milling machines, band saws, large presses, work tables, cleaning tanks, and other machining equipment.

A detailed Process Flow Chart for Machine Shop operations, as performed by Respondent, is provided in Appendix 1: NWM Process Flow Charts. Some of the MSDS from the time Respondent was in operation are being submitted (see document type "Materials Safety Data Sheet" in the electronic document database submitted herewith), but most have not been located. It is believed that most MSDS were disposed of at or shortly after November 9, 1992, the date on which Respondent concluded active operations. However, most materials utilized by Respondent are similar in composition to those materials used for the same processes today. Therefore, current MSDS for common materials utilized for machine shop processes are included in Appendix 2: Material Safety Data Sheets.

Material inputs to the processes included:

1) Fabrication Materials
   a) Steel and Other Metals
   b) Cleaning Solvents
   c) Petroleum Oils and Lubricants
2) Shop Disposables/Consumables
   a) Shop Rags
   b) Welding Gasses
   c) Welding Wire and Stick
3) Transportation Equipment
   a) Forklifts
   b) Cranes
   c) Trucks

Process outputs included:

1) Fugitive Air Emissions
   a) Welding Fume
2) Fabrication Wastes
   a) Metal Fab Waste

b) Metal Cuttings

c) Waste Oil & Lubricants

3) Waste Disposables

a) Shop Rags

b) Welding Sticks

4) Hydro test waste

a) Waste Water

5) Installation Waste

a) Various waste disposables

Sheet Metal Shop: The sheet metal shop was responsible for fabricating and installing ventilation ducting and vent spools. Using engineering drawings and special sheet metal tools, this shop produced ventilation systems for new construction as well as repair work. The shop cut, shaped, bent, welded, stamped, painted, and performed a variety of manufacturing operations for ship ventilation systems. Often sheet metal shops are responsible for assembling large ducting fans and heating and air conditioning components. Sheet metal workers perform the installation of the ducting in various stages of construction (*i.e.*, on-block, on-unit, and onboard).

A detailed Process Flow Chart for Sheet Metal Shop operations, as performed by Respondent, is provided in Appendix 1: NWM Process Flow Charts. Some of the MSDS from the time Respondent was in operation are being submitted (see document type "Materials Safety Data Sheet" in the electronic document database submitted herewith), but most have not been located. It is believed that most MSDS were disposed of at or shortly after November 9, 1992, the date on which Respondent concluded active operations. However, most materials utilized by Respondent are similar in composition to those materials used for the same processes today. Therefore, current MSDS for common materials utilized for sheet metal shop processes are included in Appendix 2: Material Safety Data Sheets.

Material inputs to the processes included:

1) Fabrication Materials

a) Sheet Metal

b) Cleaning Solvents

c) Petroleum Oils and Lubricants

2) Shop Disposables/Consumables

a) Shop Rags

b) Welding Gasses

c) Welding Wire and Stick

3) Transportation Equipment

a) Forklifts

b) Cranes

c) Trucks

Process outputs included:

1) Fabrication Wastes
   a) Metal Fab Waste
   b) Metal Cuttings
   c) Waste Oil & Lubricants
2) Waste Disposables
   a) Shop Rags
   b) Welding Sticks
3) Scrap Metal
   a) Various metal scraps
4) Fugitive Air Emissions
   a) Welding Fumes
5) Installation Waste
   a) Various Disposables

Electrical Shop: Electrical shops in a shipyard perform a variety of functions throughout the industry. In many cases, the electrical shop installs, rebuilds, builds, and tests electrical components (*e.g.*, motors, lights, transformers, and gages). The electrical shop electricians also install the electrical equipment on the ships. Electrical technicians inspected equipment, ordered new equipment and parts, trouble-shot equipment failure, identified mechanical and electronic problems and repaired systems and equipment. For ship repairs, the electricians worked only in the NWM electrical shop or onboard ships in the Shipyard. The most common task was to rebuild electrical motors on the ship. If possible the motors were removed from their station on the ship and rebuilt in the NWM electrical shop. If it was not possible to remove the motor, the electrician would work aboard the ship in the Shipyard. Electricians also performed maintenance on the NWM shop facilities.

A detailed Process Flow Chart for Electrical Shop operations, as performed by Respondent, is provided in Appendix 1: NWM Process Flow Charts. Some of the MSDS from the time Respondent was in operation are being submitted (see document type "Materials Safety Data Sheet" in the electronic document database submitted herewith), but most have not been located. It is believed that most MSDS were disposed of at or shortly after November 9, 1992, the date on which Respondent concluded active operations. However, most materials utilized by Respondent are similar in composition to those materials used for the same processes today. Therefore, current MSDS for common materials utilized for electrical shop processes are included in Appendix 2: Material Safety Data Sheets.

Material Inputs to the process include:

1) Fabrication Materials
    a) Electrical cable and wire
    b) Resin
    c) Oils and Lubricants
2) Shop Disposables/Consumables
    a) Shop Rags
    b) Cleaning solvents
    c) Cable spools
3) Transportation Equipment
    a) Forklifts
    b) Cranes
    c) Trucks

Process Outputs in the process include:

1) Fabrication Wastes
    a) Electrical Fab Waste
    b) Cable and Wire Cuttings
    c) Waste Oil & Lubricants
    d) Spent solvents
2) Waste Disposables
    a) Shop Rags
3) Scrap Metal
    a) Various metal scraps
4) Fugitive Air Emissions
    a) Dip solvent tank emissions
5) Installation Waste
    a) Various Disposables

Plate Shop: The plate shop is a generic term used for the area and process in a shipyard that provides steel parts cutting, bending, and sub-assembly. The plate shop uses information from engineering drawings to produce plate shapes. The shapes are cut and formed as needed. The plate shop has manual and computer-controlled machinery. The types of machinery commonly found in the plate shop are cutting machines, steel bending machines and plate bending rolls, shearing machines, presses, and hole punching equipment. The plate shop sends parts and subassemblies that it outputs to the ship for installation.

Respondent had a plate shop operation at the Property. However, if large or complex work was necessary for a repair effort, Respondent would have the plates fabricated off site and transported to the Shipyard for installation.

Support Services for Ship Repair Processes:

Support services are important to ship repair operations. Support services personnel perform functions ranging from general yard cleanup to utilities to rigging cranes, and support and facilitate production with their knowledge and labor. Support services needed in the shipyard include:

Production Services: The production services shops are sometimes grouped into one department. The services they provide are instrumental in the overall operation of the shipyard. Services provided by this department include: carpentry, scaffolding installation, facility and equipment maintenance, and other production support activities. As the name implies, these shops are designed to service production in the ship repair process.

Materials Transportation and Warehousing: Materials throughout the shipyard are generally controlled by a transportation and materials department. The materials (*e.g.*, pipes, lights, and venting) need to be delivered to the proper location in the shipyard to be installed. This department uses forklifts, trucks, cranes, carts, carriers, and other materials transport equipment. Materials received through the materials department are checked for quality, quantity, and proper invoicing before they are sent to the warehouse. The materials are then packaged in work packages and prepared for shipment to production at the various stages.

A detailed Process Flow Chart for Materials Transportation and Warehousing operations, as performed by Respondent, is provided in Appendix 1: NWM Process Flow Charts. Some of the MSDS from the time Respondent was in operation are being submitted (see document type "Materials Safety Data Sheet" in the electronic document database submitted herewith), but most have not been located. It is believed that most MSDS were disposed of at or shortly after November 9, 1992, the date on which Respondent concluded active operations. However, most materials utilized by Respondent are similar in composition to those materials used for the same processes today. Therefore, current MSDS for common materials utilized for materials transportation and warehousing processes are included in Appendix 2: Material Safety Data Sheets.

Material inputs to the processes included:

1) Packaging Materials
    a) Wood
    b) Foam/Paper
    c) Banding Wire/Shrink Wrap
2) Transportation Equipment
    a) Forklifts
    b) Cranes
    c) Trucks

Process outputs included:

1) Packaging Material Wastes
    a) Various Nonhazardous Solid Waste

Subcontractors in the Shipyard: Respondent frequently used subcontractors. They performed many of the functions the production workers and support shops in the Shipyard and NWM performed. Subcontractors performed painting, blasting, ventilation production and installation, piping system installation, electrical installation, and many other processes.

Major Production Facilities for Ship Repair:

Rolls: Rolls are large facilities that bend and shape steel plates. The rolls frequently consist of three large cylindrical steel shafts and a motor drive and are used to form the curved surface plates for the curved portion of the hull. Rolls vary greatly in size and technology from shipyard to shipyard. Some of the newer rolls are computer controlled, while the older machines are manually positioned and operated.

Pin Jigs: Pin jigs are platen lines used to assemble curved blocks, and are situated throughout the shipyard into process lanes. The pin jig is one of the simplest and most effective facilities developed by the modern shipbuilding industry. A pin jig is simply a series of vertical screw jacks that support curved blocks during construction. The jacks can be adjusted to the desired curvature. Curved blocks form the outside of the hull's curved surface; mechanizing the production of curved blocks is much more difficult than that of rectangular blocks. Curved blocks are three dimensional panels consisting of:

- Rolled plates
- Shaped sections
- Profiled plates
- Shell plates
- Shell longitudinales
- Webbed frames and stringers

The most common method to assemble these blocks is on a pin jig set up specifically for the curved block. The legs of the jig are telescopic and therefore easily adjustable for different curved blocks. The jig heights are usually determined from the engineering drawings and production information.

Materials Handling and Transportation Equipment: Materials handling and transportation is an important aspect of ship repair. Material handling and transportation equipment at the Shipyard and NWM can be subdivided into three major categories – cranes, industrial vehicles, and containers.

Cranes: Cranes are a common type of material handling equipment used in ship repair. In many cases, they are the only method for moving large materials around the shipyard. In repair operations, cranes are used primarily to load materials onto the ship. Crane types come in a variety of sizes and shapes, depending on the shipyard and its associated applications. The four main types of cranes used in shipyards are bridge cranes, jib cranes, gantry cranes, and mobile cranes. Bridge cranes require support much like a bridge. The bridge crane travels on two wall-

type structures with rails on top. Small bridge cranes are used to move parts throughout shops for material movement, production, and assembly. Most large bridge cranes are used to move heavy steel plates from one work area of a platen to another and are used to assemble sub-assemblies and blocks. Most bridge cranes have electromagnets or clamps to attach steel plates being transported and/or assembled. There currently are a total of 17 Whirley cranes in the Shipyard with a tandem lift capacity of 220 long tons (223 metric tons).

Mobile cranes are used for smaller materials that are not located in a centralized area. The mobile cranes have rubber tires and can drive to nearly all locations in the Shipyard. As expected, the mobile cranes have lower limits with respect to the size, shape, weight, and height of material that can be transported.

Containers and Container Movers: Containers at the Shipyard consisted primarily of boxes, pallets, drums, and tanks. Containers are important for consolidation of like material to facilitate more productive materials movement. Containers are used to transport small units, packages of piping, steel foundations, paint, and trash. Movement of these containers is performed by forklifts, small cranes, transport flatbeds, mule trains, and special lift vehicles.

A detailed Process Flow Chart for Containers and Container Moving operations, as performed by Respondent, is provided in Appendix 1: NWM Process Flow Charts. Some of the MSDS from the time Respondent was in operation are being submitted (see document type "Materials Safety Data Sheet" in the electronic document database submitted herewith), but most have not been located. It is believed that most MSDS were disposed of at or shortly after November 9, 1992, the date on which Respondent concluded active operations. However, most materials utilized by Respondent are similar in composition to those materials used for the same processes today. Therefore, current MSDS for common materials utilized for containers and container moving processes are included in Appendix 2: Material Safety Data Sheets.

Material inputs to the processes included:

1) Fuels
    a) Gasoline
    b) Diesel Fuel
2) Oils and Lubricants
    a) Motor Oil
    b) Other Rolling Stock Lubricants

Process outputs included:

1) Operational Outputs
    a) Fuel leaks/spills
    b) Oil leaks/spills
    c) Fugitive engine emissions
    d) Waste engine oil and other petroleum

Part 4

Surface Preparation and Painting

Surface Preparation and Coating Operations: The marine environment has detrimental effects on nearly all ships and shipboard components. Corrosion and deterioration are a continual problem in open air and saltwater environments, as well as in tanks onboard ships that contain materials such as fuel oils, fuel, septic, and other corrosive substances. Maintaining the ship's structural integrity is the main purpose of the shipboard paint system. Therefore, proper surface preparation and coating system application are essential in the shipbuilding industry to preserve the life of the ship's products.

Introduction to Surface Preparation: The steel structure must be protected from the environment to maintain its structural integrity. Coating systems serve the purpose of corrosion protection, and surface preparation is the interface for coating system adhesion. To a large extent, the effectiveness of the surface coating relies on the quality of surface preparation. All paints will fail eventually, but the majority of premature failures of paint systems are due to loss of adhesion caused by improper surface preparation.

Some type of abrasion is necessary to remove surface contaminants prior to application of coating systems. Abrasion is usually accomplished mechanically, using air pressure, centrifugal action, abrasion (sanding), and/or direct contact (chipping and scraping). The choice of surface preparation methods involves the following considerations: surface contaminants, paint type, required surface profile, cost, safety, pollution, available equipment, and other production-related constraints.

Surface Contaminants: Surface preparation techniques are used to remove surface contaminants such as mill scale, rust, flash rust, dirt, salts, old paint, grease, and flux. Contaminants that remain on the surface are the primary causes of premature failure of coating systems. The following is a brief discussion of five common surface contaminants:

Mill Scale: Mill scale is a residue which forms on the surface of new steel that is hot rolled. As the steel cools, a residue of iron oxides forms a "tight skin" or "crust" called mill scale over the entire surface. Mill scale is bluish, shiny, and smooth. In many cases, mill scale is difficult to detect. The main problem with mill scale is that rust may form under the scale after a paint system has been applied.

Rust: When it is time to apply coating systems to the ship, the rust should be removed from the surface. Painting over rust will lead to uneven coating and will cause premature failure of the coating system. However, in some surface preparation techniques small quantities of rust are painted over. In those cases major portions of the rust are blasted off and the surface made smooth and uniform.

Dirt and Dust: Excess particles of dirt and dust on surfaces to be painted prevent the application of a uniform coat of paint. Loose dirt particles should be brushed, vacuumed, or washed off the surface prior to coating to assure adherence of the paint.

Salts: Salts accelerate corrosion. If paint is applied over salts, corrosion cells develop and rust forms rapidly. Salts can become trapped in surface pits and crevasses. Therefore, when there is a risk that salts are present, particular attention must be given to cleaning these areas.

Oil and Grease: Oil or grease on a surface will prevent good paint adhesion; therefore it must be removed completely from the surface. Smoke from welding and inspection/construction markings on the steel must also be cleaned from the surface prior to paint application.

Standards for Surface Preparation: Standards for surface preparation, which determine the level to which the surface needs to be cleaned, have been developed by many organizations and in several countries. The specific standards for surface preparation are stated in a ship repair contract. Standards of importance to U.S. shipbuilding are:

- Steel Structures Painting Council: SP-1 Solvent Cleaning, SP-2 Hand Tool Cleaning, SP-3 Power Tool Cleaning, SP-5 White Metal Blast Cleaning, SP-6 Commercial Blast Cleaning, SP-7 Brush Off Blast Cleaning, SP-10 Near White Metal Cleaning, and SP-11 Power Tool Cleaning to Bare Metal.
- National Association of Corrosion Engineers: NACE Standards – Grade 1 "White Metal Surface," Grade 2 "Near White Metal Surface," Grade 3 "Commercial Finish," Grade 4 "Brush Off Blasting."
- Various U.S. Government Specifications also exist for ship repair. For example, Fed-Spec TT-490, "Cleaning Methods and Pretreatment of Ferrous Surfaces of Organic Coatings" and Department of the Navy, Naval Sea Systems Command: Chapter 631, "Preservation of Ships in Service."

Surface Preparation Techniques:

Solvent, Detergent, and Steam Cleaning Surface Preparation: Respondent frequently removed grease, oil and other contaminants for surface preparation with the aid of solvents, emulsions, detergents, and other cleaning compounds. Solvent cleaning involves wiping, scrubbing, immersing in solvent, spraying, vapor decreasing, and emulsion cleaning the surface with rags or brushes until the surface is cleaned. The final wipe down must be performed with a clean rag, brush, and solvent. Inorganic compounds such as chlorides, sulfates, weld flux, rust and mill scale cannot be removed with organic solvents. In many cases steam cleaning is a better alternative to solvent wipe down. Steam cleaning or high pressure washing is used to remove dirt and grime that is present on top of existing paint and bare steel.

Abrasive Blasting: Abrasive blasting (also referred to as "sand-blasting" – although Respondent never used sand as an abrasive) was the most common method for paint removal and surface preparation by Respondent. Copper slag grit was the most frequently utilized abrasive by Respondent.

Dry Abrasive/Air Nozzle Blasting: Dry abrasive blasting is also referred to as air nozzle blasting. Air nozzle blasting is probably the most common type of blasting found in the shipbuilding and repair industry. Dry abrasive blasting is used for nearly all interior tank preparation and exterior hull preparation. Dry abrasive blasting is a process by which the blasting abrasive is conveyed in a medium of high pressure air (approximately 100 pounds per square inch) through a nozzle at velocities approaching 450 feet per second. The grit impinges the surface, causing abrasion. Air nozzle blasting is generally accomplished manually by shipyard blasters. Dry abrasive blasting can be performed either within a building or in the open air, depending on the application. Open air blasting by Respondent was performed primarily in the dry-docks at the Shipyard, when the ship's hull was exposed. Interior spaces of a ship, such as tanks, were blasted either in the dry-dock or at berth.

Procedure Generally Used for Dry Abrasive Blasting: The following is a general description of the procedures used when Respondent performed dry abrasive blasting:

1. Grit blast material was delivered to the Shipyard or NWM by rail car, dump truck, barge, large vacuum truck, or some other transportation method.
2. The grit was then placed in a storage area.
3. Shipyard containers were used to transport grit to yard locations where blasting occurred.
4. Abrasive was transferred into the portable or permanent blasting machine pressure pots.
5. Shrouding (if required) was put in place to minimize the amount of fugitive abrasive during open air blasting.
6. Blasting commenced when the grit was loaded in the pressure pot and air pressure was at operating range.
7. Large amounts of dust were developed during blasting and spent abrasive, old paint particles, fouling organisms, and other debris fell to the underlying surface, such as the floor of the dry dock. Dust collectors and ventilation systems were used in enclosed areas.
8. The debris produced by the blasting operation normally was cleaned up with the aid of scoop tractors, vacuum truck and machines, and/or hand brooms and shovels. Cleaning the dry-docks was the responsibility of the Port, regardless of which contractor performed the blasting, and the Port was responsible for obtaining and complying with all environmental permits for discharges resulting from blasting operations.
9. Spent grit was often stored on-site in piles until such time as transportation could be arranged.
10. The used grit material and associated waste was then disposed of appropriately.

Types of Abrasive: Copper slag is produced during the recovery and processing of nonferrous metal from natural copper ores. The slags are molten by-products of high temperature processes that separate the metal and nonmetal constituents contained in the bulk ore. When cooled, the molten slag converts to a rocklike or granular material. This waste material is then processed into an abrasive that can be used for surface preparation. The term "copper slag" relates to the type of ore from which the slag is derived. The virgin abrasive contains only a minute amount of copper, typically less than 1,500 parts per million (ppm) total copper and 1 ppm soluble copper.

Hand Tool Surface Preparation: Respondent also commonly used hand tools such as grinders, wire brushes, sanders, chipping hammers, needle guns, rotary peening tools, and other impact tools for surface preparation. These hand tools were ideal for small jobs, hard to reach areas, and areas where blasting grit would be too difficult to contain.

Chemical Surface Preparation: Chemical surface preparation consists of alkaline paint removers and cleaning solutions, chlorinated solvents, and pickling. These alkaline cleaning solutions came in a variety of forms and were used in a variety of manners. Alkaline cleaners can be brushed on, sprayed on, and applied in a dip tank. Respondent used chemical surface preparation for small parts and performed this process primarily within NWM shops and occasionally onboard ships.

Pickling for Surface Preparation: Pickling is a process of chemical abrasion/etching, which prepares surfaces for good paint adhesion. The pickling process is used mainly for preparing pipe systems and small parts for paint. The pickling process was performed by a subcontractor outside of the Shipyard area, after which the parts were returned to Respondent for installation aboard ship.

Painting: Painting was performed at many locations throughout the Shipyard, due to the wide variety of work performed at the shipyard. In addition, Respondent painted smaller parts in the NWM paint shop. The nature of shipbuilding and repair requires several types of paints to be used for a wide variety of applications. Paint types ranged from water-based coatings to high performance epoxy coatings. The type of paint needed for a certain application depended upon the environment to which the coating would be exposed. Paint applications equipment ranged from simple brush and rollers to airless sprayers and automatic machines. Unless a part or section of a ship could be removed and painted within a shop, Respondent performed the coating application process on the ship, either at berth or dry-dock. Respondent commonly performed marine coating application on these areas of a ship:

- Underwater Hull
- Freeboard
- Topside Superstructures and Deck Houses
- Internal Spaces and Tanks
- Weather Decks
- Loose Equipment

Many different painting systems existed for each of these locations. In almost all cases, the customer would specify the type of coating system to be applied to the ship; thus Respondent was required by contract to apply a specific coating. In the large majority of instances, the customer would purchase and provided the coatings to Respondent, under a separate purchase agreement between the customer and a paint manufacturer (known as Customer Furnished Materials or Government Furnished Materials). Consequently, Respondent rarely was involved in the selection or purchasing of coatings.

The Shipyard had specific buildings and yard locations where painting occurred, and at which Respondent performed coating application, pursuant to written agreements with the Port, which to the extent they are in Respondent's possession or under Respondent's control are included in the electronic document database submitted herewith. The principal blast and coat facility at the Shipyard was located in Building 73, which contained the main paint booth and two blast booths. The paint booth was 158 feet (48.1 meters) long x 50 feet (15.2 meters) wide x 35 feet (10.6 meters) tall, giving 7,900 square feet (733 square meters) of spray area.

Shipyard Paint Coating Systems: Paints are used for a variety of purposes on many different locations on ships. No one paint can perform all of the desired functions (*e.g.*, rust prevention, fouling prevention, and alkaline resistance). Paints are made up of three main ingredients: pigment, a vehicle, and a solvent. Pigments are small particles that determine the color as well as the many ascetic or performance properties associated with the coating. The vehicle can be thought of as the glue that holds the paint pigments together. Many paints are referred to by their binder type (*e.g.*, epoxy, alkyd, urethane, vinyl, or phenolic). The binder is also very important

for determining the coating's performance characteristics (*e.g.*, flexibility, chemical resistance, durability, and finish). The solvent is added to thin the paint and allow for flowing application to surfaces. The solvent portion of the paint evaporates when the paint dries. Solvents include both organic solvents and water.

Anticorrosive and antifouling paints typically are used on ships' hulls and are the two main types of paint used in the shipbuilding and repair industry. Anticorrosive paints are either vinyl- or epoxy-based, and usually contain inorganic zinc as the primary anticorrosive compound. Coal tar epoxy coatings were used for many years on ships, typically in fuel or cargo tanks. However, the application of coal tax epoxy coatings was phased out for occupational health and safety reasons in the United States in the 1970s.

Antifouling paints are designed to prevent attachment and growth of marine organisms on the underside of ships. To achieve different colors, lampblack, red iron oxide, or titanium dioxide may be added to the paint. Copper-based (in the form of cuprous oxide) paints were the most commonly used antifouling paints during Respondent's Active Operations Period. Tributyl tin (TBT) was also used as an antifoulant in underwater hull coatings for a period beginning around 1970 and ending around 1990. However, to the best of Respondent's information, knowledge and belief after due inquiry, Respondent did not apply TBT coatings to ships.

Shipyard Primer Coatings: The first coating system applied to raw steel sheets and parts is generally preconstruction primer. This preconstruction primer is sometimes referred to as shop primer. This coat of primer is important for maintaining the condition of the part throughout the construction process. Preconstruction priming is performed on steel plates, shapes, sections of piping, and ventilation ducting. This shop primer has two important functions: (1) preserving the steel material for the final product; and (2) aiding in the productivity of construction. Most preconstruction primers are zinc-rich with organic or inorganic binders. Zinc silicates are predominant among the inorganic zinc primers. Zinc coating systems protect steel surfaces in much the same manner as galvanizing. If zinc is coated on steel, oxygen will react with the zinc to form zinc oxide, which forms a tight layer that does not allow water and air to come into contact with the steel. Until the late 1980s, zinc chromate compounds were the most common chemical form of zinc in most primers. These coatings were removed from use for occupational health and safety reasons and generally were replaced with organic zinc compounds.

Paint Applications Equipment: There are many types of paint application equipment used in the shipbuilding and repair industry. Two main methods used are compressed air and airless sprayers. Compressed air sprayers were common in the past but are now nearly phased out in the industry because of the low transfer efficiency of the system. Air assisted paint systems spray both air and paint which causes some paint to atomize (dry) quickly prior to reaching the intended surface. The transfer efficiency of air assisted spray systems can vary from 65% to 80%. The most widely used type of paint application currently in the shipbuilding and repair industry is the airless sprayer. Respondent exclusively used airless sprayers during Respondent's Active Operations Period. Airless sprayers use hydrostatic pressure instead of air to convey the paint. Airless sprayers are much cleaner to operate and have fewer leaking problems because the system requires less pressure. Airless sprayers can have close to 90% transfer efficiency depending on the specific conditions.

Painting Practices and Methods: Painting was performed in many areas of the Shipyard and NWM from the initial priming of the steel to the final paint detailing of the ship. Methods for

painting varied greatly from process to process. Mixing of paint was performed both manually and mechanically and was done in areas (some of which were covered) contained by berms, tarps, and/or secondary containment pallets.

Surface Preparation and Painting Areas at the Shipyard: The following five areas are described to illustrate how painting occurred at the Shipyard and NWM:

Hull Painting: Hull surface preparation and painting on repair ships normally was performed when the ship was fully dry-docked. Compressed air dry abrasive blasting with copper slag grit was the most common type of surface preparation for hulls. Surface preparation involved blasting the hull surface from platforms or lifts. Paint was sprayed onto the hull using airless sprayers and high-reach equipment such as lifts or scaffolding. As noted above, cleaning the dry-docks and properly disposing of the resulting waste were the Port's responsibilities.

Superstructure Painting: The superstructure of the ship consists of the exposed decks, deck houses, and structures above the main deck. In many cases, scaffolding would be used onboard the ship to reach antennas, houses, and other superstructures. For repairs, the ship's superstructure usually was painted while the ship was berthed. The surface was prepared using either hand tools or air nozzle blasting. As noted above, Respondent exclusively used airless paint sprayers during Respondent's Active Operations Period, which minimized fugitive emissions. The painters accessed the superstructures with existing scaffolding, ladders, and various lifting equipment that were used during surface preparation.

Interior Tank and Compartment Painting: Tanks and compartments onboard ships must be recoated periodically to maintain the longevity of the ship. Recoating of ship tanks requires a large amount of surface preparation prior to painting. The majority of the tanks are at the bottom of the ship (*e.g.*, ballast, bilge, and fuel tanks). The tanks are prepared for paint by using solvents and detergents to remove grease and oil buildup. The associated wastewater generated during tank cleaning must be properly treated and disposed. At the Shipyard, this wastewater was transferred to an onsite water treatment facility operated by the Port, and as with other processes discussed herein the Port was responsible for proper treatment and disposal. After the tanks were dried, they were blasted with a mineral slag. During the blasting operation, the tank had recirculating air, and the grit was vacuumed out. The vacuum and ventilation systems generally were located on the dock's surface, and these systems accessed the tanks through holes in the hull. Once the tank surface was blasted and the grit was removed, painting began.

Small Parts Painting Areas: Many parts of a ship need to have a coating system applied to them prior to installation. For example, piping spools, vent ducting, foundations, and doors were painted before they were installed. Small parts generally were prepared for paint in a designated area of the Shipyard or NWM. The parts were prepared for paint by air blasting or by one of the other techniques discussed above. Some small parts painting occurred in various areas of the Shipyard, while other parts were painted in the NWM paint shop.

Surface Preparation and Painting On-Block and Onboard: Final painting of the ship occurred onboard, and touch-up painting frequently occurred on-block. On-block touch-up painting occurred for several reasons. In some cases, paint systems were damaged on-block and needed to be resurfaced, or the wrong paint system was applied and needed to be replaced. On-block painting involved using portable blasting and painting equipment throughout the on-block outfitting areas. Onboard painting involved preparing and painting the interface sections in between the construction blocks and repainting areas damaged by welding, rework, onboard

outfitting, and other processes. Respondent prepared the surfaces with hand tools, sanding, brushing, solvent cleaning, or any of the other surface preparation techniques. Respondent applied paint with portable airless sprayers, rollers, and brushes.

Paint Storage, Transportation, and Collection for Disposal: Paint was stored many places at the Shipyard, depending on the length of storage and the volume of paint stored. Respondent also stored smaller quantities of paint at the NWM paint shop. The Shipyard's main storage area was used for larger quantities and longer storage, sometimes for months. When paint was needed throughout the Shipyard, it was transferred to satellite storage and work areas. Finally, paint was transported by individual cans or pallets from the satellite storage areas to individual work sites where paint was mixed and sprayed.

Once the painters finished their individual paint job, they would discard any unused paint and clean their equipment. The majority of paints that Respondent used had to be either used or disposed of once they were mixed. In general, painters would discard their paint and paint associated waste (*e.g.*, rags, rollers, gloves, and thinner) into 55-gallon drums in satellite collection areas around the Shipyard. Materials from these satellite collection areas would then be transferred to receptacles for the three main waste streams: paint waste, thinner, and solids (*e.g.*, rags, gloves, and paint brushes).

Spray guns and hoses were cleaned with solvents to prevent being clogged with dried solvents. This cleaning process was accomplished by filling the paint pots with solvents and "spraying" the solvent through the guns into a drum. This solvent would be reused several times until it was "spent," at which point it was ready for recycling or disposal as described in Part 5 of this report.

Part 5

Respondent's Waste Management Practices

Introduction to waste generation, management and disposal: Respondent's activities, both onboard ships and at NWM facilities, generated waste, both nonhazardous (solid) and hazardous. Most of these wastes were generated in the Shipyard from work onboard ships. Additionally, a ship's crew, while in the Shipyard, frequently disposed of waste generated from the ship's operations independently of any wastes that Respondent generated.

As discussed above, Respondent did not own ship docking (dry-dock, pier or berthing) facilities. Instead, the Port owned and operated the dry-docks, piers and berths where the vast majority of Respondent's ship repair work occurred and where most of the waste was generated. The Port was responsible for management and disposal of the waste generated in these areas, which resulted in the Port managing and disposing of the vast majority (likely greater than 90%) of all wastes streams generated from Respondent's work.

Ship Waste Management: The largest volume waste streams Respondent generated were produced from a few specific processes conducted onboard ships at the Shipyard. These processes included hull cleaning, surface preparation, tank cleaning, bilge cleaning and ship painting. Specific details on waste management practices for these processes are provided below.

Hull Cleaning: Hull cleaning is the process by which a ship's hull was prepared for surface preparation and painting. The process typically started with pressure washing with fresh water to remove attached marine organisms, "slime" and soluble salts. In some instances scraping with long-handled blades was necessary to remove barnacles and other strongly adhering organisms. Respondent performed this work in the dry-dock, and the marine foulants fell to the dry-dock floor. After the hull cleaning was completed, the dry-dock floor was swept clean, and the dead organisms were picked up and placed in bins for disposal as nonhazardous waste.

Surface Preparation: If the hull was to be painted, its surface was cleaned using dry abrasive blasting (see Part 4: Surface Preparation and Coating). The grit (copper slag) that Respondent used for blasting would fall to, and accumulated on, the dry-dock floor. Depending upon many factors, a range of approximately 50 to 500 tons of grit might be used on a single job. As noted above, the Port was responsible for managing and disposing of this spent grit. Any other solid wastes Respondent generated during surface preparation operations would be placed in bins and removed from the dry-dock for disposal by Respondent.

Tank Cleaning: Tanks on board ships are interior spaces utilized for holding both dry and liquid cargos and other fluids required for ship operations. Cargos include dry and fluid chemicals, foods stuffs, various petroleum products such as crude oil and petroleum distillates, and many other substances. Fluids required to operate the ship include bunker fuels, potable water and ballast water. Cleaning these tanks is necessary for several reasons, including corrosion control, prevention of cargo contamination, and repair of the interior tank spaces.

Tank cleaning was accomplished both by automatic cleaning equipment (Butterworth machines) and manually by workers inside the tanks. Tank surfaces were cleaned using steam, hot pressured water, water and detergents, and/or other solvents. The residual fluids were vacuumed from the tanks and either stored in fixed or mobile onshore holding tanks or pumped directly into a vacuum truck for transport. If fuels or other reusable fluids were removed from a ship's tank,

they were held in a barge or onshore tank until ship repairs were completed; at that time these fluids were returned to the ship. Ballast waters, unless contaminated, typically would be discharged by the ship's operator to surface waters prior to a ship being dry-docked.

The largest waste stream derived from tank cleaning was oily water. At the Shipyard, Respondent transferred all tank cleaning residuals from a ship to the Shipyard's ballast water treatment facility. See NWMAR106631, provided herewith in hard copy. The Port exclusively managed treatment and disposal of these wastes. Respondent believes the primary treatment method employed by the Port was density separation (settling) for the oil and water, then decanting the treated water to tanks. Respondent further believes the Port sent waste oil offsite for recycling or disposal and discharged the treated water to either the Willamette River or the onsite industrial waste water sewer system.

Bilge Cleaning/Maintenance: Bilge cleaning is similar to tank cleaning in that fluid accumulations (typically oily water) in the ship's bilges are removed to accommodate machinery repair. Bilges were cleaned using steam, hot pressured water, water and detergents, and/or solvents. The residual fluids were vacuumed from the bilges and either stored in fixed or mobile onshore holding tanks or pumped directly into a vacuum truck for transport.

The primary waste stream derived from bilge cleaning was oily water. At the Shipyard, Respondent transferred all bilge cleaning residuals from a ship to the Shipyard's ballast water treatment facility. The Port exclusively managed treatment and disposal of these wastes, as described above with respect to tank cleaning.

Ship Painting: Ship painting generated considerable amounts of solid wastes, such as paint-contaminated debris, painting disposables and empty paint cans, and lesser amounts of liquid wastes, such as unused paint and spent solvents. The painters placed solid paint wastes in bins on the dry-dock. When the solid waste receptacles were full, Respondent transported them to the NWM facility for characterization and management. Nonhazardous solid wastes from Respondent's ship painting activities in the Shipyard were disposed together with nonhazardous solid waste from the NWM facility. Waste characterized as hazardous was transported to Respondent's hazardous waste storage area, and Respondent arranged for proper offsite disposal.

Respondent also removed any liquid wastes generated on the dry-dock to its waste management area for waste classification, consolidation, and disposal. Respondent disposed of liquid wastes by sending them to a solvent reclamation facility or by disposing of them as hazardous waste, as appropriate. In addition, Respondent was responsible for collection and disposal of all liquid and solid paint-related waste generated by the NWM paint shop, but this waste stream was much smaller than the waste stream resulting from Respondent's painting operations at the Shipyard.

Asbestos Remediation: Asbestos was commonly used on ships as both insulation and as a fire barrier. Removal of asbestos was commonly accomplished by Respondent using subcontractors and the NWM carpentry shop. Asbestos remediation projects were managed as both an occupational health hazard and an environmental pollutant.

Polychlorinated Biphenyls: In the past, liquid polychlorinated biphenyls (PCBs) were common in dielectric fluids for transformer cooling. In addition, many Navy and commercial ships built prior to 1970 contained solid PCBs in various components, such as plastics, rubbers, adhesives, gaskets, power cable insulation and other commercial nonmetal products. See NWMAR055388. The U.S. Maritime Administration has performed extensive sampling of its inactive reserve fleet,

in anticipation of disposal of these ships, and has identified an occasional ship that contained PCBs in the exterior hull coatings. The Maritime Administration has been unable to determine the source of PCBs in these marine coats and believes that the contamination may have occurred outside the U.S. when a ship was repainted overseas, using locally available coatings.[2] Reference materials discussing PCBs on marine vessels are included in Appendix 3: PCB on Vessels References.

Facility Waste Management: Facility waste management consisted of Respondent collecting and disposing of both nonhazardous (solid) and hazardous waste generated by Respondent within NWM facilities. The majority of these wastes were nonhazardous. During Respondent's Active Operations Period, there was no treatment or disposal of waste onsite at NWM.

The NWM facility waste streams consisted of:

- Oil and oily water
- Scrap wood, plastic, paper, cardboard, etc.
- Scrap metal
- Waste oil, lubricants, cutting fluids
- Sanitary waste
- Empty paint containers
- Shop rags and other shop disposables
- Waste paint
- Spent solvents
- Coolants
- Misc. cleaning chemicals
- Misc. shop chemicals
- Aerosol cans

The small quantities of hazardous wastes generated were accumulated within marked satellite accumulation areas near the point of generation. At appropriate intervals, similar wastes would be consolidated and stored in Respondent's hazardous waste storage areas until manifested to a licensed treatment, storage and disposal facility. Nonhazardous waste was disposed of in bins and garbage containers within NWM facilities, and a contracted waste hauler regularly picked up the waste and transported it to a local land fill.

[2] Personal Communication from William Barnes, Maritime Administration, to Dana Austin, on August 12, 2008.

Glossary of Terms

Accommodation. All spaces on a ship that are associated with the crew's normal living, including navigation, radio, and similar spaces when incorporated in the same deckhouse.

Aft. Toward, at, or near the stern.

Amidships. A point which is exactly halfway between the fore and after perpendiculars.

Anchor. A device, usually of steel, used to hold a ship against the movement of current, tide, and wind.

Assemble. To fit and join parts together.

Assembly. See Subassembly.

Auxiliary Machinery. Various pumps, motors, generators, and other equipment required on a ship, as distinguished from main propulsive machinery units.

Ballast Tank. Watertight compartment to hold ballast water.

Berth. Where a ship is docked or tied up; a place to sleep aboard ship; a bunk or bed.

Bilge. Curved section between the bottom and the side of the vessel; also the lowest part of a vessel's internal spaces into which water drains.

Bilge and Ballast System. A piping system generally located in holds or lower compartments of a ship and connected to pumps. This system is for pumping overboard accumulations of water in holds and compartments and also for filling and emptying ballast tanks.

Bilge Blocks. Blocks set under the bilge for support during construction or during docking.

Bilge Plates. The curved shell plates that form the bilge.

Block. A three-dimensional section of a ship structure. Blocks are combined to form a ship during erection, and are normally the largest sections to be assembled away from the erection site.

Blue Sky. In the open; not under a roof or other protection from the weather.

Blue Sky Outfitting. Outfitting done in the open during hull erection, *e.g.*, landing outfit units or components before a space is enclosed.

Boody Hatch. An access hatch from a weather deck protected by a hood from sea and weather; also called companionway.

Boom. A round spar hinged at its lower end, usually to a mast or a crane, and supported by a wire rope or tackle from aloft to the upper end of the boom. Cargo, stores, etc., are lifted by tackle leading from the upper end of the boom.

Bow. Forward end of a ship.

Bracket. A structural member used to rigidly reinforce two or more structural parts, which are joined at approximately right angles to each other, such as deck beam to frame, or bulkhead stiffener to the deck or tank top; usually a plate.

Bridge, Flying. The platform forming the top of the pilothouse.

Bridge House. A part of the upper superstructure of a ship. The officers' quarters, staterooms, and accommodations are usually located in the bridge house and the pilothouse located above it.

Building Basin. A structure essentially similar to a graving dock, in which one or more ships or parts of ships may be built at one time; no launching operation is required, as the ship is floated by flooding the basin.

Bulbous Bow. A bow with a rounded, protruding shape at the bottom to improve flow and resistance characteristics.

Bulk Carrier. Ships designed to carry bulk cargo, usually not in liquid form, such as coal, ore, grain, etc.

Bulkhead. A vertical partition, which subdivides the interior of a ship into compartments or rooms. Bulkheads which contribute to the strength of a vessel are called strength bulkheads; those which are essential to the watertight subdivision are watertight or oiltight bulkheads. Gastight bulkheads serve to prevent the passage of gas or fumes.

Butt. The joint formed when two parts are placed edge to edge; the end joint between two plates; also transverse joints for connecting two parts, subassemblies, or blocks.

CNC. Computer Numeric Control.

CAD. Computer Aided Design.

CAM. Computer Aided Manufacturing.

Come Along. A hand-operated lever hoist used during shipfitting for pulling together or supporting ship's parts or subassemblies.

Compartment. A subdivision of space or room in a ship.

Compartmentation. The subdividing of the hull by watertight bulkheads so that the ship may remain afloat under certain conditions of flooding.

Crane. A device for lifting and moving heavy weights by means of a movable projecting arm and/or a horizontal beam.

Deck. A horizontal surface in a ship corresponding to a floor in a building. It is the plating, planking, or covering of any tier of beams in either the hull or the superstructure of a ship. Decks are usually designated by their location, as boat deck, bridge deck, upper deck, main deck, etc. Decks at different levels serve various functions; they may be either watertight decks, strength decks, or simply cargo and passenger accommodation decks.

Deckhouse. A comparatively light structure, built on the hull, which does not normally extend from side to side of the ship. It commonly is composed of spaces that are used for crew accommodations and control of the ship (bridge, radioroom, etc.)

Deck Machinery. Miscellaneous machinery located on the decks of a ship such as windlasses, winches, etc.

Double Bottom. Compartment at the bottom of a ship between inner bottom and the shell plating, mostly used for ballast water, fresh water, or fuel oil.

Draft. The depth of the ship below the waterline measured vertically to the lowest part of the hull, propellers, or other reference point. When measured to the lowest projecting portion of the

vessel, it is called the **extreme draft**, when measured at the bow, it is called **forward draft**, and when measured at the stern, the **after draft.** The average of the forward draft and the after draft is the **mean draft**, and the mean draft when in full load condition is the **load draft.** Also, in cargo handling, the unit of cargo being hoisted on or off the ship by the cargo gear at one particular hoist.

Engine Room. The location of main propulsion and some auxiliary machinery onboard a ship.

Erection. The placing and connection on the ways or other building position of subassemblies, blocks, and/or outfit units of a ship.

Fabricate. To process materials in the shops, to create parts needed for both hull and outfit assemblies. In hull work, fabrication consists of cutting (shearing), shaping, punching, drilling, countersinking, scarfing, rabbeting, beveling, and welding.

Flange. The part of a plate or shape bent at right angles to the main part; to bend over to form an angle.

Fore. A term used in indicating portions or that part of a ship at or adjacent to the bow.

Fore and Aft. In line with the length of the ship; longitudinal.

Forward. In the direction of the bow.

Foundation. A structural support for equipment and machinery installed on a ship. The structural supports for the boilers, main engines or turbines, and reduction gears are called the **main foundations**. Supports for auxiliary machinery are called **auxiliary foundations**.

Frame. A term used to designate one of the transverse members that make up the riblike part of the skeleton of a ship. The frames act as stiffeners, holding the outside plating in shape and maintaining the transverse form of the ship.

Freeing Port. An opening in the lower portion of the bulwark which allows water on deck to drain overboard.

Galley. A cook room or kitchen on a ship.

Gangway. A passageway, side shell opening, and ladder way used for boarding a ship.

Gantry Crane. A hoisting device, usually travelling on rails, having the lifting hook suspended from a car which is movable horizontally in a direction transverse to the rails.

Graving Dock. A structure for taking a ship out of water, consisting of an excavation in the shoreline to a depth at least equal to the draft of ships to be handed, closed at the water side end by a movable gate, and provided with large capacity pumps for removing water; blocks support the ship when the dock is pumped out.

Hatchway. An opening in a deck through which cargo and stores are loaded or unloaded.

Hold. The large space below deck for the stowage of cargo; the lowermost cargo compartment.

Hull. The structural body of a ship, including shell plating, framing, decks, bulkheads, etc.; also the outfit specialty design group dealing with all areas of the ship except machinery and superstructure.

Hull Block Construction Method. A shipbuilding system wherein hull parts, subassemblies, and blocks are manufactured in accordance with the principles of group technology.

Jig. A device, often with metal surfaces, used as a tool or template.

Keel. The principal fore-and-aft component of a ship's framing, located along the centerline at the bottom and connected to the stern and stern frames. Floors or bottom transverses are attached to the keel.

Keel Blocks. Heavy wood or concrete blocks on which a ship rests during construction or dry-docking.

Labor Turnover. The number of separations divided by average employment during a specified time interval multiplied by 100 (the number of separations during the period per 100 employees). Annual turnover rate is the monthly turnover multiplied by 12.

Launching. To set a ship afloat for the first time.

Layout. The process of making a plate assembly showing the location of longitudinals, frames, edges, and attached parts.

Loftwork. The laying off of full form details at full size in preparation for cutting plate and structural members. The process is now almost entirely computerized.

Longitudinal. A fore-and-aft structural shape or plate member attached to the underside of decks or flats, or to the inner bottom, or on the inboard side of the shell plating.

Machinery. All spaces on a ship that primarily contain operating equipment such as main propulsion machinery, auxiliary machinery, pumping systems, heating, ventilation, and air conditioning machinery, etc.; also the outfit specialty design group dealing with machinery spaces.

Manning. The number of workers or equivalent workers assigned to a particular ship (**ship manning**), program (**program manning**), or shipyard (**yard manning**).

Material Control. The functions of purchasing, expediting, warehousing, palletizing, and delivering material to the work site.

Mooring. Securing a ship at a dock or elsewhere by several lines or cables so as to limit its movement.

Oil Tanker. A vessel specifically designed to carry oil cargo in bulk.

Outfit. All the parts of a ship that are not structural in nature, including items such as pipes, derricks, masts, rigging, engines, machinery, electrical cable, hotel services, etc.

Pallet. A portable platform upon which materials are stacked for storage or transportation; also in zone outfitting a definite increment of work with allocated resources (information, labor, and materials) needed to produce a defined interim product.

Panel. A section of a ship consisting of one or more plates with associated strengthening members; also called a subassembly or block.

Panel Line. A production line where individual plates, framing members, webs, etc. are successively welded together to form an assembly unit which may include some outfit items.

Parts. Refers to all the steel components that are welded to a plate assembly, including stiffeners, longitudinals, frames, girders, web frames, headers, etc.

Pin Jig. A jig consisting of a grid of adjustable pins (screw jacks) used as a building position for curved blocks or a template for curved plates.

Planning. The listing of all jobs that must be performed in order to complete a project.

Platen. A flat, level structure upon which subassemblies, blocks, and/or outfit units are built.

Porthole. A hinged glass window, generally circular, in the ship's side or deckhouse, for light and ventilation; also called portlight, air port, or side scuttle.

Process Lane. A work center specifically designed to efficiently perform a certain type of work or a certain series of work steps.

Production Control. The monitoring of the difference between actual and scheduled performance of a project.

Propeller. A revolving screw-like device that drives the ship through the water, consisting of two or more blades; sometimes called a screw or wheel.

Quenching. In steelmaking, an operation consisting of heating the material to a certain temperature and holding at that temperature to obtain desired crystalline structure, and then rapidly cooling it in a suitable medium, such as water or oil. Quenching is often followed by tempering.

Rigging. Wire ropes, fiber line, tackle, etc., used to support masts, spars, booms, etc., and for handling and placing cargo onboard ship.

Rudder. A device used to steer a ship. The most common type consists of a vertical metal area, hinged at the forward edge to the stern post or rudder post.

Scaffolding. See Staging.

Scheduling. The laying out of the actual time order in which jobs are to be performed in order to complete a project.

Sea Chest. An opening for supplying seawater to condensers, pumps, etc., and for discharging water from the ship's water systems to the sea. It is a cast or built-up structure located in the hull below the waterline, having means for the attachment of the associated piping. A suction sea chest is fitted with strainers or gratings, and sometimes has a lip that forces water into the sea chest when the ship is underway.

Seam. A fore-and-aft joint of shell plating, deck and tank top plating, or a lengthwise edge joint of any plating.

Seam Line. Symbol for a welded butt joint; also called erection butt.

Seam Strap. A strap of plate serving as a connecting strap between the butted edges of plating. Strap connections at the ends of plates are called butt straps.

Shape. A rolled bar of constant cross section such as an angle, bulb angle, channel, etc.; also to impart curvature to a plate or other member.

Shell. The outer skin plates of a ship, including bottom shell and side shell.

Shell Plating. The plates forming the outer side and bottom skin of the hull.

Stage. A classification of work based on when it will be performed (in what sequence) during the construction process relative to other work.

Staging. Temporary or movable wooden or metal structures for supporting worker tools and materials; also called scaffolding.

Stern. Aft end of a ship.

Stiffener. A structural section (usually angles, tees, or I-beam) attached to a plate to strengthen it.

Subassembly. An assembly of parts (primarily structural parts). Subassemblies, when joined together, form blocks.

Superstructure. A decked-over structure above the upper deck, the outboard sides of which are formed by the shell plating, as distinguished from a deckhouse that does not extend outboard to the ship's sides.

Surface Preparation. The work required to permit coating materials (primarily paint) to be satisfactorily applied to metals.

Tank, Wing. Tanks located well outboard adjacent to the side shell plating, often consisting of a continuation of the double bottom up the sides to a deck or flat.

Waterway. A narrow gutter along the edge of the deck for drainage.

Web. The main part of a bent or flanged plate or structural section.

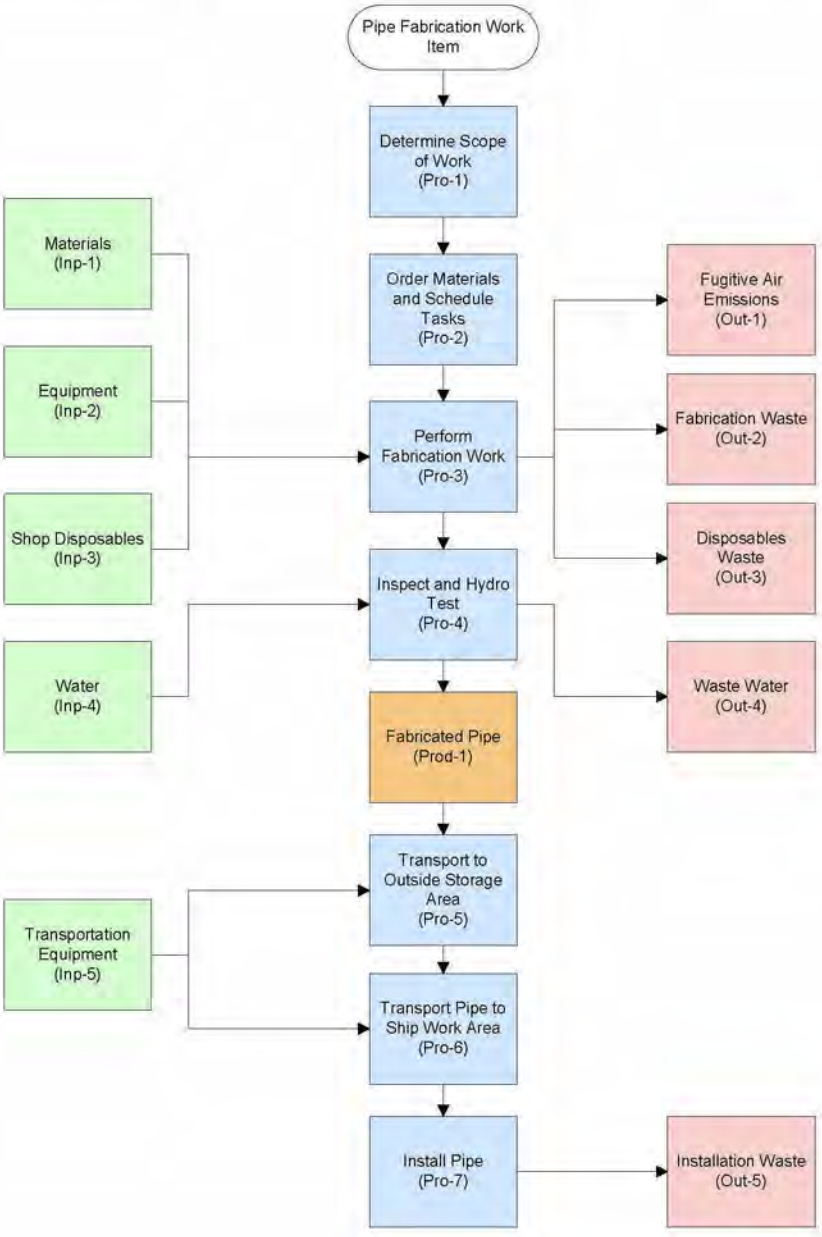
Work Package. A resource subdivision which specifics the material and/or labor required to complete some portion of a shipbuilding or repair contract. A work package should correspond to the work breakdown structure in use and may be either system or product oriented.

Appendix 1: NWM Process Flow Charts

1) Pipe Shop
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
2) Machine Shop
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
3) Sheet Metal Shop
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
4) Electronics Shop
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
5) Plate Shop
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
6) Materials Inventory and Distribution
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
7) Transportation
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
8) Surface Preparation
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
9) Coating Application in the Dry-dock
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
10) Tank Cleaning Onboard Ship
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
11) Bilge Maintenance Onboard Ship
   a) Process Overview
   b) Process Inputs
   c) Process Outputs
12) Waste Management
   a) Process Overview
   b) Process Inputs
   c) Process Outputs

Note: Respondent is referred to as "NWM" in these process flow charts.

NWM Pipe Fabrication and Pipe Fitting



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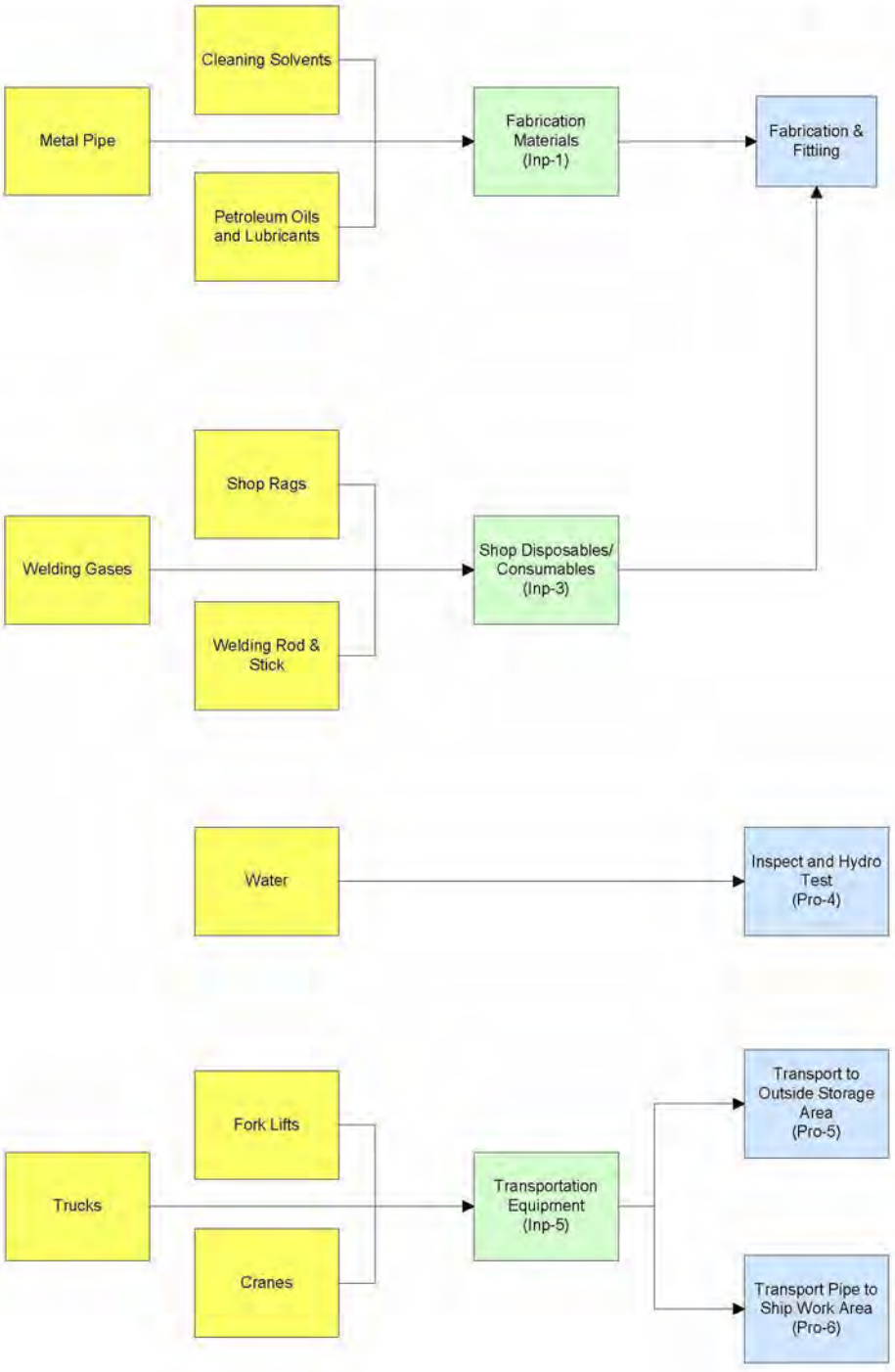

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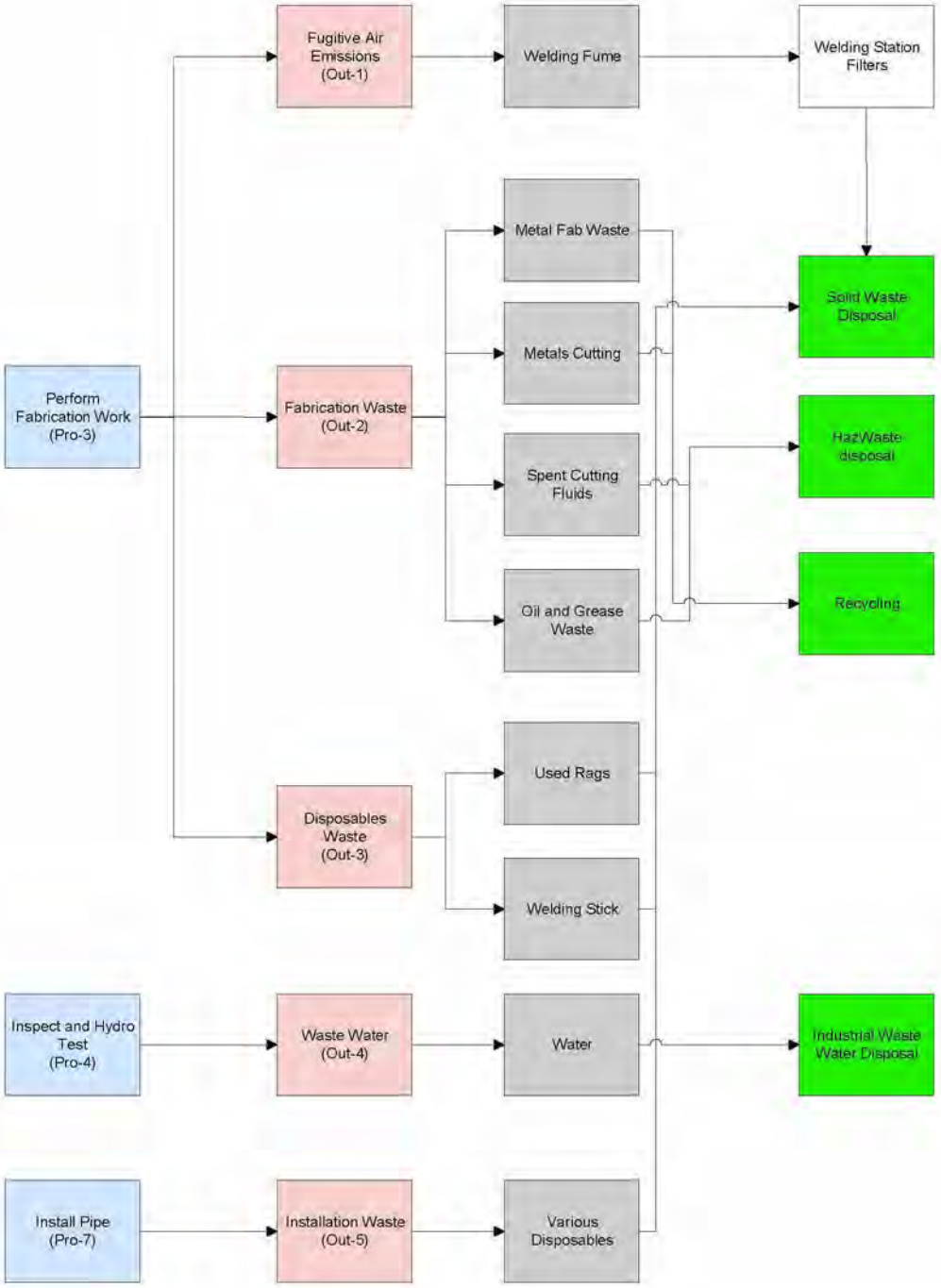

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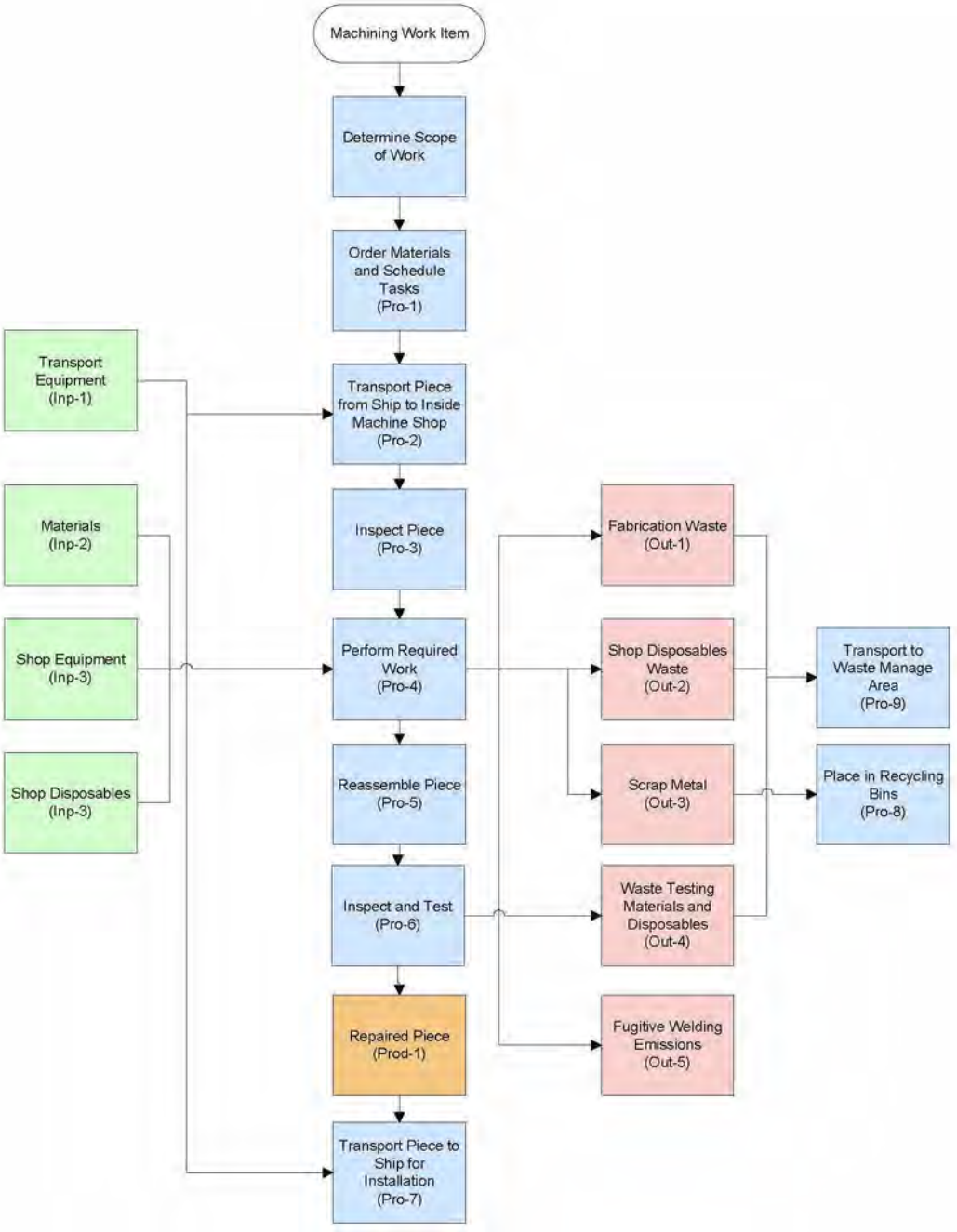

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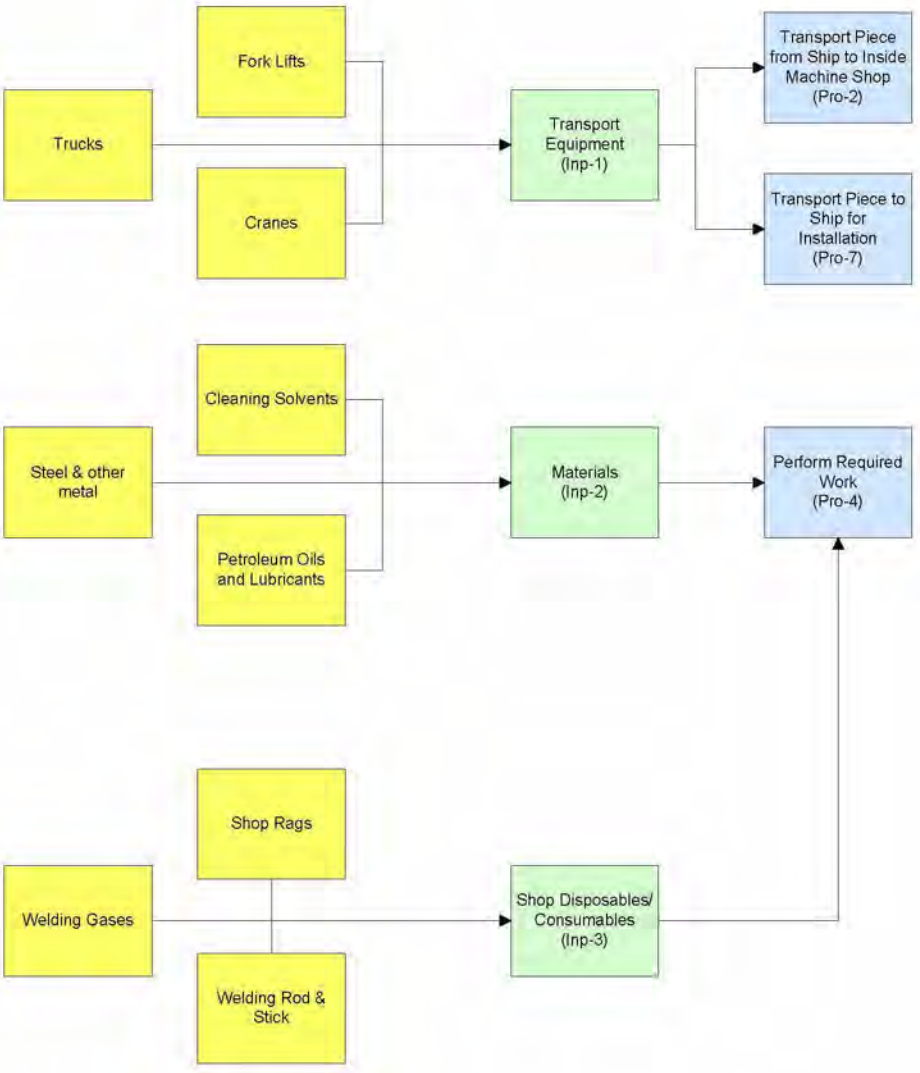

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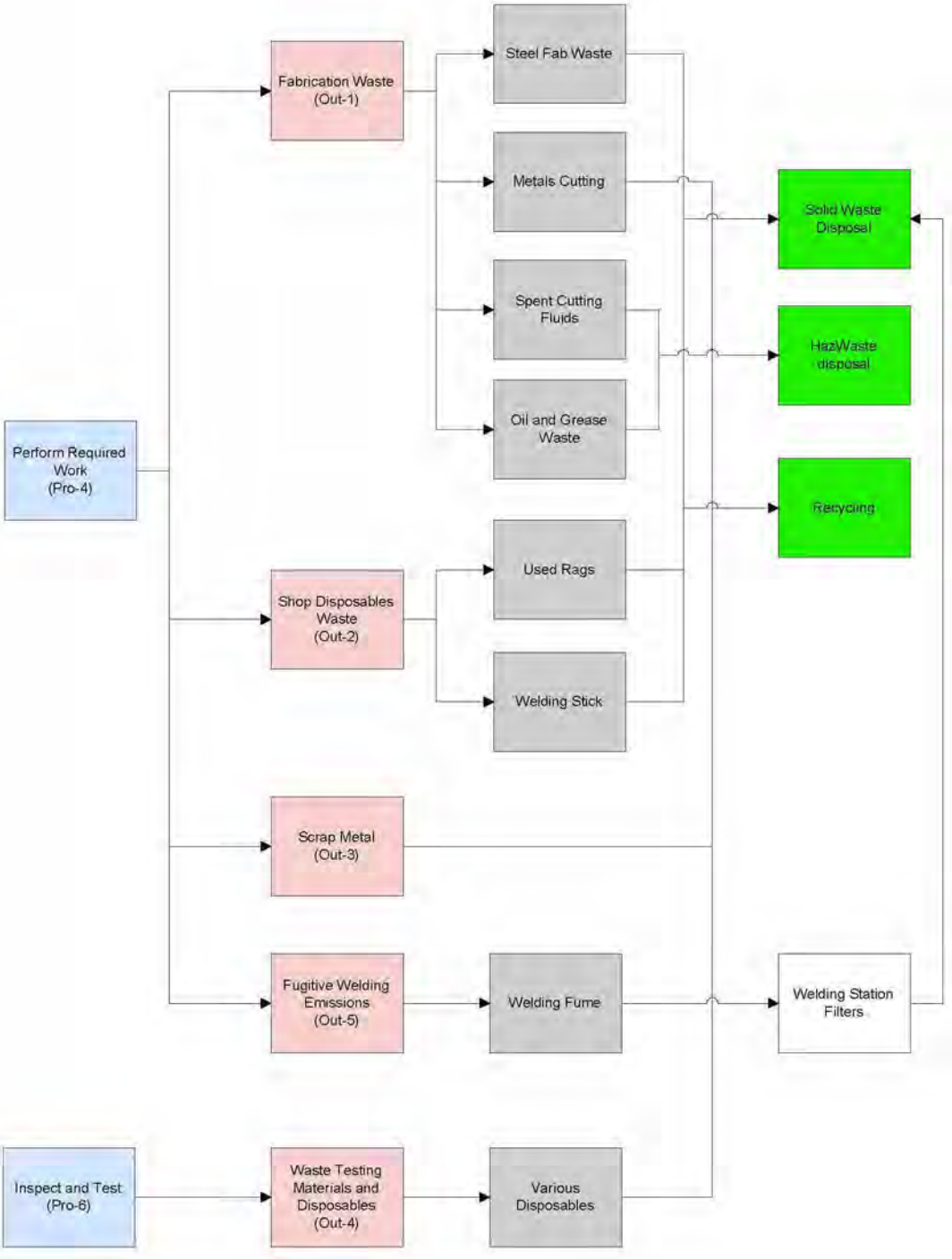

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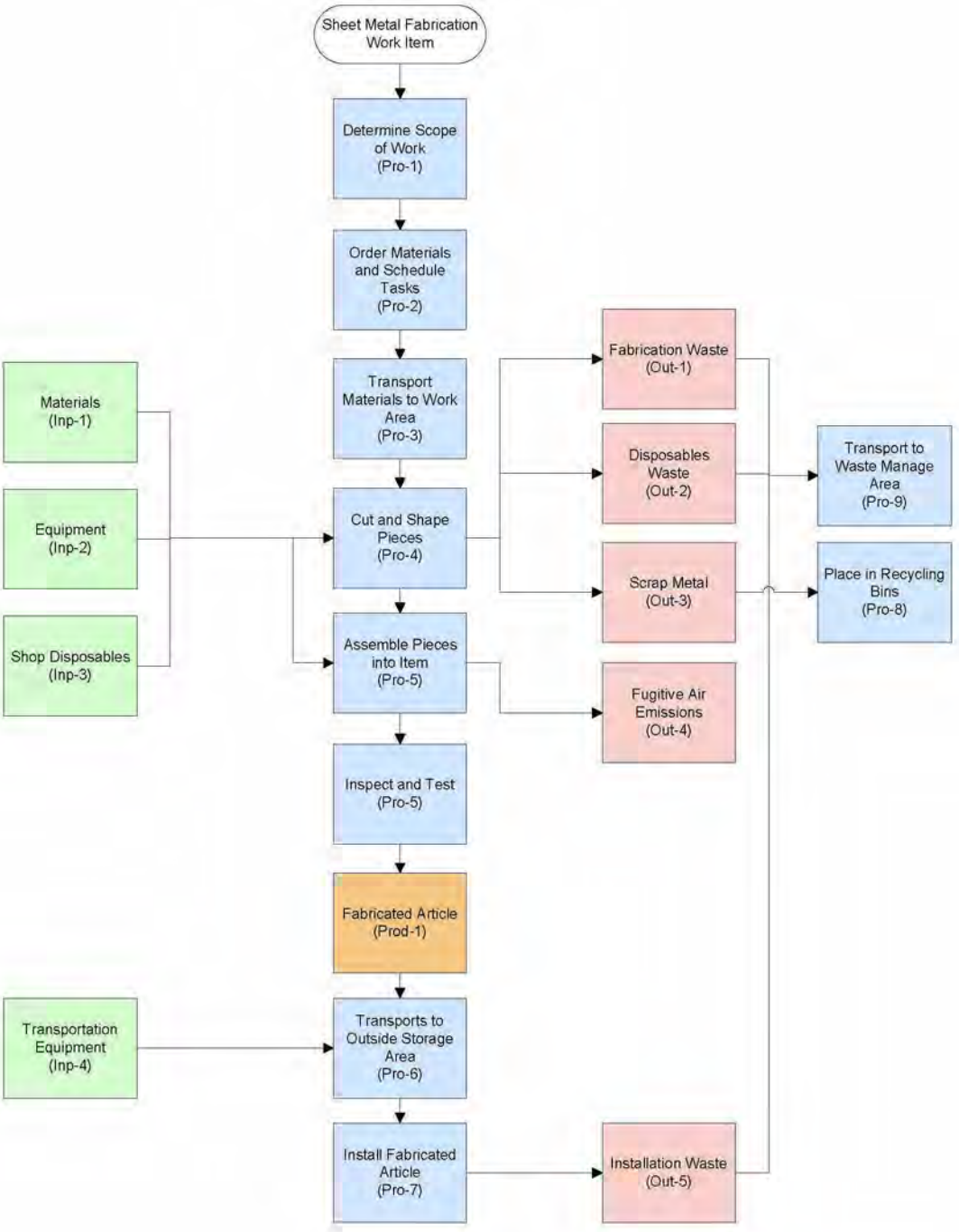

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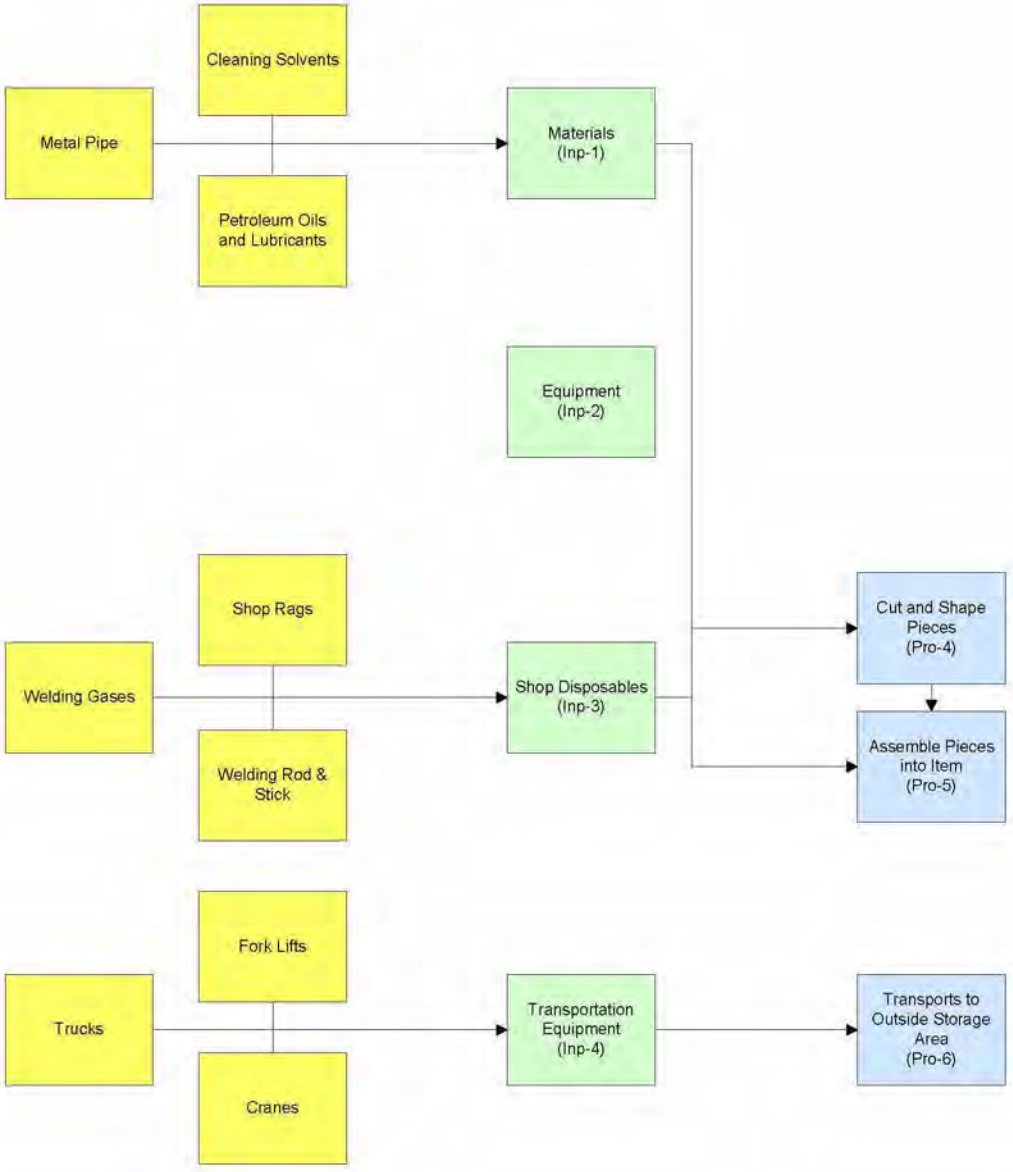
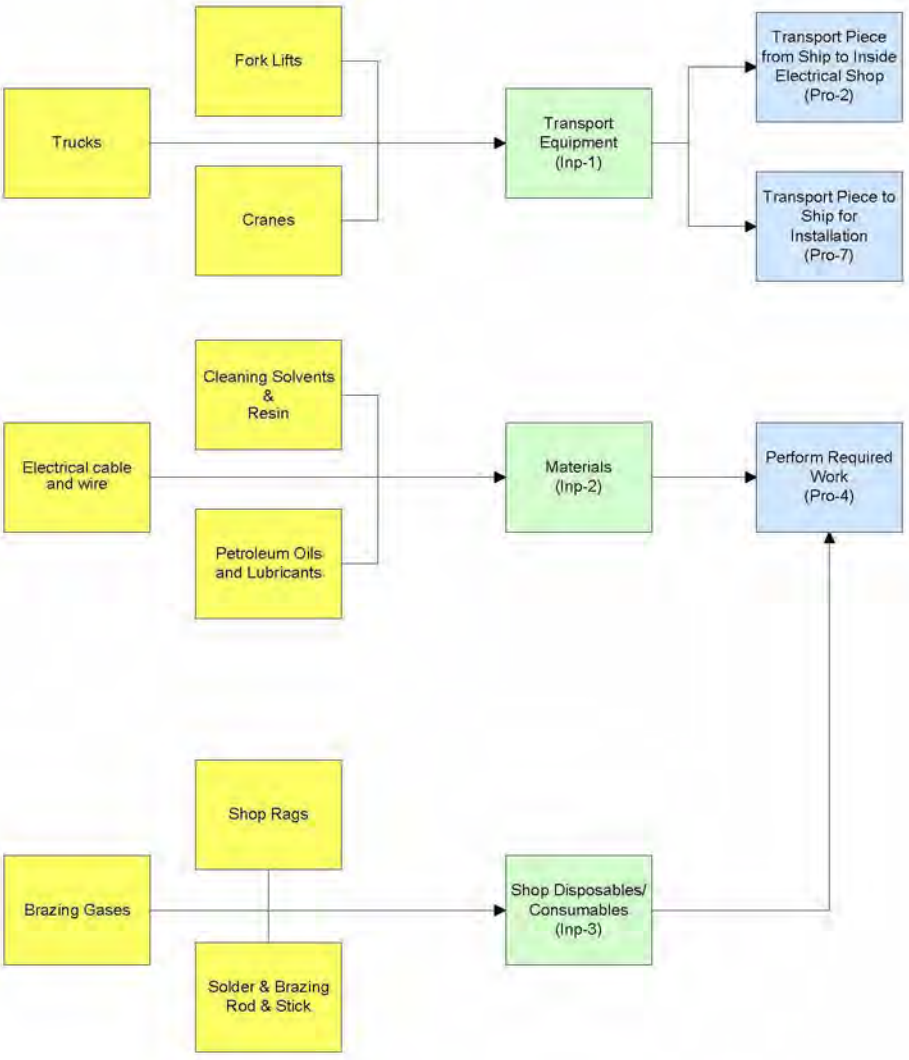


NWM Electrical Shop

NWM Electrical Shop



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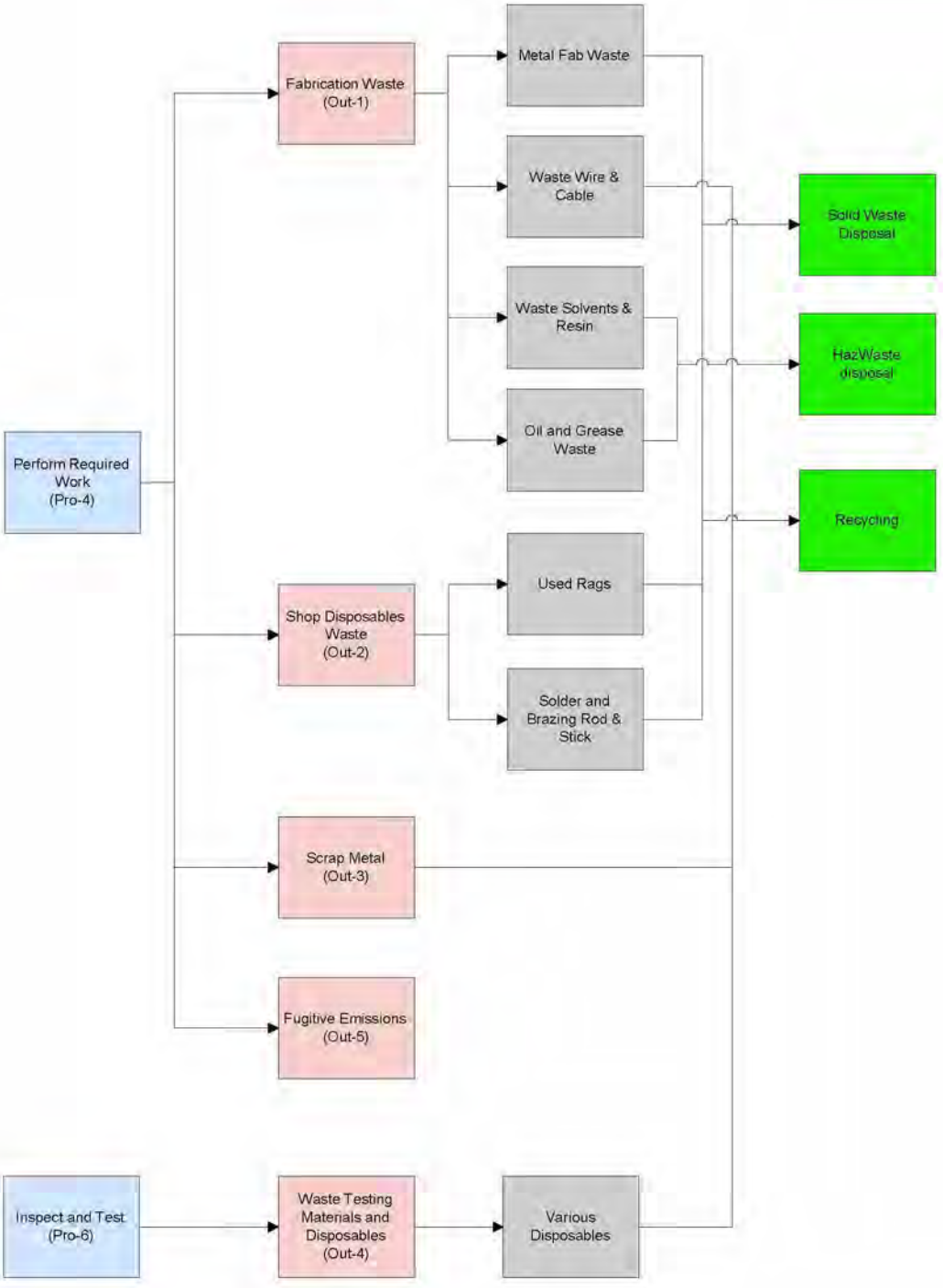
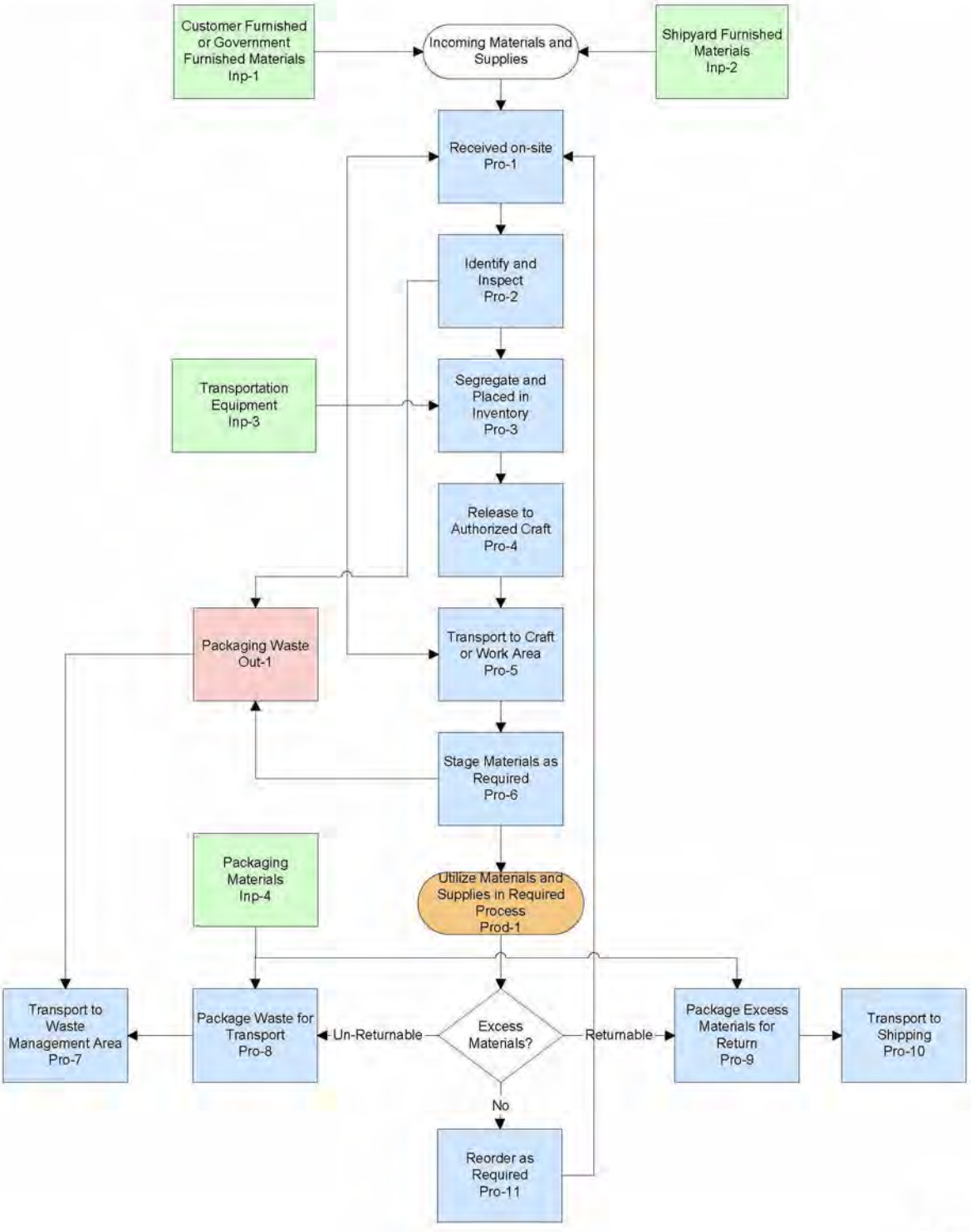
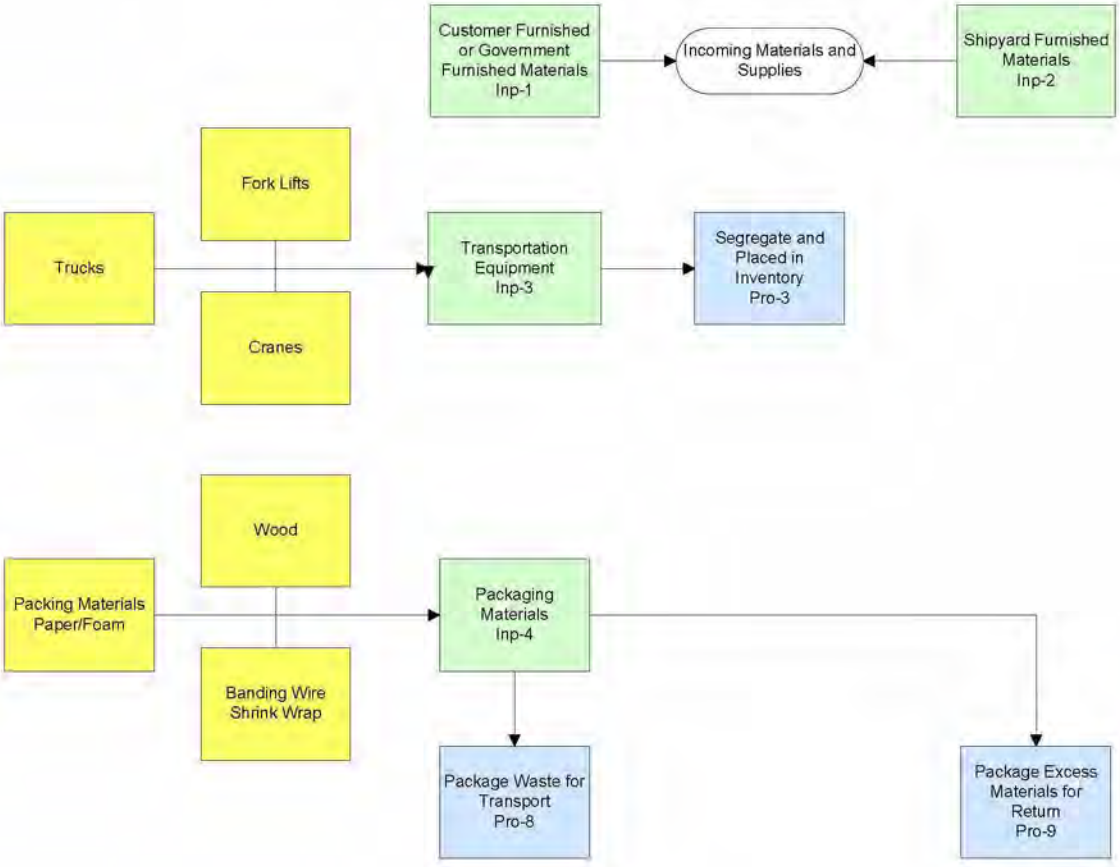
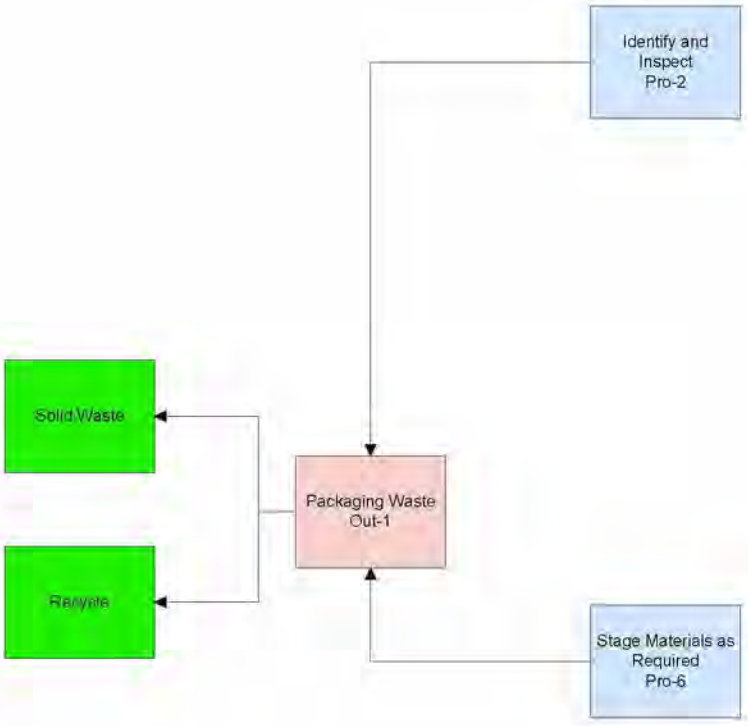


NWM Materials Inventory

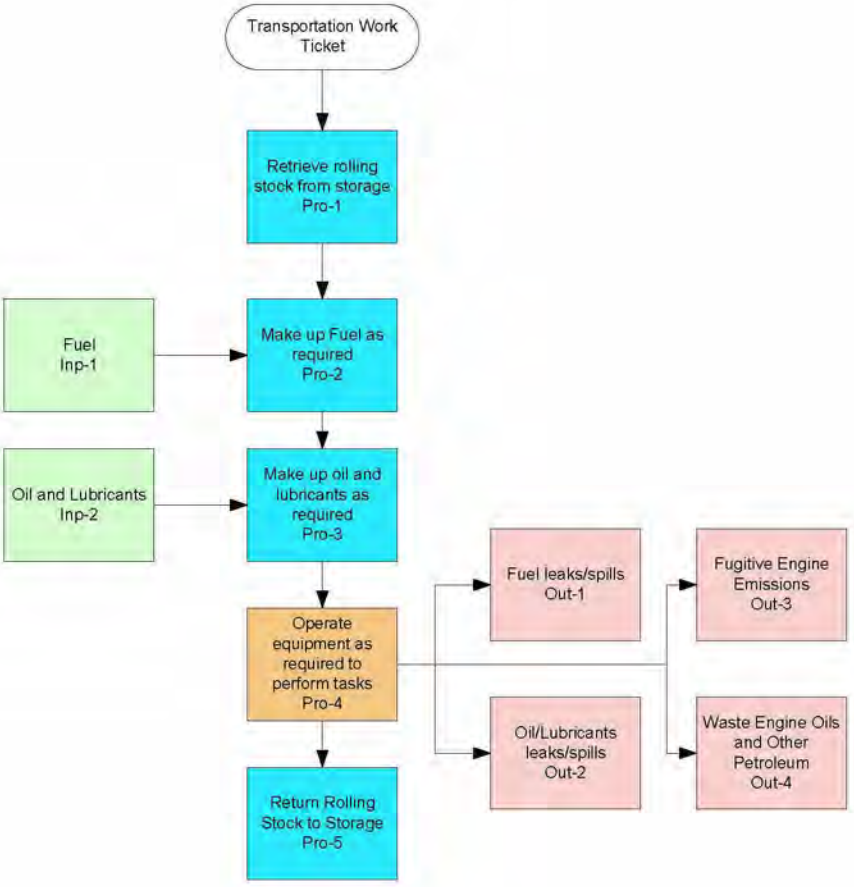


NWM Materials Inventory




Identify and Inspect Pro-2
Solid Waste
Packaging Waste Out-1
Recycle
Stage Materials as Required Pro-6

NWM Transport/Rolling Stock



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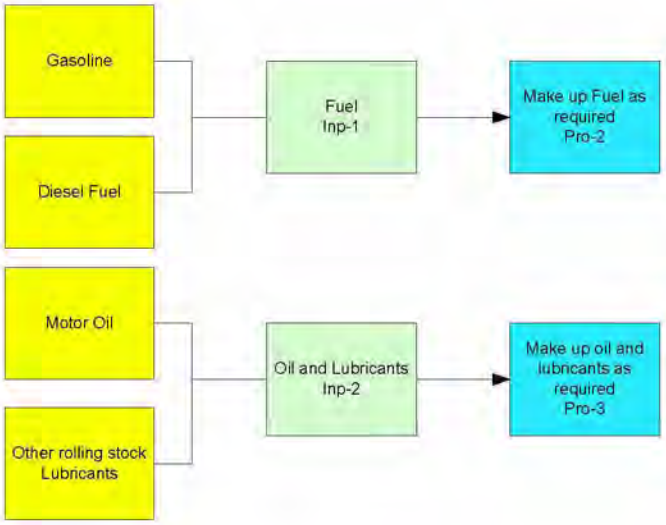

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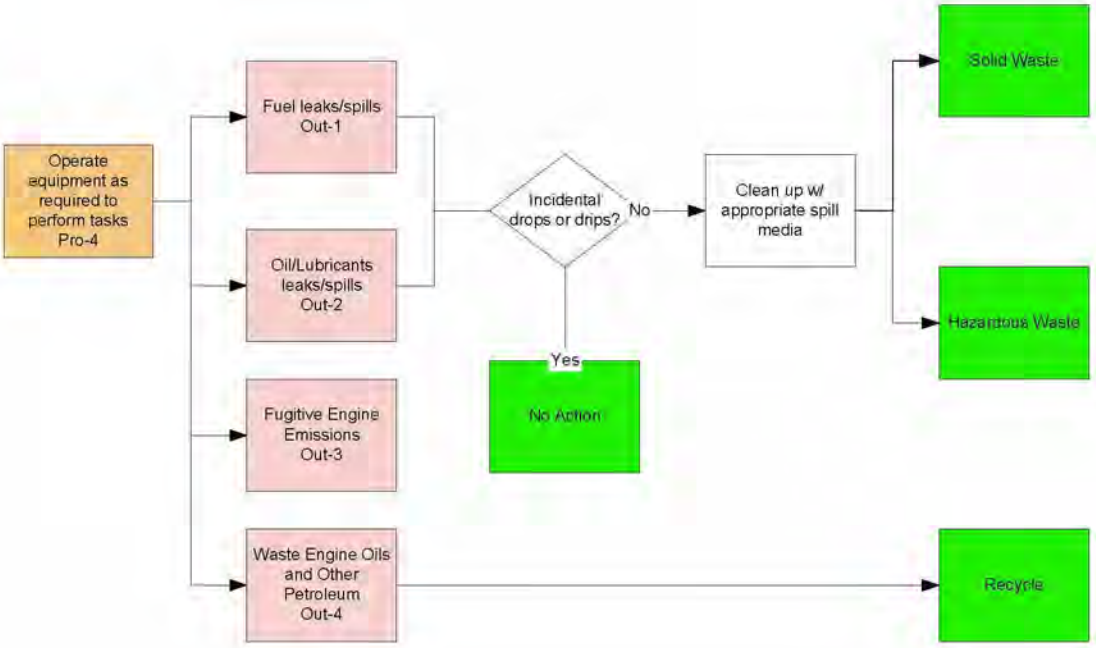
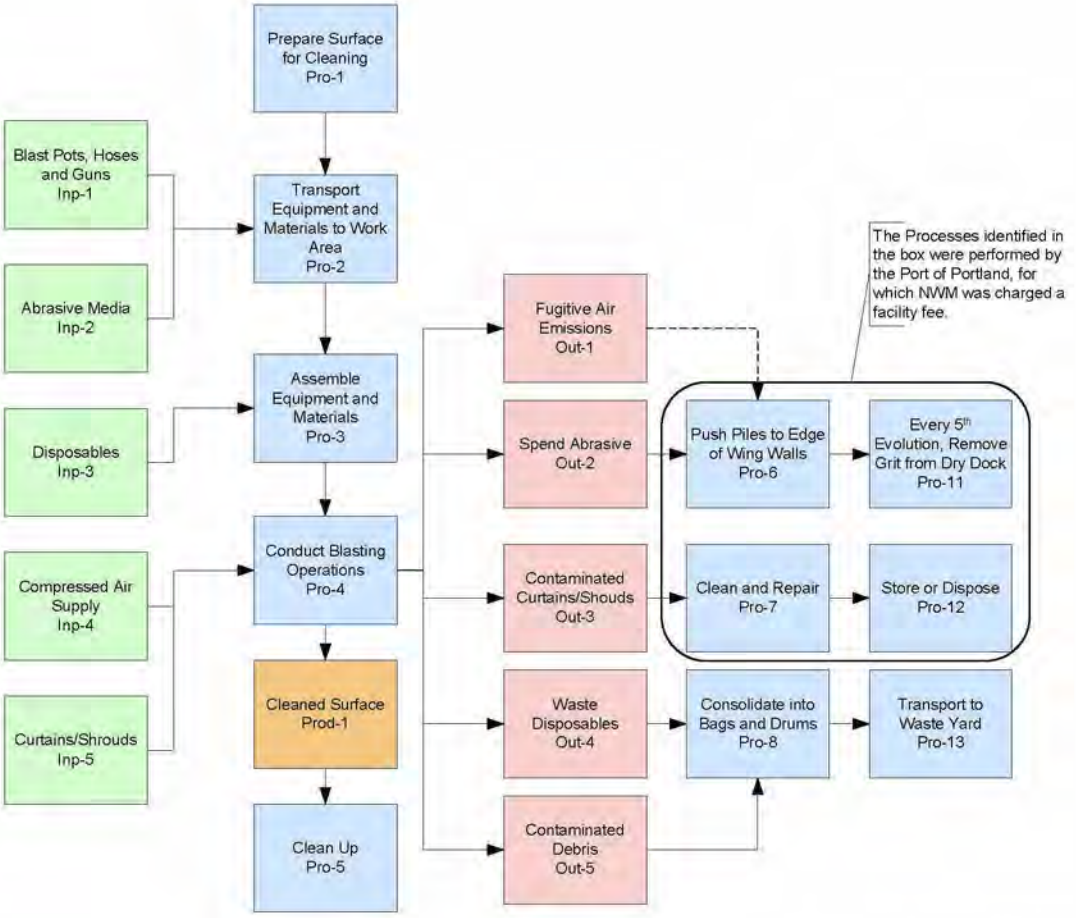


NWM Dry Abrasive Blasting



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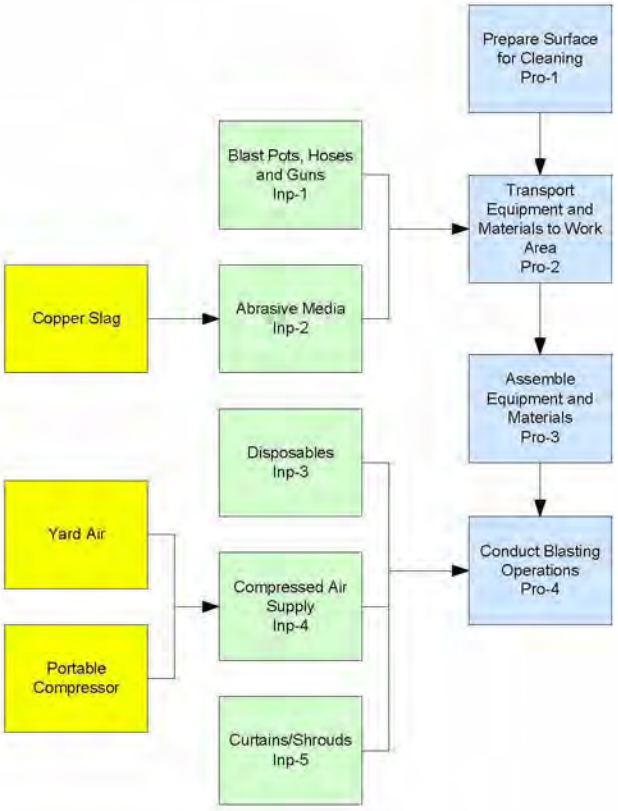

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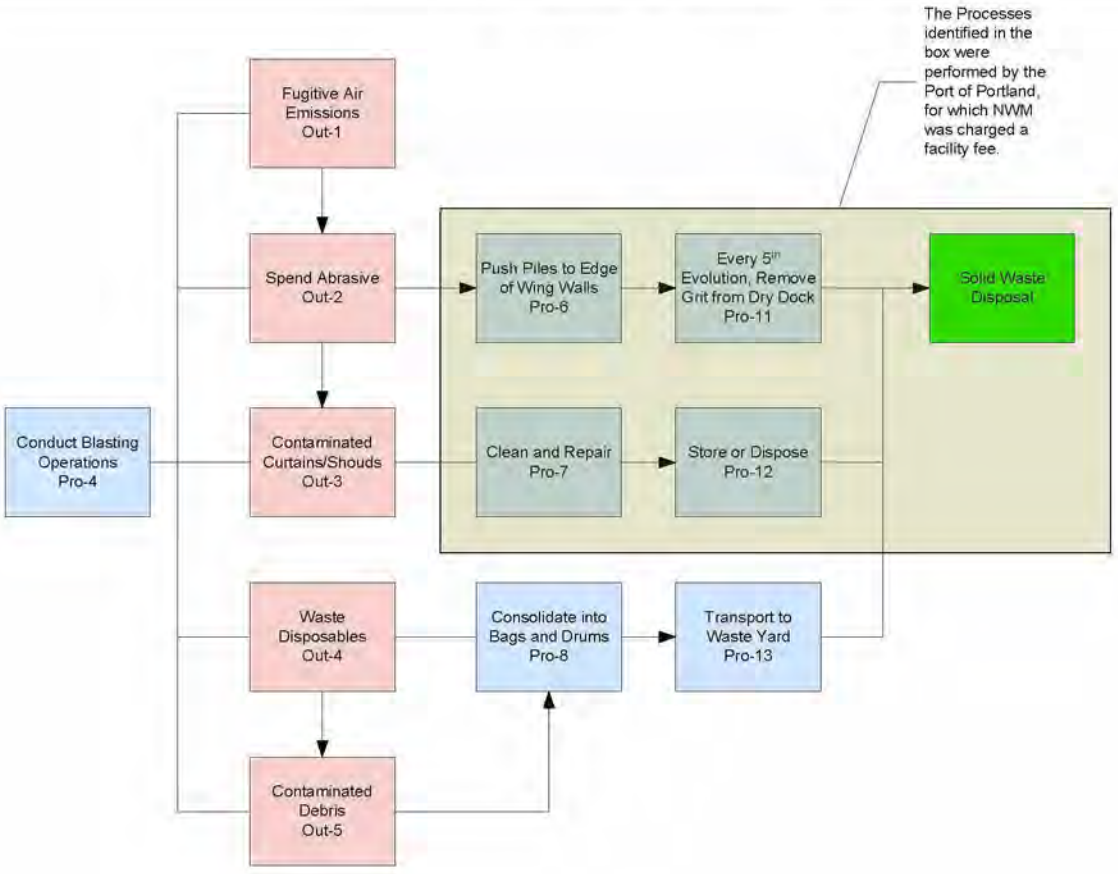

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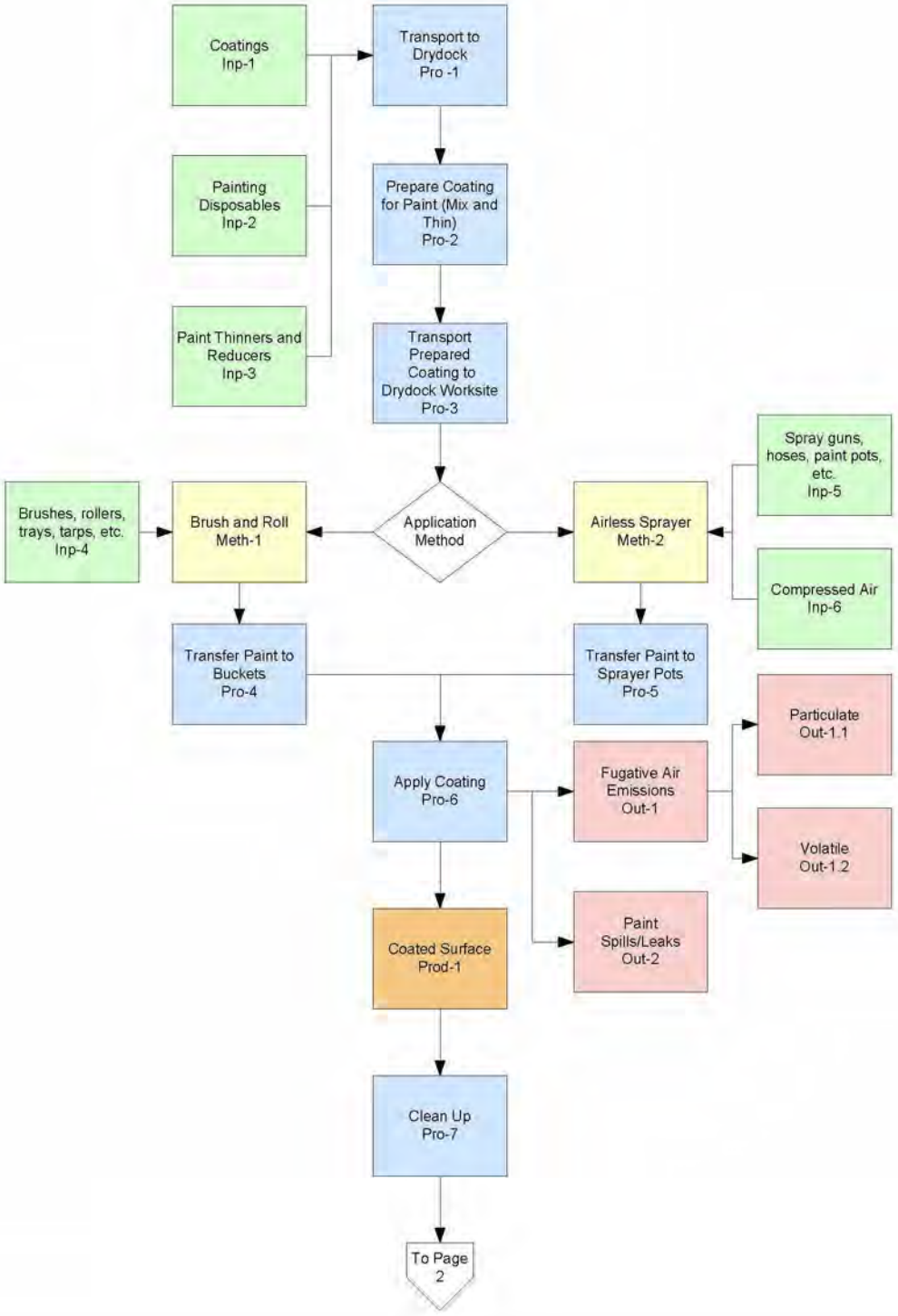

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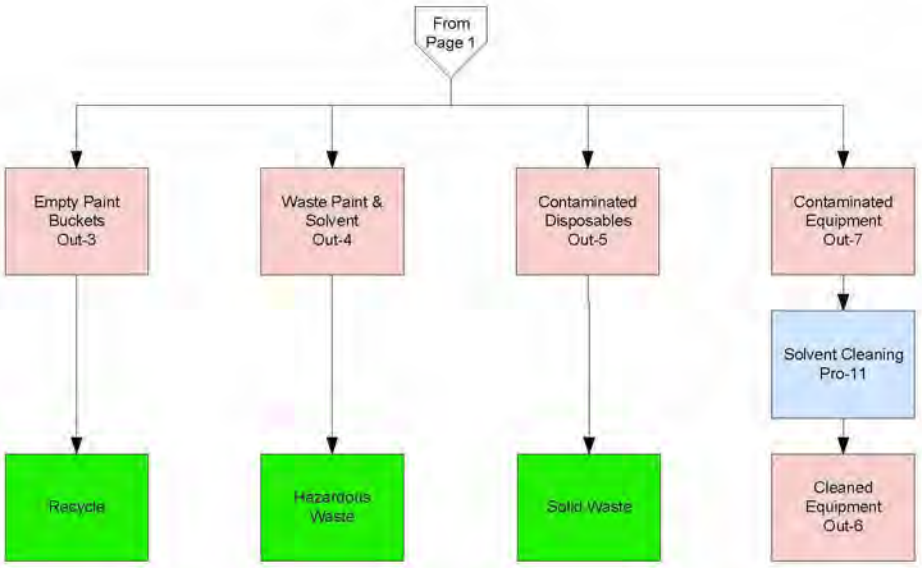

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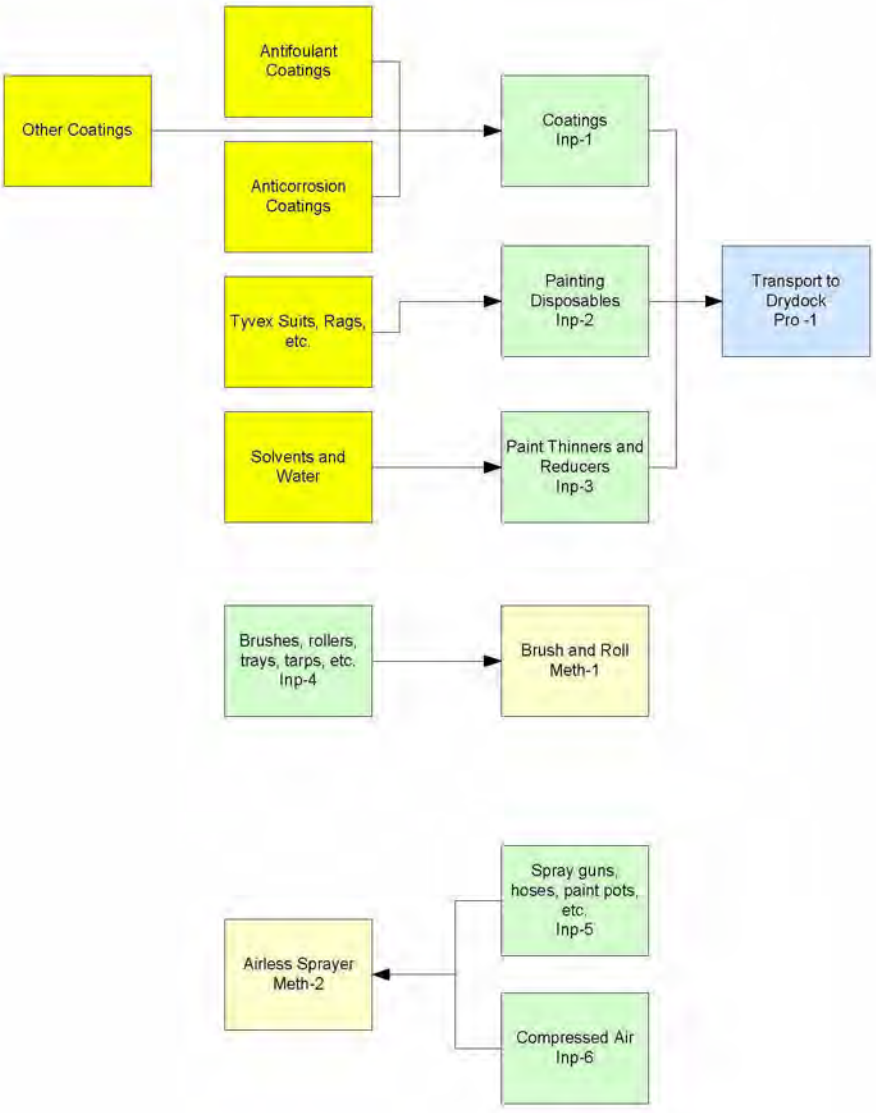
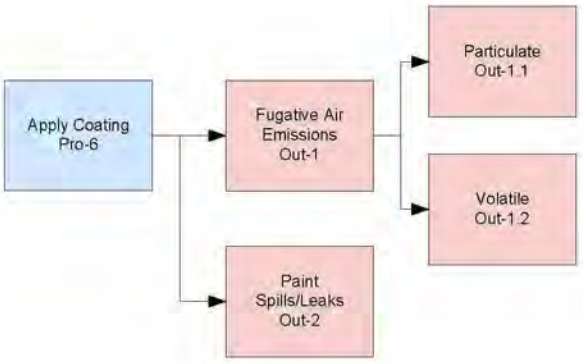
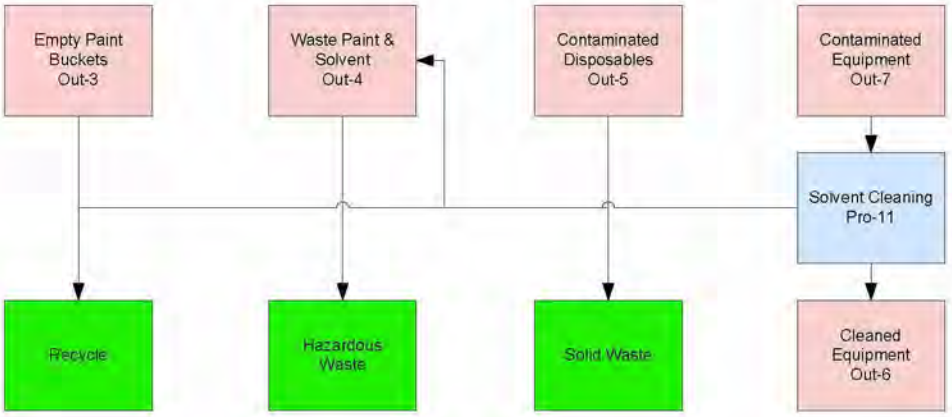
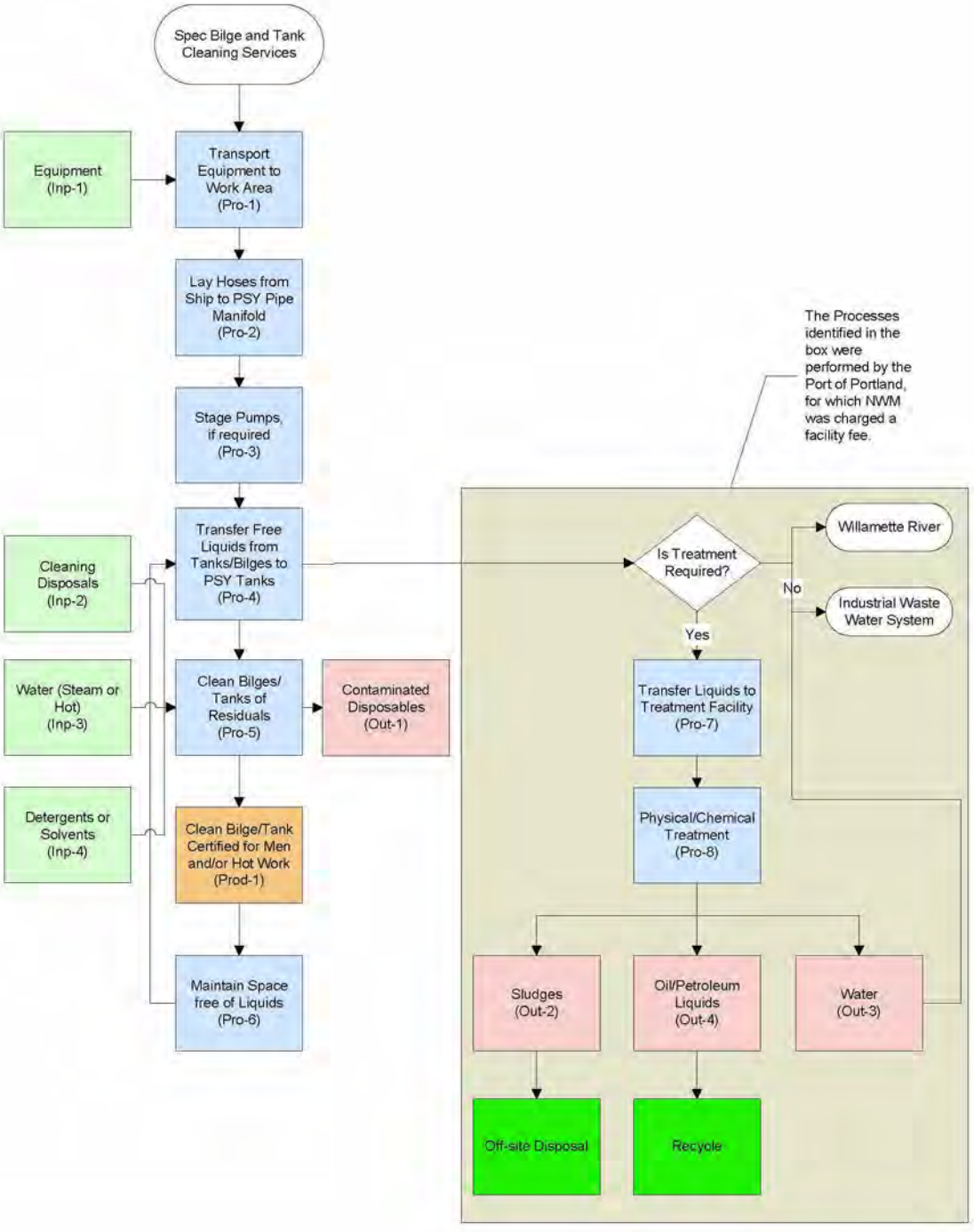



Apply Coating
Pro-6
Fugative Air
Emissions
Out-1
Particulate
Out-1.1
Volatile
Out-1.2
Paint
Spills/Leaks
Out-2


Empty Paint
Buckets
Out-3
Waste Paint &
Solvent
Out-4
Contaminated
Disposables
Out-5
Contaminated
Equipment
Out-7
Solvent Cleaning
Pro-11
Recycle
Hazardous
Waste
Solid Waste
Cleaned
Equipment
Out-6

Bilge/Tank Cleaning



Bilge/Tank Cleaning