PHASE IN/PHASE OUT PLAN FOR FACILITY MAINTENANCE

CONTRACT N68 950-99-D-0205

NAVAL INDUSTRIAL RESERVE
ORDNANCE PLANT
FRIDLEY, MINNESOTA

Prepared by:

Bay West, Inc.

Submitted to:

Department of the Navy

May 30, 2000

INTRODUCTION

In accordance with Part I, Section C, Paragraph C.15, of the Solicitation/Contract/Order for Commercial Items at the Naval Industrial Reserve Ordnance Plant (NIROP) in Fridley, Minnesota (i.e., solicitation number N68950-99-Q-0205), Bay West, Inc. (Bay West) has prepared this Phase In/Phase Out Plan (Plan). The Plan provides the methods and procedures which will be used to allow Bay West to become acquainted with the ground water pump and treatment system, the air stripper system and the ground water monitoring program at the NIROP facility. The Plan includes training, engineering scheduling and other requirements Bay West foresees as necessary to achieve a smooth and efficient transition from Morrison Knudsen Corporation (MK) to Bay West as the operator of the NIROP ground water remediation system. For clarity and continuity, the format of the Plan has been structured to be consistent with the various categories identified in Factor B of the solicitation. Factor B provided a listing of supplies/services required for the project. This Plan describes how Bay West will obtain a thorough working knowledge of each supply and service area identified in Factor B, thereby ensuring a smooth transition from MK to Bay West as the facility operator.

START-UP, OPERATING, AND SHUTDOWN PROCEDURES

The first day of the first year's Contract period occurred on March 14, 2000. On March 15, 2000, Bay West's Project Manger, QA/QC Officer, and O&M Operator attended a "Coordination and Mutual Understanding Meeting," with representatives of the United States Navy, MK, and United Defense. This meeting was held to develop a mutual understanding regarding various technical project objectives and administrative requirements. Minutes from this meeting are included as Appendix 1 to this Plan.

In accordance with the Contract Documents, the current operator (MK) was retained by the Navy to provide Bay West with a 30-day training period. Bay West had our designated treatment system operator on-site full time beginning March 20, 2000. Bay West's operator received the following training during the 30-day training period:

- Bay West's operator worked full time with MK's operator and was trained on methods and procedures required for operating, maintaining, troubleshooting, and sampling the remediation system. Additional Bay West staff were on-site for brief time periods to receive specific training in select areas of remediation system operation and maintenance.
- Bay West's operator and project manager were trained on site-specific health and safety issues and procedural issues specific to working at the facility by a United Defense representative.
- Bay West's operator reviewed information contained in the technical library and historic project records. Additionally, Bay West's operator was trained on record maintenance procedures used by MK's operator.
- The spare parts inventory was reviewed by Bay West's operator and MK's operator to document the current status of the inventory.

- All routine preventative maintenance work historically completed by MK's operator was performed at least once with Bay West's operator. This enabled Bay West's operator to be properly trained on methods and procedures for completing this work.
- Bay West's operator was trained on maintaining electronic copies of data automatically saved by the on-site data acquisition system.
- Bay West met with a representative of United Defense, the party which presently schedules recovery well maintenance work and biannual ground water monitoring events. During this meeting, historic maintenance requirements for recovery wells were reviewed, as well as typical methods and procedures used to clean and repair ground water recovery lines and recovery equipment.

SPARE PARTS

During the 30-day training period with the current operator, Bay West reviewed the existing spare parts inventory, the inventory tagging system, the inventory control system, and manufacturers' literature contained in the technical library. Bay West compared the existing spare parts with the Recommended Spare Parts Inventory (i.e., Table 6-1 of the *Operations and Maintenance Manual Groundwater Extraction and Treatment System (O&M Manual),* MK, September 23, 1998) included with the solicitation. As a result of this activity, Bay West identified parts and supplies that were missing or not supplied to the levels stated in the O&M Manual. Missing items and short-stocked supplies are summarized in Table 1. Not all of the missing items are currently used by the ground water remediation system (e.g., Nalco polymer, granular-activated carbon). In Table 1, Bay West has identified items that should be replaced in order to provide an inventory that meets current project requirements. In accordance with the Navy's request, the items identified in Table 1 will be replaced by Bay West as an indefinite quantity work item.

During performance of the Contract, replacement spare parts and consumable materials will be purchased as they are used. Bay West's on-site O&M Operator will be responsible for this activity. Purchase orders will be used to document the procurement of parts and materials purchased to replace items removed from inventory. The technical library will be used to maintain records of equipment manufacturers' recommended spare parts lists and records of parts and materials back-ordered and in inventory. On an annual basis, Bay West will contact each vendor identified in Table 6.1 of the Operations and Maintenance Manual to verify telephone numbers, fax numbers, addresses, and contact names. Table 6-1 of the O&M Manual will be updated with current information, as necessary.

ALARMS AND TROUBLESHOOTING

Bay West personnel who operate the system have a portable computer to allow the evaluation of the system's status on an as-needed basis. The required software has been loaded onto the computer to allow remote monitoring of the remediation system's status (i.e., off-site). Additionally, the treatment system's paging system has been programmed to page the O&M Operator in the event an alarm condition occurs. To ensure a response within four hours, if there

is not an immediate response to the page by the O&M Operator, the system has been programmed to call/page support personnel who are knowledgeable on the system's operation. If a response to these pages/calls is not received, the system will page/call Bay West's Project Manager. Finally, if a response to this page/call is not received, the system will direct-dial Bay West's 24-hour emergency response cellular telephone. This telephone is answered 24 hours a day, 365 days a year by a Bay West lead on-call manager. Bay West will utilize a call-out procedure and train lead on-call managers on how to respond and who to contact in the event that a call is received due to an alarm condition at the site.

In the event an alarm condition occurs, Bay West personnel will use a systematic approach to troubleshooting the system. If an alarm condition occurs, the individual responding to the alarm will utilize the system's PLC and on-site personal computer interface to determine what activated the alarm. If the system is not useful for determining the alarm condition, the O&M Operator will visually investigate the system. Following identification of the alarm condition, the O&M Operator will obtain the necessary labor, equipment, and/or subcontracted resources to correct the problem.

MAINTENANCE AND INSPECTIONS

The O&M Operator is responsible for completing daily equipment inspections and scheduling routine maintenance. The O&M Operator has completed this work since the end of the first week of the Contract. Initially, this work was completed under MK's oversight. After the 30-day training period, this work was completed independently. During long-term remediation system operation, the O&M Operator will complete the specified preventative maintenance in accordance with Table 5-1 of the O&M Manual. Table 2 of this Plan provides approximate dates the specified preventative maintenance activities will be completed during the first year of Bay West's Contract.

During the 30-day training period, Bay West's operator discussed historic preventative maintenance activities with the MK operator. Bay West's operator also reviewed the electronic maintenance log for the facility. Based upon these discussions and reviews, it appears that not all of the preventive maintenance items specified in Table 5-1 of the O&M Manual have been historically performed in accordance with the prescribed schedule. Table 1 contains a listing of specified maintenance activities that were apparently not performed at the frequency specified in the O&M Manual, based upon discussions with the MK operator and reviews of the maintenance log.

To ensure proper maintenance of system components, many of the preventative maintenance activities specified will be subcontracted to the original equipment manufacturer (OEM) or subcontractor that originally installed the equipment. Major preventative maintenance activities which will be completed, as well as the party that will likely complete each activity, can be summarized as follows:

- Bay West will complete the monthly inspections of the four air strippers used for ground water treatment. During these inspections, air stripper level, pressure, flow switches and

flow sensors will be removed and cleaned, as necessary. On a quarterly basis, the specified lubrication of air stripper blower motors will also be completed by Bay West. Air stripper cleaning will be completed on approximately a semi-annual basis, or more frequently if a significant increase in the inlet air pressure or a nominal decrease in treatment system efficiency is observed. If Bay West requires assistance in the completion of any of the above tasks, Carbonair Environmental Services, Inc. (Carbonair) will be subcontracted to provide the required expertise. Carbonair is the OEM of the four air strippers.

- Air stripper feed pumps P-101 A & B were manufactured by ITT A-C Pump. A factory-authorized service technician will be retained to complete annual maintenance work specified in the O&M Manual.
- E.H. Renner and Sons (Renner) installed four of the six ground water recovery wells used at the site. Additionally, Renner has performed recovery well maintenance, recovery pump maintenance, and forced main cleaning at the site since 1994. Bay West will continue to subcontract this work to Renner. Procedure Q-3 of the O&M Manual specifies that maintenance work will consist of pulling extraction pumps on a quarterly basis for visual inspection, along with the collection of voltage, amperage and resistance readings. The manufacturer of the extraction pumps (i.e., Grundfos Inc.) recommends the pumps not be pulled unless electrical and/or flow measurements suggest additional inspection and/or repairs are necessary. In accordance with this recommendation, and recent discussions with the Navy regarding this issue, extraction pumps will not be pulled during the quarterly inspections unless electrical and/or flow problems have been identified. With respect to the anticipated frequency of extraction pump removal, Bay West has assumed a frequency of pump service required under maintenance procedure S-3 based on historical information supplied by Renner and United Defense. It is anticipated that pumps AT-1A and AT-4 will be cleaned three times per year and the other pumps will be cleaned annually.
- A programmable logic controller (PLC) controls remediation system operation. If modifications and/or repairs are required in the program which controls remediation system operation, this work will be subcontracted to Dynalektrik, the firm which wrote the original program.
- Collisys Electric (Collisys) was the electrical contractor that completed the original equipment installation. If electrical repairs are required during the course of the Contract, Bay West will subcontract this work to Collisys. In accordance with Bay West's technical proposal, an annual heat survey of the motor control centers will be completed. Potential maintenance issues which may be identified by the heat survey include, but are not limited to, loose lugs, dirty motor contacts, and severely unbalanced motor loads. It is the intent of the heat survey to identify potential maintenance issues prior to the generation of an alarm condition and, possibly, the catastrophic failure of a piece of equipment. The heat survey will be subcontracted to Collisys.
- Unannounced software audits will be conducted by Bay West's internal MIS staff on the on-site computer which interfaces with remediation system controls. The purpose of these audits will be to verify that unlicensed and unauthorized software have not been

loaded onto the computer. The first audit has already been completed. Subsequent audits will be conducted on a biannual basis.

All routine preventative maintenance work specified in the solicitation that will not be completed by a subcontractor was performed at least once during the 30-day training period with MK. This includes, but is not limited to, acid cleaning the air strippers, greasing/lubricating process equipment and cleaning equipment (e.g., sight glasses) that commonly becomes coated with precipitates. Additionally, Bay West's O&M Operator took over responsibility for completing the maintenance logs for all preventative maintenance work early in the 30-day training period. Bay West's Project Manager will review the maintenance log on a regular basis in order to verify compliance with project requirements.

Prior to completing any routine preventative maintenance and routine inspection work, whether by the O&M Operator, support personnel, or an outside subcontractor, project-specific health and safety requirements will be reviewed. These requirements include, but are not limited to, the use of the proper PPE and appropriate lockout/tagout procedures. All health and safety requirements will be strictly adhered to during the completion of preventative maintenance and routine inspection work.

SAMPLING AND ANALYSIS

Bay West completed two NPDES sampling events with the MK operator during the 30-day training period. Bay West also completed one quarterly influent/effluent sampling event for emissions analyses with MK during the training period. Sampling protocol, QA/QC requirements and chain-of-custody documentation were reviewed during these sampling events. Bay West has prepared Table 3 to provide a tentative schedule of remediation system sample collection dates and analytical requirements during the first year of Bay West's Contract.

Samples collected during the first three NPDES sampling events were submitted to Interpoll, Bay West's contract laboratory for the EPA 601/602 analyses specified in the Contract Documents. In late April 2000, the Navy's requests to replace EPA 601/602 methodology with EPA 624 methodology and to remove carbon disulfide from the NPDES analyte list were approved by the MPCA. Beginning with the first sampling event in May 2000, NPDES samples have been submitted to EnChem, the analytical laboratory used for ground water analyses at the site. Future NPDES samples will be submitted to EnChem as well.

On March 15, 2000, a representative of the Metropolitan Council for Environmental Services (MCES) requested the testing of additional analytes during the next sanitary sewer discharge event conducted in conjunction with air stripper cleaning work. The additional analytical work consisted of analyzing the neutralized acid cleaning solution for total cadmium, total chromium, total copper, total lead, total mercury, total nickel and total zinc. The analysis for these metals was in addition to the regularly required analytical parameters (i.e., pH, chemical oxygen demand, total suspended solids, trichloroethene, 1,2-dichloroethene). The acid cleaning work, and associated sanitary sewer discharge, occurred during the 30-day training period. All required analytical work was performed, with the results forwarded to the MCES through United Defense. Based upon the results submitted, it is Bay West's understanding that MCES

monitoring and reporting frequencies have both been reduced to annually. Additionally, the metals tested during the most recent monitoring event do not need to be included in the analyte list for future monitoring events.

During the 30-day training period, Bay West's Project Manager, On-Site Operator and Field Sampling Supervisor met with a representative of United Defense to discuss ground water monitoring at the facility. The United Defense representative gave Bay West a site tour of monitoring and recovery well locations at the facility. The United Defense representative also discussed sampling procedures and methodologies historically used at the facility. As a result of these discussions and the site tour, the need to complete well maintenance work at some locations was identified. General well maintenance issues and concerns are summarized in Table 1.

Subsequent to the meeting with United Defense, Bay West had several discussions with the Navy and Tetra Tech Nus, Inc. (Tetra Tech) regarding ground water monitoring requirements at the facility. Based upon these conversations, the following modifications have been made to the ground water monitoring requirements specified in the Contract Documents:

- Numerous new monitoring wells have been installed at the facility over the past several months. The Contract Documents specified that a total of 64 monitoring wells and six recovery wells were to be gauged during the biannual ground water monitoring events. In accordance with the requirements of the March 2000 *Remedial Action Work Plan (RAWP)*, the number of monitoring wells that will be gauged has been increased to 137.
- The contract documents specified that surface water elevations and samples be collected from three locations in the Mississippi River. Surface water elevation measurement and sample collection are no longer required.
- While ground water elevations will continue to be collected on a biannual basis, the MPCA has approved a reduction in ground water sample collection frequency to once per year. Sample collection will occur during the month of October each calendar year.
- The Contract Documents specified that 44 monitoring wells be sampled during the ground water monitoring events. With a number of new wells installed, the number of wells that will be sampled during the annual ground water monitoring events will increase. The Navy and MPCA are still negotiating which monitoring wells will be sampled during the annual monitoring events. The Navy and MPCA will identify the monitoring wells that will be sampled during the annual ground water monitoring events prior to the October 2000 ground water monitoring event.
- The March 2000 RAWP specified that ground water purging will consist of removing 3 to 5 well volumes of ground water at low flow pumping rates. This is a deviation from the March 1999 RAWP which allowed both low flow-low volume purging and high flow-high volume purging. Based upon discussions completed since the publication of the March 2000 RAWP, ground water purging will be completed as follows:

    - In accordance with the March 2000 RAWP, the maximum pumping rate during well purging will be 0.4 gpm (1.5 liters per minute).

- In accordance with Section 4.3.2.2 of the March 2000 RAWP, purge pump placement will be at the midpoint of the screen or at least 3 feet above the bottom of the well.
- Stabilization parameters will be monitored at 5- to 10-minute intervals. Once three consecutive measurements indicate ground water has stabilized, a sample will be collected. Removal of three to five well volumes of ground water prior to sample collection is no longer required.
- In the event select wells do not stabilize within a reasonable amount of time (i.e., one hour), the pumping rate can be increased to allow ground water to enter the well more quickly. Additionally, there will be a cap on the maximum amount of time each well will be pumped prior to sample collection (e.g., two hours). If a well has not stabilized within this time period, the sample will be collected and the appropriate documentation will be recorded in the log book.

In accordance with the Navy's request, both increases and decreases in work scope will be addressed through Indefinite Quantity Work Orders.

The biannual ground water gauging events and annual ground water monitoring events will be scheduled and coordinated by the Project Manager. Field work will be completed by experienced technicians. In accordance with the RAWP, submersible pumps will be used to purge and sample monitoring wells. Extraction wells will be sampled from existing sampling ports in the ground water recovery building. As extraction wells are pumped continuously, the recovered water is considered to be stabilized. Consequently, extraction wells will not be purged prior to sampling. The decontamination, storage, and transport of sampling equipment will be completed in accordance with the requirements of the current RAWP.

Monitoring well purge water will be measured in calibrated containers and stored in larger containers (e.g., 55-gallon drums or larger volume plastic tanks). Based upon conversations with the Navy, it is Bay West's understanding that purge water from monitoring wells that have not contained analyte concentrations above the respective method detection limits does not need to be containerized. This purge water will be discharged to ground surface adjacent to the monitoring well. Purge water which is containerized will ultimately be pumped into the ground water treatment system equalization tank and treated with ground water removed from the recovery wells.

In order to ensure the integrity of analytical results obtained from each ground water monitoring event, all of the following activities will be completed in compliance with the RAWP, subject to the modifications previously discussed in this Plan:

- Ground water sample collection
- QA/QC sample collection
- Sample identification
- Chain-of-Custody preparation
- Field activity log book completion

- Sample preservation, handling, and transport

In addition to a proposed NPDES sampling frequency, Table 3 also has the proposed biannual ground water gauging and annual ground water monitoring schedule for the first year of Bay West's Contract.

WASTE DISPOSAL PROCEDURES

Wastes generated by remediation system operations are limited to filter press solids and neutralization liquids. During the 30-day training period, Bay West's operator met with the on-site representative of Safety Clean, the subcontractor historically retained for the disposal of filter press solids. Based upon historic analytical data, additional testing of future filter press solids will not be required, unless the process changes. Two drums of filter press solids already on-site were disposed by MK during the training period. Bay West's operator was trained on drum disposal procedures.

In conjunction with the air stripper acid cleaning event completed during the 30-training period, Bay West's operator was trained on the methods and procedures used to containerize, label, and store filter press solids in 55-gallon drums. Additionally, Bay West's operator was also trained on methods for neutralizing the acid cleaning solution, collection and submittal of neutralized liquid samples for the required laboratory analyses, discharging the neutralized solution to the sanitary sewer, and record keeping and reporting requirements associated with this discharge. Future filter press solids disposal and neutralized liquid sampling, discharging, record keeping and reporting will be completed in accordance with this training and project specifications.

RECORDS AND REPORTING

The O&M Operator and Bay West office staff are responsible for maintaining project records and completing project reports. During the 30-day training period with the MK operator, Bay West's operator reviewed, and where required, maintained project records. Since the completion of the 30-day training period, Bay West has completed this work independently. Records reviewed and maintained include, but are not limited to, the following:

- Checklists IC-01 through IC-06, as specified in the Operations and Maintenance Manual
- Monthly status reports for SOUTHNAVFACENGCOM.
- Laboratory analytical reports, field sampling forms, and remediation system operational data required for inclusion in various regulatory reports which must be prepared for the facility (e.g., NPDES reports, Ground Water Appropriations Reporting, Industrial Discharge Reporting, Air Emissions Reporting, Annual Monitoring Report).
- The technical library
- "As-built" drawings
- Computer disks with historic operational data

During the course of the Contract Year, many reports will need to be submitted to other parties for review. Additionally, various documents (e.g., laboratory analytical reports) will need to be submitted to other parties for inclusion in work products being completed by these parties. Bay West has developed a submittal register that summarizes deliverables, deliverable due dates, and parties receiving the deliverables (Table 4).

The March 2000 monthly report for the facility was prepared by MK. Bay West began to prepare monthly reports for the facility effective with the April 2000 reporting period. In accordance with the Navy's request, ground water treatment facility performance curves will be included with the status reports on a quarterly basis.

The Bay West Project Manager will review the monthly reports and all project data being forwarded for inclusion in various submittals to the regulatory agencies (e.g., ground water and treatment system laboratory analytical reports, air emissions calculations, data for the Ground Water Appropriations Report, etc.). The purpose of this review is to provide a QA/QC function over deliverable items and verify compliance with project requirements. Additionally, the Bay West Project Manager will conduct routine audits on project records which are maintained on site (e.g., checklists IC-01 through IC-06, Technical Library, etc.) for the purpose of verifying compliance with project requirements.

During initial discussions regarding the project, the Navy expressed an interest in having Bay West take over certain reporting activities and provide additional project reporting services. Items discussed include the following:

- Prepare NPDES reports once the plant has been sold and the NPDES permit has been renewed.
- Prepare MCES reports once the plant has been sold.
- Keep track of changes made to remediation system operation and prepare errata sheets and/or O&M Manual updates to document these changes (e.g., removal of carbon disulfide from NPDES analyte list, switch from 601/602 methodology to 624 methodology for NPDES sampling, etc.).
- Prepare annual O&M reports similar to the O&M reports previously prepared by MK. The reports would most likely be prepared at the end of each contract year.

In accordance with the Navy's request, additional reporting activities will be budgeted as indefinite quantity work items at the time they are formally requested..

SERVICE CALL WORK

In accordance with the requirements of Paragraph C.14 of Section C of the solicitation, service call work is limited to those tasks that are called into the work reception center or generated by Government representatives. This work would not require more than 16 hours, in aggregate, to complete. It is Bay West's understanding that once 16 hours of service call work have been completed during any Contract Year time period, any additional work will be completed in

accordance with the Indefinite Quantity Work Clause (i.e., Paragraph C.16 of Section C) of the solicitation. As the amount and type, if any, of service call work which will be generated during each Contract Year are unknown, specific training requirements for service call work are not provided in the Plan. Instead, a procedure has been developed for addressing any service call work that may be generated during the completion of the Contract.

During regular Government working hours, service calls will be routed directly to the Project Manager. In the event the Project Manager is unavailable, service calls will be routed, sequentially, to the O&M Operator and support personnel knowledgeable on the system's operation. After regular Government working hours, service calls shall be received by the individual on-call to address remediation system alarm conditions. This individual shall log the appropriate information regarding the call.

Depending on the scope of the service call, the Project Manager, O&M Operator, support personnel, or the lead on-call manager who received the call, will determine the most appropriate course of action. Potential responses include one or more of the following:

- Mobilizing the O&M Operator or other technical staff to the site to assess service call work requirements.
- Mobilizing the O&M Operator or other appropriate staff to the site to complete work associated with the service call.
- Mobilizing the appropriate subcontractor personnel to the site to assess service call work requirements and/or complete the work associated with the service call.
- Providing documentation to the Government that the work requested is beyond the scope of a service call.

Once the service call has been completed, the Government-developed evaluation form shall be filled out and submitted in accordance with the requirements of the bid documents.

INDEFINITE QUANTITY WORK

Proposed work scopes for indefinite quantity work will be reviewed by the Project Manager. If appropriate, a list of deviations in materials, equipment, and/or task descriptions from the Government's work scope will be prepared. Costs for indefinite quantity work will be based on Means Cost Data books. Where items/tasks do not fit/relate or lead themselves to Means pricing, Bay West and the Navy have agreed to negotiate to arrive at a fair and practical cost and scope. Once a bilateral agreement is reached for the cost estimate, and the Contracting Officer has issued a delivery order for the work, the work will be scheduled and completed for the agreed-upon firm fixed price.

TABLES

Table 1
LIST OF CONCERNS AND DISCREPANCIES

Equipment	Problem/Concern	Proposed Action
Spare parts	Missing: Part No. 2-255, Casing Cover "O" ring (anti-scale polymer floor sump pump P-502). Granular activated carbon, 200 lb. recharge volume (Carbon filter) (2). Hex head carbon steel machine bolts/nuts (3-inch flange: 5/8-inch x 3 3/4-inch) (3). Nalco 8356D anti-scale polymer (not used anymore - 1 empty tote on-site). Calgon Anti-scale polymer (275 gallons missing).	Purchase Document Purchase Document Purchase
Printer (MMI)	Does not work.	Repair
Fax machine	Paper jam frequently occurs. Problem with the ink cartridge: prints blurry.	Repair
Indicator lights	Power indicator lights needed for Pump AT-3, Pump AT-5, and Spare size 1 (MCC 2)	Replace
Pressure gauges	The pressure gauges leak small amounts of glycerin solution. (PI - 205, 211, 212, 213, 214, 301A, 301B, 401, 402, 405A, 407A, 407B, 501)	Refill or Replace
PI-407A	The nipple connecting this pressure gauge to the pipe broke off due to vibration of the diaphragm pump (P-405).	Repair
FE402A & FE-401	The specifications call for these flow meters to have Tantalum grounding rings. For cost considerations stainless steel was used instead. Acid was initially left in the line which corroded the stainless steel rings causing a leak from the flowmeter. MK replaced the corroded stainless steel rings with new stainless steel rings. In the future the line will be flushed with water following acid transfer.	Document
Monitoring Wells	Well 20-S is missing ballards - the well is unprotected in a parking lot. Many of the wells are missing identification tags. Some at grade wells may be missing cover plate bolts.	Install
P-103	Sump pump P-103 does not operate properly. If left not running, even for short periods of time (2 weeks), the pump does not start. Starting it requires disconnecting the pump from the discharge line and flushing the pump with water.	Repair
P-101 A & B	The maintenance log doesn't show any of the scheduled maintenance for the feed pumps except changing from the current to the spare and lubricating prior to switching.	Document and Complete
Air Strippers	According to the maintenance log the air stripper level pressure, and flow switches and sensors were never cleaned.	Clean
Flowmeters and level probes	According to the maintenance log the flowmeters and level probes were never cleaned.	Clean

Other than scheduling and completing maintenance work on feed pumps P-101 A & B, no action will be taken on items where information has been provided for documentation purposes. As indicated in Table 2, feed pump maintenance will be completed during June 2000.

Table 2
OPERATIONS AND MAINTENANCE SCHEDULE

Company	Equipment	Task	First Year of Contract: Apr 2000	May 2000	Jun 2000	Jul 2000	Aug 2000	Sep 2000	Oct 2000	Nov 2000	Dec 2000	Jan 2001	Feb 2001	Mar 2001
Bay West	Monitoring	Monitor the system, check operation and report anything unusual.	Daily											
Bay West	General housekeeping	Pick up tools, garbage, or machinery laying around, where it may cause a hazard.	Daily											
Bay West	System inspection	Perform daily inspections, complete checklists included in Appendix A of the Operation and Maintenance Manual. Perform visual inspection of all equipment.	Daily											
Bay West	P-101 A & B	Check bearing Temperature. If greater than 180 F there may be no, low, or too much lubricant.	3	1	1	3	1	1	2	1	1	2	1	1
Bay West	Flowmeters and level probes	Visually inspect for damage, material buildup, and proper operation. Clean and service if necessary.	3	1	1	3	1	1	2	1	1	2	1	1
Bay West	System	Take electricity readings: MCC#1, MCC#2, and wells (3).	3	1	1	3	1	1	2	1	1	2	1	1
Bay West	Eye wash/shower	Test the eye wash/shower for proper operation.	3	1	1	3	1	1	2	1	1	2	1	1
Bay West/ Carbonair	Air Strippers	Remove and clean air stripper level, pressure, and flow switches and sensors as necessary.	X	X	X	X	X	X	X	X	X	X	X	X
Bay West	P-101 A & B P-301 A & B	Switch pumps from current to spare. Check lubrication prior to switching over.		X		X		X		X		X		X
E.H. Renner	Well pumps	Check well pumps for proper operation.		X			X			X			X	
Bay West/ Carbonair	B-201, 202, 203, 204-blower motor	Lubricate motor		X*				X*				X*		
Bay West	Flowmeters	Clean externally, flush internally with suitable cleaning fluid.			X			X			X			X
Bay West	P-101 A & B	Check packing and replace as necessary. Take vibration readings on bearing housings and compare to the last set, check the shaft and sleeve for scoring, check pump motor for alignment.			X						X			
Bay West	P-103	Inspect pump and sump. Clean sump, interior of control cabinet, electrical contacts, check float switch operation, check stator housing and seal chamber for liquid and take necessary steps if components are not functioning properly.	X						X					
E.H. Renner	Well pumps	Service wells and well pumps. The extraction well system requires maintenance when flow rates are less than 60% of design. Historical information indicates that wells AT1 and AT4 require more regular cleaning (two to three times per year).	As necessary											
Bay West	Contacts	Contact venders in Table 6.1 of the O&M Manual to verify addresses, phone and fax numbers, and contact names.			X									
ITT Pump	P-101 A & B	Remove upper half of casing and thoroughly inspect pump for wear, check wear ring clearances, remove deposits or scaling, measure total dynamic suction and discharge head as test of performance - compare with last test.			X									
Collisys	Motor control center	Heat survey.			X									
Bay West/ Carbonair	T-201, T-202, T-203, T-204	Clean air strippers (one at a time to keep system operational).						X**						X**
Nardini Fire Equipment	General	Maintenance on the fire extinguishers.												1

Notes: Numbers under the months indicate the day of anticipated maintenance.
X - Maintenance will be performed during this month, the exact day will be coordinated with the contractors or decided by Bay West.
* - 2500 hours of operation
** - Air strippers will be cleaned more often if needed. Twice per year is an estimate based on past performance.

Table 3
SAMPLING SCHEDULE

Reason	Sample method	First Year of Contract											
		Apr 2000	May 2000	Jun 2000	Jul 2000	Aug 2000	Sep 2000	Oct 2000	Nov 2000	Dec 2000	Jan 2001	Feb 2001	Mar 2001
NPDES	VOCs - EPA 624(8 compounds*)	7 / 17	1 / 15	1 / 15	6 / 20	15	5 / 18	2 / 16	1 / 15	1 / 15	2 / 15	15	1 / 15
	pH/Temperature	7	1	1	6	1	5	2	1	1	2	1	1
	Metals (Iron, Manganese)			15			18			15			15
	VOCs - All EPA 601/602					1						1	
MCES	VOCs - 8260 (TCE and DCE only)												4**
	Chemical oxygen demand (COD)												4**
	Total suspended solids (TSS)/pH												4**
Air emissions	VOCs - EPA 624 (8 compounds*) Influent			15			18			15			15
	VOCs - EPA 624 (8 compounds*) Effluent			15			18			15			15
Polymer assessment	Metals (Iron, Manganese)/Hardness - Influent	17	15	15	20	15	5	16	15	15	15	15	15
	Metals (Iron, Manganese)/Hardness - Effluent	17	15	15	20	15	5	16	15	15	15	15	15
Filter press solids	As required by off site disposal facility	As required by off site disposal facility											
Ground water monitoring	VOCs - 8260B Field: pH, electrical conductivity, and temperature.		15					16					

Notes: NPDES sampling schedule and requirements subject to change with permit renewal.
Numbers under the months indicate the day of anticipated sampling.
* - Methylene Chloride, 1,1-dichloroethene, 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1,1-trichloroethane, Trichloroethene, Tetrachloroethene
** - Required once per year during discharge of the neutralized acid cleaning solution.

Table 4
SCHEDULE OF DELIVERABLES

Deliverable	Contact	First Year of Contract: Apr 2000	May 2000	Jun 2000	Jul 2000	Aug 2000	Sep 2000	Oct 2000	Nov 2000	Dec 2000	Jan 2001	Feb 2001	Mar 2001
Status Report*	SOUTHNAVFACENGCOM and	MK**	15	15	14	15	15	13	15	15	15	15	15
	TTNUS (Mark Sladic)												
NPDES Sample Results	NIROP Operator[1]	14**	15	15	14	15	15	13	15	15	15	15	15
	(Tim Ruda)												
MCES Sample Results	NIROP Operator[1]	20**									19		
	(Tim Ruda)												
Ground Water Appropriation Information	NIROP Operator[1]										19		
	(Tim Ruda)												
Air Emissions Report Information	RPM and REICC								15				
Ground Water Analytical Results	RPM, REICC (transmittal letter), and			15					15				
	TTNUS												

Notes:

Contact is the person who will receive the deliverable.
Numbers under the months indicate the day of data/report submittal.

* The status report will include: Total flow (with graph), cumulative flow (with graph), discharge to sanitary sewer, on stream factor, explanation of down times, scheduled maintenance, system or procedure modifications, problems and solutions, and a list of data/information provided to the NIROP Operator and SOUTHNAVFACENGCOM.

** For the month of March, Morrison Knudsen will provide the status report (due mid April) and some of the NPDES and MCES lab reports. The lab reports for the events Bay West sampled will be delivered on the approximate dates stated above.

[1] When the NPDES permit is renewed and/or the plant is sold, the Navy will likely have Bay West be responsible for completion and submittal to the various agencies, of the reports currently handled by Tim Ruda (MCES, NPDES, and water use).

APPENDIX 1

Meeting Minutes

Partnering Meeting NIROP O&M
March 15, 2000 11:30 am
Fire Power Conference Room

Attendees:

Name	Organization	Phone Number
Lt. Brad Hancock	ROICC Great Lakes	847-688-2600 ext. 409
Lamar Sims	EFA Midwest	847-688-2600 ext. 150
Kerry Morrow	NAVSEA 04XI3	612-872-6360
Tim Ruda	United Defense	763-572-6906
Joel Sanders	South DIV	843-820-5562
Han Maung	Morrison Knudsen	216-523-3422
Ryan Giese	Morrison Knudsen	612-572-7263
Paul Walz	Bay West	651-291-3491
Martin Wangensteen	Bay West	651-291-3475
Stanley Wojinski	Bay West	651-291-3477

Minutes:
Detailed review of the contract was not required, as agreed by all parties present. Specific questions regarding the contract were addressed. As stated in the second modification, the contract start date is March 14, 2000.

Deliverables due at the onset of the contract have been delayed due to the protest filed and the ensuing 'stop work' Contract Modification. The "Schedule of Deductions" is due 15 days after the start of the contract but due to the protest delay it will be completed within 15 days of the new contract start date (i.e., by March 29) and forwarded to Mr. Sims. Phase In/Phase Out Plan is due by April 14, 2000.

The Remedial Action Work Plan (RAP) and Quality Assurance Project Plan (QAPP) are presently being updated by the Navy. Remediation system sampling requirements, ground water monitoring requirements and QA/QC requirements for the project can be found in the treatment system O&M Manual and the most recent draft RAWP (i.e., March 2000). These plans contain the most recent quality assurance and quality control requirements for ground water and NPDES sampling and will be adhered to by Bay West in the performance of project work. As existing plans are modified/refined, Bay West will be provided with new versions. No additional quality control plan is required from Bay West.

Review of the cost type contract with fixed price items and ID/IQ for addressing additional items and tasks not addressed in the firm fixed price. Where practical, ID/IQ items/tasks will be governed using Means Pricing Book. Where items/tasks do not fit/relate or lead themselves to Means pricing, both parties agreed to negotiate to arrive at a fair and practical cost and scope.

Bay West requested an update on the status of all plans governing operations. Bay West also requested that current plans be provided to all parties so everyone is working from the same documents.

QAPP will include the use of En Chem as the laboratory chosen by Bay West for ground water monitoring. Interpoll will be the laboratory used by Bay West for NPDES analytical as long as EPA 601/602 is the required methodology. If the Navy's upcoming request to switch to EPA 624 methodology is approved by the MPCA, NPDES analytical will be switched to En Chem. Mr. Sanders suggested using the QAPP for OU3 until the site QAPP is finalized by the State. This was agreed to by all parties. A copy of the Operable Unit 3 QAPP can be found in Kerry Morrow's office for Bay West to use, if needed.

Contract contacts and responsibilities:

Plant operations and main contact: Kerry Morrow, NAVSEA. Second (if not available) Tim Ruda, United Defense. These individuals can coordinate all facility support or needs outside of the treatment system, crane use, fork lift, etc. This includes security and parking passes. Ms. Carol Armstrong (ext 6402) can be contacted in Mr. Morrow's absence for base passes and access issues.

The contract contact is Lamar Sims at EFA Midwest.
He will address invoicing and all contracting issues.
He will send example invoice to Bay West.
Utilities are included in the operations cost and Bay West is not responsible. Multi-phones are installed in the control room, and are included in the operations, Bay West is not responsible for these. The phone in office is available for general use. However, Bay West is responsible for any extended use of the phone (long distance not related to the project, etc.) service and payment for these services.

Technical contact is Joel Sanders of South Div Environmental Restoration Programs. He will be available to answer technical questions and approve invoices.

Bay West contacts are: Paul Walz – Project Manager; Brandon Juran – On-Site Treatment System Operator; Marty Wangensteen – Manager of Environmental Services; and Stan Wojinski – Project QA/QC Officer.

Explanation of Permits and Reports:

- NPDES is a co-permit with United Defense for discharge of treatment system effluent storm water, and non-contact cooling water. A change is expected as the State has tentatively agreed that the effluent sample from the treatment plant can be taken separately prior to co-mingling with the rest of the plant effluent. Currently, Tim Ruda prepares the report with information provided to him through this contract. Potential change was for Bay West to assume this responsibility due to the sale of the facility.

- MCES Permit – Tim Ruda submits a letter stating no discharge under permit.
- Air Permit – Quarterly mass balance calculations are made, with the results included in Annual Reports.
- MnDNR Appropriations of Water Report is required on an annual basis.
- RCRA Permits – Not required
- Hazardous Waste – None generated
- Remediation Reports submitted by Tetra Tech
- Annual Report for ground water remediation system was prepared and submitted last year by MK. This is not a project requirement. Navy will decide if they want a similar report this year prepared by Bay West. If desired, time interval of report would likely match the contract year.

Work to be done on the extraction well system, the evaluation of contaminated aquifer by CH2M Hill. New wells may be installed later this year. These wells may replace or be in addition to existing wells. Some coordination work will be required on Bay West's part if additional wells are installed.

Bay West will be expected to attend the facility's partnering meeting and give a five-minute summary of the plant operations. Summary typically provided by on-site operator. Bay West project manager should attend the next couple of meetings in their entirety to understand the process. Attendees are Region V EPA, State, and United Defense. Bay West is expected to attend the RAB meetings which are held with the public on a quarterly basis. Meetings are held at NIROP, with the next meetings tentatively scheduled for April 26 (partnering) and April 27 (RAB).

Bay West should schedule for a site Health & Safety orientation with Gary Medford.

The totes currently in use have a deposit paid by MK and when returned the deposit will be returned to MK.

Bay West will respond to Lamar Sims whether we can accept credit card payments.

Bay West's reporting requirements are documented in the operations and RAP plans. Bay West will prepare a submittal register that will include the addresses to ensure all necessary parties get the communications. This will be circulated for review and comments before implemented.

Waste disposal is handled through Safety Kleen coordinated by Tim Ruda.