

Compliance Management Software for Improved Regulatory Compliance

0817 Pollution Abatement Ashore Program

May 2004

Technical POC

NFESC, Code 421

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Management POC

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Objective & Navy EQ Requirements



Objective: Identify, demonstrate and validate COTS compliance management software to track regulatory deadlines and minimize NOVs for improved regulatory compliance

EQ Requirement: (Priority)

2.I.01.q Control of VOC and HAP Emissions (High)

2.II.01.k Control/Treat Nonpoint Source Discharge (Med)

2.II.01.q Control/Treat Industrial Wastewater Discharge (High)

Problem Statement/Drivers



Navy received 441 NOV's from 1997-2002. Environmental compliance and public image are the drivers.

NAVY NOV's BY REGION FROM 1997-2002							
REGION	1997	1998	1999	2000	2001	2002	TOTAL
LANTDIV	11	30	53	7	31	28	160
SWDIV	14	36	23	12	34	16	135
SOUTHDIV	1	12	7	0	12	10	42
NORTHDIV	8	12	13	1	0	0	34
EFACHES	1	7	11	5	4	5	33
EFANW	2	5	4	1	1	1	14
PACDIV	0	2	0	2	6	0	10
EFAWEST	0	5	3	1	0	0	9
EFAMIDWEST	1	0	3	0	0	0	4
TOTAL	38	109	117	29	88	60	441

Proposed Solution



- The proposed solution is a commercially available compliance management software application designed to improve regulatory compliance.
- Compliance management software has also been concluded as a solution to reduce NOVs in past NFESC efforts:

NFESC Technical Report, TR-2192-ENV, “*Root Cause Analysis of Navy Notices of Violation*”, June 2001.

NFESC Special Publication, SP-2112-ENV, “*Evaluation of Technologies for Reducing Environmental Costs and Notices of Violation*”, February 2002.

Benefits



- **Compliance management system will provide Navy activities with a powerful tool to improve regulatory compliance by tracking regulatory deadlines and minimizing NOVs**
- **Compliance management system can function as an EMS component for ISO 14001 certification**
- **Complies with Executive Order 13148 of April 2000**

Success will be measured by evaluating the effectiveness of preventing NOVs and the improved capability to manage and track compliance issues.

Before/After Comparison



Before	After
Compliance Management Consists of an Archaic Paper System w/ Volumes of Data in Binders	Electronic Data - Automated Software Based Compliance Management System
No Automated Tracking of Regulatory Deadlines	Automated Tracking of Regulatory Deadlines with Email Reminders
Manual Data Retrieval and Reporting	Automated Data Retrieval with Customizable Reporting
Continue to Receive Administrative and Other Types of NOV's	NOV's Will be Reduced/Avoided

Benefits: ROI

Automated Compliance Management System	Cost (\$K/yr)
Annual Software Lease/Maintenance	\$24
Total Annual Costs	\$24
Annual Cost Savings	\$105
Total Savings (10yrs)	\$1,050
R&D Investment (\$K)	\$275
ROI	4

Assumptions: Annual cost savings is based on a single 16 user site with with a minimum 8 hour labor savings per user per month with hourly rate of \$84. Does not include anticipated labor savings from automated reporting.

PART 2 - GOALS

Sec. 202. Environmental Compliance. Each agency shall comply with environmental regulations by establishing and implementing environmental compliance audit programs and policies that emphasize pollution prevention as a means to both achieve and maintain environmental compliance.

Milestones and Major Deliverables of Task



MILESTONE	FY02				FY03				FY04			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Perform Technology Review of Commercially Available Compliance Management Software	█	█	█	█								
2. Prepare Initiation Decision Report	█	█	█	█								
3. Identify Specific User Needs	█	█	█	█	█	█	█	█				
4. Match User Needs with Software Capabilities	█	█	█	█	█	█	█	█	█	█		
5. Procure Software	█	█	█	█	█	█	█	█	█	█	█	█
6. Perform Software Installation, Demonstration and Validation	█	█	█	█	█	█	█	█	█	█	█	█
7. Prepare Final Report and Technology Transfer	█	█	█	█	█	█	█	█	█	█	█	█

Project Coordination



- **NFESC is working closely with:**

**Naval Air Station Oceana Environmental Compliance Department
(Demonstration Site)**

Mr. Terry Chamberlain

Norfolk Regional Environmental Office

Ms. Cherryl Barnett

Task 1: Perform Technology Review of Commercially Compliance Management Software

- **Surveyed COTS Compliance Management Software**
 - » **EH&S Compliance Auditing and Tracking Software Report**
 - » **Web Search**
 - » **Conferences**
 - » **Product Literature**
 - » **Live Software Demonstrations/Training**

- **Results**
 - » **Identified Potential Software Applications**

Software Applications



The screenshot displays three overlapping windows from a software application:

- Task Setup and Results:** Shows task details for "ACMC Company" with a task statement "Fuel Oil Sampling" and due date "10/30/01". It includes notification settings for "Advance", "Due Date", and "Overdue" notifications, with checkboxes for "Owner/RP" and "Supervisor/SRP".
- Open - Collect monthly hydrogen sulfide sample - Message (Rich Text):** A rich text editor window showing a message to "Linda Smith" with the subject "Open - Collect monthly hydrogen sulfide sample". The message content includes: "Task Description Comments: Collect monthly hydrogen sulfide sample for TGII", "Due Date: 03/15/2001", "Priority: Standard", and "% Complete:".
- Task Recurrence Criteria:** A dialog box for configuring recurrence. The "Range of Recurrence" section has "Start Date" set to "7/30/01" and "No End Date" selected. The "Recurrence Pattern" section has "Monthly" selected, with "Day 30 of every 3 month(s)" chosen.

Essential Technologies

Software Applications



The screenshot displays the ENVISTA Enterprise software interface. The main window is titled "ENVISTA Enterprise" and contains three panes:

- Tree Pane:** A hierarchical tree view on the left side of the interface. It shows a structure starting with "Domains" > "DEMO" > "Organizations" > "Mining" > "Locations" > "NM-030" > "Themes" > "Groundwater" > "Liquid Events" > "H3116" > "Field Results" > "Field Samples" > "H3116" > "Lab Samples" > "0000001578" > "Lab Results". A list of analytes is expanded under "Lab Results", including ACIDITY, ALKALINITY, AMMONIUM, CALCIUM, CHLORIDE, COPPER, IRON, LEAD, MAGNESIUM, MANGANESE, NICKEL, NITRATE, PH, POTASSIUM, SODIUM, and ZINC.
- Grid Pane:** A table titled "Contents of - Lab Results" located in the top right. It displays a list of analytes with their corresponding AMF, Result, and Unit. The "PH" row is highlighted in blue. The data is as follows:

Analyte	AMF	Result	Unit
ACIDITY	NS	30	MG/L
ALKALINITY, CARB. AS CAC03 AT	NS	149	MG/L
AMMONIUM	NS	2.4	MG/L
CALCIUM	NS	13	MG/L
CHLORIDE	NS	2	MG/L
COPPER	NS	0.03	MG/L
IRON	NS	22	MG/L
LEAD	NS	0.1	MG/L
MAGNESIUM	NS	5	MG/L
MANGANESE	NS	3.6	MG/L
NICKEL	NS	0.05	MG/L
NITRATE	NS	6.2	MG/L
PH	NS	6.4	units
POTASSIUM	NS	5.5	MG/L
SODIUM	NS	56	MG/L
- Detail Pane:** A pane titled "Properties for - Liquid Result" located in the bottom right. It displays detailed information for the selected "PH" analyte, including Parent (NM-030), Sample (0000001578), Method (NS), Analyte (PH), AMF (NS), Result (6.4), and Unit (units).

Envista Technologies

Software Applications



The screenshot displays the ehsSUITE web application interface. The top navigation bar includes links for home, my ehssuite, help, and about, along with icons for LK4, HVLC, LVHC, RB1, RB2, and RB3. A left sidebar contains menu items: environmental health safety, regulations report, queries, export, manual input, alarms, procedure, and configuration. The main content area is divided into two sections.

CREATE YOUR ALARM SUMMARY REPORT

select an alarm type

CURRENT ALARMS

Unacknowledged Alarms

PROCESS AREA	DESCRIPTION	ALARM LEVEL
Recovery Boiler No. 1	Recovery Boiler No. 1 TRS Corrected Continuous average has exceeded the yellow alarm limit.	Yellow
Recovery Boiler No. 1	Recovery Boiler No. 1 TRS Corrected Continuous average has exceeded the yellow alarm limit.	Yellow

generate report

The right section shows a compliance dashboard with a grid of indicators for various areas:

	unacknowledged alarms	compliance today	compliance yesterday	compliance 3 months	compliance 6 months	unacknowledged alarms	compliance today	compliance yesterday	compliance 3 months	compliance 6 months
LK4	Green	Green	Green	Green	Green	LVHC	Red	Green	Green	Green
HVLC	Red	Green	Green	Green	Green	RB1	Green	Green	Green	Green
RB2	Green	Green	Green	Green	Green	RB3	Green	Green	Green	Green

Stewart Environmental

Software Applications



Dakota Tracer - Microsoft Internet Explorer

Acme Company Dakota TRACER

ORGANIZATION DOMAIN TOOLS LOGOUT HELP 9/24/00

1 of 65 Detail Unsplit Window Show Field Chooser Print/Export

ID#	Action Plan	Status	Date Due	Priority	Responsible Person
769- 1	Revise operating procedures to include procedures for emergency shutdown and restart after an emergency shutdown. Implement within 6 months.	Completed	09/27/2000	Medium	Facilities Manager
769- 2	Establish written procedures to maintain the on-going integrity of process equipment covered by RMP and PSM regulations.	InProgress	10/10/2000	Medium	Maintenance Supervisor
769- 3	Prepare a written plan to implement employee	InProgress	03/01/2000	Medium	Training manager

1 of 65 Table Unsplit Window Next Previous Print Edit Delete

Action Detail #769-1 Status: Completed Date Due: 9/27/00

Action Plan: Revise operating procedures to include procedures for emergency shutdown and restart after an emergency shutdown. Implement within 6 months.

JOURNAL

- 06/28/2000 4:50:29 PM [Randv Vicariolo](#) Changed Date Ordered; Date Due from:8/15/2000; Date Corrected; Status from:InProgress;
- 06/28/2000 4:50:29 PM [Randv Vicariolo](#) Procedures have been updated
- 6/21/00 3:19:20 PM [Thomas Wendel](#) Changed Date Due from:3/1/2000;
- 6/21/00 3:19:20 PM [Thomas Wendel](#) Operating procedures have been revised pending review by management

DETAILS

Responsible Person: Facilities Manager

Organization: Acme Company>Industrial Division>Newark, N.J. Plant>1999 Audit>PSM-RMP-EPCRA>

Done Local intranet

Dakota Software

Software Applications



Report Name	Description	Type	Created	Last Run
Air Program - Emissions by Constituent	This report shows the annual emissions, by constituent for the combustion equipment, for 2001 and 2002.	Parameter Based	11/7/2003 1:08 PM	11/7/2003 1:19 PM
Air Program Inspections Summary (Buildings 513 and 529)		System Attribute Report	11/6/2003 5:41 PM	11/6/2003 6:10 PM
Combustion Equipment - Quarterly Air Checklist	This report shows the status, by equipment name, of compliance with the specific requirements for that piece of equipment. The	Task report	11/6/2003 5:26 PM	11/6/2003 5:29 PM

Enviance, Inc.

Task 2: Prepare Initiation Decision Report

- **Narrowed Field to 4 Software Applications (later added a fifth)**
- **Results**
 - » **Ranked Applications for Possible Demonstration Validation**
 - » **Documented Findings and Recommendation in IDR**

Task 2: Application Service Provider (ASP) Software Concept Considered

- Because of NMCI Issues the ASP Concept was Considered
- Results
 - » An ASP (Enviance, Inc.) was Identified (the fifth application)
 - » Selected Enviance as the application software for demonstration/validation

Tasks 3/4: Identify Specific User Needs and Match to Automated System Capabilities

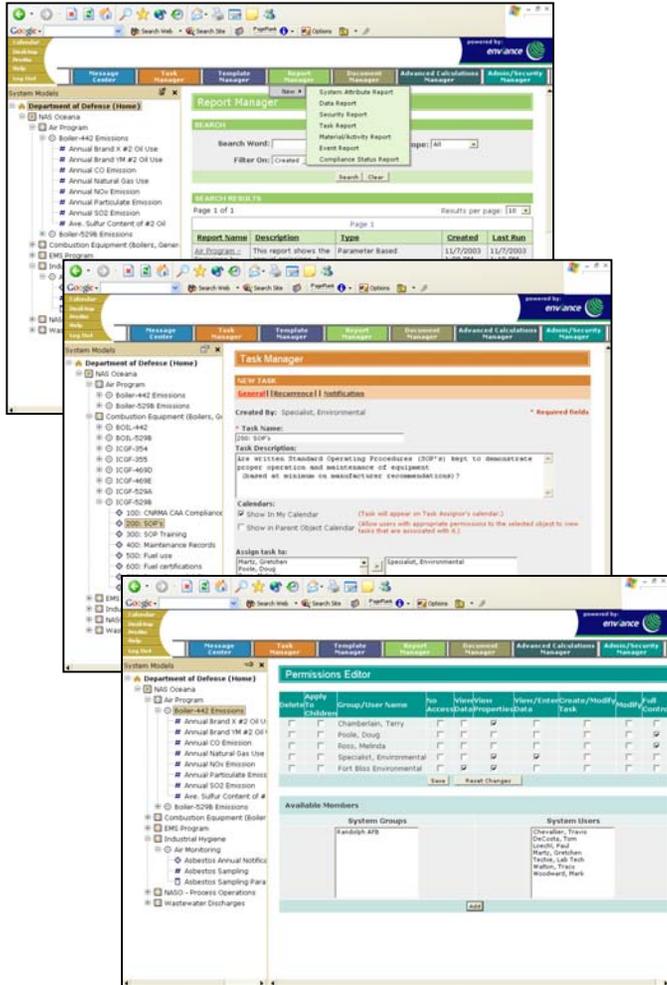
— Used “*Root Cause Analysis of Navy NOV’s*” report to identify problem

» Identified current compliance management techniques in use at Navy activities.

Enterprise Knowledge Management (eKM) system
Microsoft Project templates
Microsoft Excel spreadsheets

» Partnered with NAS Oceana and endorsed by the Norfolk Regional Environmental Office for software demonstration and identified specific software requirements necessary to track regulatory deadlines to minimize NOVs and improve compliance.

Technology Description



Enviance, Inc. is an Application Service Provider

- Access Application via Internet
- No Up-Front Capital Investment
- No Software Installation on Navy Computers
- Monthly Fee for Application Access (\$2K per Month for 16 Users at NASO)
- Provides Data Collection, Tracking, Roll-up, and Customizable Report Writing Capabilities

Enviance Compliance Management Application Screen Shots

Technology Description



- **System will allow NASO to generate status reports on all inspection tasks**
- **Track status of environmental requirements for projects**
- **Track status of plan of action and milestones**
- **Schedule environmental inspection and action item tasks and track through completion**
- **System will track all scheduled, pending, and overdue task**
- **System provides data collection, roll-up and customizable report writing capabilities**

Task 5: Procure Software

— Results

» **Contract was awarded with Field Support Services, Inc. to implement the Enviance Compliance Management software application at NAS Oceana**

- **Awarded 23 February 2004**
- **Period of performance – 3 months for full implementation**
- **Includes 1 year of application access for 16 users**

Task 6: Perform Software Installation, Demonstration and Validation

— Results

- » Contractor is currently collecting NASO environmental data and configuring software to track and manage compliance requirements
- » System demonstration and validation will begin when implementation is complete

Implementation Plan and Progress



Accomplishments:

- **NAS Oceana 1st User**
- **Norfolk Regional Environmental Office Endorsement**

Plan: Technology transition will be promoted through:

- **ESC web site**
- **Periodicals**
- **Tri-fold handouts**
- **P2 technical library**
- **ESC T2 team**

Logic Model for Automated Compliance Management Software

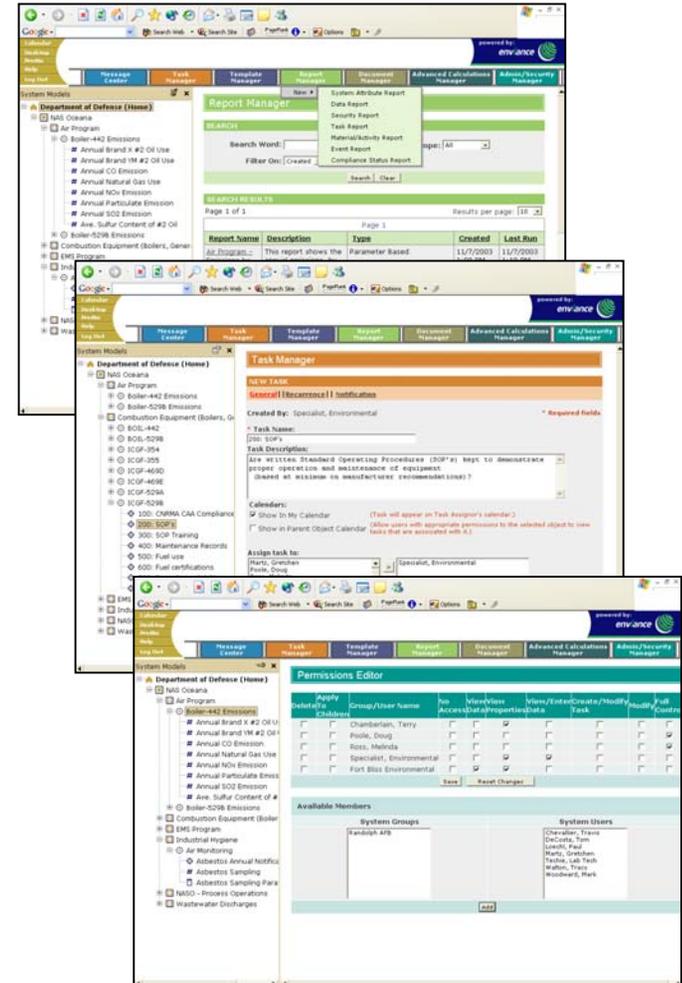


Navy Benefits	Improved regulatory compliance
Customer Capability	Ability to track regulatory requirements and deadlines to minimize NOVs
Products	Commercially available compliance management software application
Project Milestones	MS 6 (Q2,FY04). Implementation, demonstration and validation of compliance management application

Summary



- Performed software technology assessment and documented findings and recommendations in IDR
- Identified current compliance management techniques in use at Navy activities
- Partnered with NASO and endorsed by Norfolk Regional Environmental Office to conduct software demonstration and validation



Summary



- Selected *Enviance* as an ASP for Compliance Management
- Contract awarded and application is currently being implemented at NASO
- System can improve compliance through reduced NOVs
- System can function as EMS component for ISO 14001 certification

